SELINUS UNIVERSITY
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THE IMPACT OF ENTREPRENEURSHIP EDUCATION ON ENTREPRENEURIAL INTENTION AMONGST HIGHER EDUCATION INSTITUTIONS IN SINGAPORE

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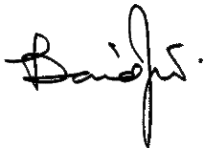
Declaration

I declare that this thesis is entirely my creation and the result of careful study and commitment. I have meticulously acknowledged the contributions of others while following the highest ethical standards in my research. This thesis reflects my commitment to innovation, academic integrity, and the advancement of knowledge.



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ABSTRACT

This study investigates the variables that influence Singapore university students' entrepreneurial intentions, with an emphasis on government support, university entrepreneurship programs and pedagogy, teaching faculty expertise, university support, and social norms. Using an interpretivist research approach, data were gathered via surveys and analysed to uncover important drivers shaping students' entrepreneurial aspirations. The findings show that, while students understand the value of targeted government initiatives and experiential learning, gaps in resource accessibility and curriculum design continue to be important difficulties. Respondents strongly valued faculty with actual business expertise and guidance from university support centres; nonetheless, inadequate financing and institutional assistance posed challenges to entrepreneurial development.

Social norms, such as cultural attitudes that prioritise corporate employment and fear of failure, have been shown to hinder entrepreneurial intents, emphasising the need for systemic reform. The study emphasises the relevance of self-efficacy and motivational elements in promoting entrepreneurial behaviour. Based on the findings, creative proposals are made, such as combining experiential and research-based learning, extending mentorship programs, and encouraging a cultural shift towards entrepreneurship.

The study contributes to the increasing body of literature on entrepreneurship education and provides useful insights for policymakers, educators, and industry stakeholders. It advocates for collaborative efforts to build a supporting environment that matches educational methods with the goals and needs of future entrepreneurs.

Future study directions include investigating the longitudinal effects of entrepreneurship education and cross-cultural differences in entrepreneurial inclinations.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

Entrepreneurship is regarded to be intrinsically related to the nature of Homo sapiens, often defined as “thinking beings” because of their most fundamental abilities for cognitive thinking, innovation, and a strong motivation to investigate and participate across all sorts of business enterprises (Brewer, 2008). As a result of their unique cognitive abilities and ability to think strategically, humans have proven themselves able to evolve, establish, and succeed in the challenging and continually evolving environments of entrepreneurial endeavours establishing entrepreneurship as an essential component of the human species’ advancement and evolution throughout history.

However, in its early phases, Baumol (1990) put forward that entrepreneurship was completely overshadowed and frequently treated with scorn and mistrust. It struggled to gain the prominence and significance it deserved until its current revival when it ascended to hold a prominent position at the top of political agendas around the world (Lackéus, 2016). This comeback in entrepreneurship’s prominence can be linked to many associated benefits highlighting its critical role in modern society.

Entrepreneurship’s revival is due, in part, to its shown ability to produce positive societal improvements. According to Dana (2001), by supporting economic growth and prosperity, entrepreneurial initiatives have become catalysts for raising living standards. Entrepreneurs generate job opportunities, promote innovation, and

increase productivity, all of which contribute to an overall improvement in the quality of life for individuals and communities.

Drucker (1985) identified entrepreneurship as a powerful strategy for increasing national competitiveness. Countries that foster and encourage entrepreneurial activity tend to prosper in the global arena, boosting their economic resilience and adaptability in an increasingly competitive and linked world. Innovative solutions and products developed by entrepreneurial ecosystems improve a country's ability to compete effectively in international markets.

Entrepreneurship is also important in tackling one of the most severe societal issues: unemployment. Gartner (1988) argued that entrepreneurial job creation is a cornerstone of economic development, lowering unemployment rates and giving individuals chances for meaningful employment and financial security. This not only reinforces the social fabric but also helps to make society more stable and successful. In addition, Dana (2001) proposed that businesses can reduce crime rates. Entrepreneurship can help alleviate the socioeconomic conditions that often lead to criminal activity by providing individuals with alternate routes for economic progress and self-improvement. It adds to the overall safety and well-being of communities in this way.

Entrepreneurship's recent redemption and elevation to a key position on global agendas can be due to its plethora of linked benefits. These include its role in raising living standards, boosting national competitiveness, creating job opportunities, and even helping to reduce crime rates. As society realises and embraces the power of

entrepreneurship, it is increasingly seen as a driving force for positive change and progress around the world.

Singapore's incredible journey over the last 57 years demonstrates its steadfast dedication to advancement, innovation, and entrepreneurship. Singapore has undergone a remarkable shift from its origins as an industrial-based economy to a flourishing knowledge-based economy that has garnered global attention.

Singapore's GDP per capita was $500 in 1965 (Menon, 2015), illustrating the hardships that the newly independent nation faced. However, thanks to visionary leadership, smart planning, and an unwavering pursuit of excellence, Singapore's economic landscape began to transform dramatically. Over the next several decades, the country made significant expenditures in education, technology, and infrastructure, propelling it to the forefront of the global knowledge economy.

Menon (2015) reported that Singapore's GDP per capita had risen to an astonishing US$56,000 by 2015, demonstrating the country's exceptional economic growth and wealth. This exceptional success was made possible by a dedication to innovation, a strong financial sector, and a significant emphasis on human capital development. Singapore had successfully attracted global firms by using its strategic location, world-class educational institutions, and a pro-business atmosphere, establishing an ecosystem that supported research, entrepreneurship, and knowledge production.

Looking ahead, Singapore's GDP per capita predictions are nothing short of astonishing. It is expected to reach an all-time high of $96,000 by 2040 (Menon, 2015). This audacious vision demonstrates Singapore's dedication to long-term prosperity, innovation, and the development of a vibrant and thriving society. Singapore intends to

be one of the top twenty-five cities in the world by 2040, cementing its status as a worldwide economic and technical powerhouse.

Singapore's rise from humble beginnings to expected future achievements demonstrates the country's tenacity, adaptability, and unwavering commitment to progress. Its development into a knowledge-based economy not only serves as an example to other countries, but also demonstrates the extraordinary potential for transformation when visionary leadership, strategic planning, and a commitment to excellence come together. Singapore's path shows the limitless potential that can be realised through innovation, education, entrepreneurship, and a never-ending quest for progress and development.

Meyer & Ang (2022) demonstrated a convincing viewpoint on the fundamental variables contributing to Singapore's economic success, with a focus on the critical role of higher education. They highlight the concept of a "fit-for-purpose" higher education system as a cornerstone of Singapore's economic achievements in their research.

A fit-for-purpose higher education system implies that Singapore's educational institutions have been properly constructed and are matched with the changing needs of the labour market and the broader economy. This strategic connection is not by chance, but rather the product of the Singaporean government and educational authorities' purposeful and forward-thinking strategy.

The major goal of education, according to Singapore's educational system, should be to enable job creation and employment prospects. This approach is based on the belief that a well-educated and talented workforce is a critical engine of economic growth and

development. As a result, Singapore's higher education system has been deliberately customised to match the demands of the modern job market, ensuring that graduates possess knowledge, skills, and competencies that are instantly useful in the workplace.

This emphasis on employability has guided Singapore's educational policies and practices. The government has collaborated closely with educational institutions and business stakeholders to detect emerging trends and skill gaps across industries. As a result, Singapore's higher education institutions have been able to alter their curricula, teaching approaches, and research activities to meet these requirements, ensuring that graduates are well-prepared to contribute meaningfully to the workforce.

Singapore's belief in the symbiotic relationship between education and economic growth is reflected in the country's ongoing investment in R&D, innovation, and entrepreneurship in the higher education sector. The government has not only created new economic opportunities by promoting an atmosphere that supports research-driven innovation and entrepreneurship, but it has also reaffirmed the notion that higher education should be a catalyst for economic growth.

Meyer & Ang's (2022) analysis highlights the critical role that a fit-for-purpose higher education system has played in Singapore's economic success story. The government's continuous commitment to connecting education with labour demands has resulted in a highly skilled and adaptable workforce, laying the groundwork for long-term economic growth and development. Singapore's approach exemplifies how an education system may be purposefully designed to suit the ever-changing demands of the modern economy, ultimately contributing to national wealth and competitiveness.

Singapore is currently on a transformational journey to position itself as a vibrant and innovative entrepreneurial centre capable of thriving in the challenges and possibilities of the twenty-first century. This strategy parallels a global trend in higher education and entrepreneurial education, which has undergone significant expansion and transformation over the decades.

Entrepreneurship education in higher education can be traced back to Harvard University's pioneering initiatives in 1947 (Katz, 2003). This notion has now gained traction and appeal, spreading across American universities and, eventually, institutions worldwide. According to Morris & Liguori (2016), there are presently over 3,000 higher education institutions worldwide that provide entrepreneurship education programs. This proliferation demonstrates the growing acknowledgement of the value of developing entrepreneurial skills and attitudes in students and aspiring entrepreneurs.

However, the fast expansion of entrepreneurship education has prompted serious concerns about its aim, substance, and teaching methods. As Liguori et al., (2018) pointed out, the growth of academia in this sector has overtaken our full knowledge of what entrepreneurship education should comprise. This changing environment has prompted a critical rethinking of its goals, curricular material, and educational practices.

Given these difficulties and opportunities, Singapore's commitment to rebuilding itself as an entrepreneurial innovation-led economy stands apart. This strategic shift demonstrates the nation's realisation of the critical role that entrepreneurship education plays in cultivating an innovation culture, building startup ecosystems, and educating a workforce capable of managing the complexities of today's business world.

Singapore's journey toward becoming an entrepreneurial innovation-led economy is a comprehensive change that includes higher education and entrepreneurship education. It reflects a global effort to rethink the aim and scope of entrepreneurship education, ensuring that it provides individuals with the ability to think critically, create, and adapt to the ever-changing demands of the entrepreneurial environment.

Singapore's goal of becoming an entrepreneurial innovation-led economy is consistent with the global trend of entrepreneurship education. The expansion of this area in higher education institutions around the world has caused a rethinking of its key ideas, curriculum, and teaching approaches. Singapore's commitment to this change indicates its commitment to providing its citizens with the information and skills required to prosper in the twenty-first-century entrepreneurial landscape.

1.2 Background of the Study

Entrepreneurship education is now widely recognised as an important component of higher education systems. Its significance extends beyond geographical boundaries, and it has earned a well-deserved reputation for playing a critical role in shaping the educational landscape. This sort of education serves as a beacon of empowerment, instilling the entrepreneurial spirit in students, cultivating an environment of innovation, and equipping them with the skills and mindset necessary to embark on entrepreneurial endeavours.

Entrepreneurship education has grown in importance in Singapore, a country noted for its dynamic economy and unwavering commitment to educational excellence. Within the walls of higher education institutions, entrepreneurship education programs have

taken root and expanded, mirroring Singapore's ambition of being at the forefront of global innovation and economic development.

The significant impact on undergraduate students' entrepreneurial intentions is one of the most urgent and fascinating concerns in the field of entrepreneurship education. Higher education institutions, particularly those in Singapore, wield considerable power over the aspirations and perspectives of the next generation of corporate executives. They are known around the world as a breeding ground for future entrepreneurs. This influence extends not just to developing an entrepreneurial mindset, but also to shaping students' concrete aspirations to pursue business opportunities.

This study aims to understand and comprehend this important subject of study. Its ultimate purpose is to delve thoroughly into the sensitive connection between entrepreneurship education and the entrepreneurial intentions of undergraduate students in the setting of Singapore's higher education institutions. By methodically researching this dynamic relationship, the study hopes to provide a profound knowledge of the impact of entrepreneurial education programs in Singapore. It aims to shed light on how these programs inspire, develop, and stimulate the growth of entrepreneurial intentions among students, thus adding to the greater landscape of entrepreneurship education.

This study's significance transcends boundaries and can inject new perspectives and insights into the ongoing debate about entrepreneurship education. As the findings become public, they are poised to make a significant contribution to the current global debate about the critical role of entrepreneurship education in creating entrepreneurial intentions. This research project is poised to become a significant resource, resonating

with academics, researchers, practitioners, and policymakers committed to improving the quality and efficacy of entrepreneurship education not only in Singapore but globally.

This study is significant because it is dedicated to furthering our understanding of the complex interaction between entrepreneurship education and the development of entrepreneurial goals. It can go beyond academic bounds, shaping educational practices, driving policy decisions, and influencing future entrepreneurship education programs.

1.3 Research Problem and Questions

Entrepreneurship has expanded beyond its conventional confines to become a powerful influence across industries and in society at large. As Kuratko, Howard & Allan (2016) defined it, it is a diverse and dynamic creative process that includes invention, a tireless goal for achievement, limitless enthusiasm, steadfast drive, and the capacity to navigate measured risks. While this entrepreneurial spirit has sparked global innovation and change, Singapore's higher education system has historically been focused on developing talented managers and professionals to service international firms. According to Kayne & Altman (2005), the emphasis has not been on encouraging entrepreneurship, self-initiative, and risk-taking among its students until lately.

However, a substantial shift happened in reaction to Singapore's economic woes during the 1985 recession. The government recognised the need to stimulate domestic entrepreneurship, restructure labour culture, and foster creativity, innovation, and enterprise in the higher education system (BOOKSG, 1985). This was a watershed

moment in the country's strategy, with a deliberate change toward fostering entrepreneurial thinking and activity.

According to Wang & Wong (2004), entrepreneurship education is critical in developing an entrepreneurial mindset, particularly among young people. As a result, Singapore's higher education environment witnessed a transformation. To stimulate entrepreneurship and create a nurturing environment for student businesses, each of Singapore's six public or autonomous universities built specialised entrepreneurship hubs or institutes. These facilities have evolved into unique idea incubators and platforms for the development of entrepreneurial skills.

Despite this improvement, there is still a research gap in the sector. Much of the available research on the impact of entrepreneurship education on entrepreneurial intentions among undergraduate students has taken a limited view. Often, studies focus on one or two distinct frameworks, providing only a limited understanding of the larger educational variables at work (Nabi et al., 2017).

By taking a holistic approach, this study hopes to address these gaps. It aims to investigate the impact of entrepreneurship education on undergraduate students' entrepreneurial inclinations in higher education institutions in depth. The suggested conceptual model considers many levels of influence, starting with macro-government support for entrepreneurial education. It then digs into the meso-institutional level, including curriculum design, delivery methodologies, and the fundamental abilities of entrepreneurship education faculty. Finally, it delves into the micro-individual level, investigating the social norms that influence undergraduate students' entrepreneurial predisposition.

The study's ultimate purpose Is to develop a complete roadmap for entrepreneurship instruction in higher education institutions. The study intends to create a rigorous framework for boosting the value-generation potential of student startups upon graduation by analysing the various elements that drive entrepreneurial ambition, from government backing to curriculum design and individual social norms. In essence, this research aims to provide institutions, policymakers, and practitioners with the information, skills, and mindset required to survive in a fast-shifting entrepreneurial landscape, contributing to Singapore's entrepreneurial ecosystem's sustained growth and vitality.

A central research question emerges as the main topic In line with the precise research goals driving this extensive study:

Primary Research Question:

What is the impact of entrepreneurship education on entrepreneurial intention among higher education institutions students in Singapore?

The overall goal of the study is to analyse and understand the complex relationship between entrepreneurship education and students' entrepreneurial intentions in Singapore's higher education institutions, which is encapsulated in this key research question. This study also investigates several secondary research questions, each of which aims to delve into a particular aspect of this intricate interplay:

Secondary Research Question 1: To what extent are a student's attitude, behaviour, and social norms influential in shaping their entrepreneurial intention?

This secondary question focuses on the personal and societal factors that influence a student's propensity for entrepreneurship. It aims to comprehend the complex interactions between individual traits, societal circumstances, and behaviour.

Secondary Research Question 2: How does the university entrepreneurship program and pedagogy impact a student's entrepreneurial intention?

This question delves into the world of formal education, looking into the impact that university-based entrepreneurship programs and instructional strategies have on students. It investigates how teaching strategies and curricula influence students' intentions for entrepreneurship.

Secondary Research Question 3: What is the relationship between a student's entrepreneurial intention and the teaching faculty profile?

The crucial function that teachers play and their credentials are acknowledged by this study question. It looks at the potential for teaching faculty members to inspire and have an impact on students' entrepreneurial intentions.

Secondary Research Question 4: How does the university entrepreneurship ecosystem influence a student's entrepreneurial intention?

This question broadens the focus to include the larger institutional setting within universities. It tries to comprehend how factors like mentorship networks, peer interactions, and entrepreneurship support systems work together to shape a student's ambitions for entrepreneurship.

Secondary Research Question 5: What role does government support play in shaping a student's entrepreneurial intention?

The extrinsic influences that influence entrepreneurial inclinations are acknowledged by this study question. In the context of higher education, it looks at how government activities and policies affect a student's propensity for entrepreneurship.

Together with the primary study question, these secondary research questions provide a formal framework for exploring the intricate relationships that underlie entrepreneurship education and entrepreneurial intention. Together, they offer a thorough lens for analysing the entrepreneurship landscape's many facets in the context of Singapore's higher education institutions.

1.4 Objectives of the Study

This study's primary objective is to give significant, implementable insights that can significantly improve the efficacy of entrepreneurship teaching inside the higher education institutions of Singapore. This goal was established as a result of the realisation that entrepreneurship education is not merely an academic endeavour but also a driving force behind innovation and entrepreneurship, serving as a cornerstone for giving students the abilities, perspectives, and understanding they require to succeed in an entrepreneurial environment that is rapidly changing.

The study uses a methodically planned approach, supported by several distinct sub-objectives, to accomplish this main objective. Each of these sub-objectives plays a crucial role in the puzzle of understanding the complex interrelationship between entrepreneurial intention and entrepreneurship education.

Sub-Objective 1: To determine the extent to which a student's attitude, behaviour, and social norms influence their entrepreneurial intention.

This sub-objective recognises the fundamental impact of personal characteristics and the social environment on entrepreneurial aspirations. It tries to elucidate the scope and complexity of these factors, illuminating how a student's intentions toward entrepreneurship are influenced by their own views, behaviours, and social context.

Sub-Objective 2: To assess the impact of the university entrepreneurship program and pedagogy on a student's entrepreneurial intention.

The research focuses on the educational component of entrepreneurship in this instance. It examines the immediate effects of entrepreneurial education initiatives and instructional strategies used in academic settings. This sub-objective tries to identify the function of formal education in fostering and igniting entrepreneurial intentions among students by investigating the curriculum design, pedagogical approaches, and learning experiences.

Sub-Objective 3: To evaluate the relationship between a student's entrepreneurial intention and the teaching faculty profile.

This sub-objective explores the traits and credentials of teaching faculty members while acknowledging the crucial role that teachers play. It looks into the potential effects of the faculty's knowledge, experiences, and personas on the entrepreneurial ambitions of their students, bridging the gap between instruction and intention.

Sub-Objective 4: To examine the influence of the university entrepreneurship ecosystem on a student's entrepreneurial intention.

The scope of this sub-objective is widened to include the larger institutional context within institutions. It examines how many factors, such as mentoring networks, peer

interactions, and support systems for entrepreneurs, all help to shape a student's intentions for entrepreneurship.

Sub-Objective 5: To investigate the role of government support in shaping a student's entrepreneurial intention.

This sub-objective explores the effects of governmental policies and efforts while taking into account the outside influences in play. In the context of higher education, it investigates how government support systems affect a student's propensity for entrepreneurship, providing an essential layer to our understanding of the entrepreneurial landscape.

These meticulously constructed sub-objectives are crucial building blocks in the quest for a comprehensive understanding of the complicated relationship between entrepreneurial education and intention. The study aims to give a thorough roadmap for the growth of entrepreneurship education by methodically addressing each of these aspects and fostering a dynamic culture of entrepreneurship and innovation inside Singapore's higher education institutions. In the end, the study aims to strengthen both the academic experience and the country's business ecosystem by equipping aspiring entrepreneurs with the skills, information, and inspiration they need to succeed in a constantly changing entrepreneurial landscape.

1.5 Significance of the Study

This study's significance has broad effects both theoretically and practically, and it is multifaceted:

Academic Contribution: By filling a substantial gap in the existing literature, this study considerably advances the academic field. Despite the rise of entrepreneurship

education on a worldwide scale, there has not been much thorough research on how it affects entrepreneurial intention in the particular setting of Singapore's higher education institutions. By filling this information vacuum, the study adds to the body of research on entrepreneurship education and offers suggestions for further study in this area.

Practical Implications for Education: The results of this study are directly applicable to institutions, policymakers, and practitioners in the field of education. Designing and improving entrepreneurship programs in higher education depends critically on an understanding of the connection between entrepreneurial education and entrepreneurial intention. These insights can be used to improve faculty profiles, teaching strategies, and curriculum design to maximise the educational opportunities for students who want to start their businesses.

Policy Implications: The results of this study are relevant for policymakers in Singapore and elsewhere given the role that entrepreneurship plays in promoting economic growth and innovation. The research clarifies the influence of policy efforts on students' entrepreneurial inclinations by examining the effect of government support. Policymakers can use these insights to improve and create national entrepreneurship promotion plans that tie in educational goals with economic development objectives.

Entrepreneurial Ecosystem Enhancement: Additionally, the study benefits the larger entrepreneurial environment. It offers helpful advice for universities and organisations supporting student businesses by looking at the impact of the university entrepreneurship ecosystem, including support networks and mentoring networks. As

a result, stronger and more efficient entrepreneurship support networks may be developed, promoting a healthy ecosystem of creative firms.

Student Empowerment: Fundamentally, this research gives students more authority. Students gain a deeper awareness of the business landscape by learning the elements that influence their entrepreneurial intentions. This information may motivate and direct them as they embark on their entrepreneurial adventures, empowering them to make well-informed decisions and confidently negotiate the challenges of entrepreneurship.

Global Relevance: Despite the study's Singapore-specific focus, its conclusions are applicable elsewhere. The relationship between entrepreneurship education and entrepreneurial intent is universal, and governments and higher education institutions around the world can benefit from the learned lessons. For anyone looking to improve entrepreneurial education programs and policies in various educational environments, this report is an invaluable resource.

This study addresses important issues about entrepreneurship education and how it affects entrepreneurial intention, this study is extremely important. It is an important contribution to the scholarly discussion on entrepreneurship education and its role in creating the entrepreneurs of the future because of its academic contributions, real-world consequences, policy insights, and potential to empower students.

1.6 Outline of the Thesis

There are five chapters in this thesis.

Chapter 1 – Introduction: Chapter 1 is the starting point for this in-depth thesis. It begins by thoroughly examining the backdrop of the study, going into the circumstances that led to the investigation, and defining the main problems that the

study objectives to solve. The well-outlined and described research problem is introduced, laying the groundwork for the remaining chapters. The chapter also outlines the research questions and offers a plan of execution. The study's objectives are distinctly stated in this chapter, shedding light on the precise goals and intentions of the investigation. The chapter, in an important way, emphasises the significance and applicability of the study within its larger context, explaining why this research is necessary.

Chapter 2 – Literature Review: Chapter 2 delves further into the rich tapestry of scholarly research that has already been done. It opens with a thorough examination of entrepreneurship growth, giving a thorough comprehension of this crucial idea. Examining entrepreneurial education and deconstructing its many features and factors forms the core of this chapter. This entails a thorough investigation of the significance of entrepreneurship education programs, the impact of role models, the intricacies of entrepreneurial curriculum and content, and the role that institutions play in promoting entrepreneurship. The chapter also examines the impact of family business history and demographic traits, illuminating the varied nature of entrepreneurship. This chapter draws on a wealth of material and ends with the creation of hypotheses and a conceptual model based on collective knowledge.

Chapter 3 – Research Methodology: The complex web of research methodologies that forms the basis of this study is explored in Chapter 3. It carefully describes the methodology of the study and offers insights into the framework and structure of the research. The chapter describes the means used to collect data and reveals the complexities of instrumentation design. It also clarifies the exact data-gathering

procedures that were carefully used to guarantee the validity and dependability of the research results.

Chapter 4 – Results and Analysis: Chapter 4 is the analytical section of this thesis where the data gathered for the study is painstakingly analysed. The foundation for the following debates and conclusions is set in this chapter, which transforms the raw data into significant insights. To properly examine the data and uncover insightful patterns and trends, a variety of analytical approaches and methodologies are used.

Chapter 5 – Discussion and Conclusion: The concluding Chapter 5 presents the research's findings and outcomes and the consequences of the data analysis. The impacts of the study's findings are thoroughly explored in this chapter, along with their importance and potential practical applications. It also offers clarity on the study's bounds and admits its shortcomings. This chapter goes a step further by offering suggestions for additional research, opening the door for more investigation and study in the area. A thorough explanation of the study's contributions, importance, and prospective effects on the field of entrepreneurship education and beyond in this chapter.

CHAPTER 2:

LITERATURE REVIEW

2.1 Introduction

Entrepreneurship, a dynamic and broad phenomenon, has received growing interest from academics, politicians, and practitioners around the world, and it is now recognised as a key driver of growth in the economy and social transformation in the twenty-first century. This literature review critically evaluates major aspects of entrepreneurship, focusing on its definition, views, importance, and relationship to entrepreneurship education, as well as how it supports the development of undergraduate students with entrepreneurial intentions. Over the past decades, there has been a huge increase in the pursuit of cultivating entrepreneurial skills and mindset.

This literature review explores the academic environment of entrepreneurship education, examining its varied definitions, views, and expanding importance in preparing individuals or students for success in today's changing corporate world. The literature review examines the development of entrepreneurial education, emerging study trends, and theoretical frameworks that influence the discourse. It focuses on two well-known models, the Triple Helix Model and Daniel Isenberg's Entrepreneurship Ecosystem Model, as well as theoretical viewpoints including Experiential Learning Theory and the Theory of Planned Behaviour. Using a wide range of scholarly sources, this review attempts to provide a comprehensive knowledge of entrepreneurship and its interrelated components with entrepreneurship education and ecosystem dynamics.

The literature review seeks to gain an in-depth understanding of the current status of entrepreneurship education research by bringing together these different perspectives and identifying prospective paths for further investigation.

2.2 Definition of Entrepreneurship

Entrepreneurship has fascinated scholars, business leaders, and policymakers for ages. Its definition, nevertheless, has undergone an intriguing metamorphosis, reflecting the shifting economic context and the increasing role of entrepreneurs. This examination looks at the historical history of the term “entrepreneur” and how our understanding of it has evolved over time.

The term "entrepreneur" began in the 18th century and was first used by Irish-French economist Richard Cantillon (Holcombe, 1998). Cantillon regarded entrepreneurs as persons who face uncertainty by taking on enterprises where production expenses are known but market demand is unknown (Holcombe, 1998). This viewpoint highlights risk-taking as a distinguishing feature of the entrepreneur.

Based on Cantillon’s work, economist Schumpeter (1934) reinterpreted the entrepreneur as a driver of creativity and innovation. Schumpeter claimed that entrepreneurs drive growth in the economy through “innovative destruction,” which takes place when new ideas and technologies undermine established industries and markets (Schumpeter, 1934). This viewpoint underlines the entrepreneur’s role in promoting change and advancement.

The mid-twentieth century saw a trend toward acknowledging the social impact of entrepreneurship. Entrepreneurs such as Drucker (1985) began to emphasise the importance of entrepreneurs for solving social problems and bringing about beneficial

societal change. This viewpoint broadens the notion of entrepreneurship to include not just financial gain creation, but also the creation of social value.

Today, the concept of entrepreneurship includes a broader set of characteristics and behaviours. Scholars such as Shane & Venkataraman (2000) emphasised the significance of recognising and pursuing opportunities as essential entrepreneurial abilities. Terminology like “serial entrepreneur” and “intrapreneur” underline the various ways individuals may participate in entrepreneurial activity, such as launching new businesses or driving innovation within existing firms (Morris, Covin & Kuratko, 2015).

According to Kuratko, Howard & Allan (2016), entrepreneurship is a dynamic creative process that involves innovation and aspiration and putting enthusiasm and determination together for the creation and implementation of novel ideas and innovative solutions. It is also about taking calculated risks, having the capability to put together a successful venture team, having the creative ability to gather the resources needed, and ultimately having the foresight to recognise opportunities where others see uncertainty, conflicts, and turmoil.

2.3 Singapore Perspective of Entrepreneurship

Lee Kuan Yew, Singapore’s renowned first Prime Minister who served from 1965 to 1990, pointed out the vital significance of entrepreneurship in promoting economic growth. His statement, “We did not have enough entrepreneurs, and those we had, lacked the capital or interest, so government ministers undertook the task of starting new ventures”, emphasised the importance of entrepreneurship in the economic success of a nation (Shome, 2009). Despite its rapid development and transition into

a worldwide economic hub, Singapore struggled to establish a strong entrepreneurial ecosystem in its early years.

Lee Kuan Yew's remark underlines two major shortcomings in Singapore's business scene at the time: a scarcity of persons willing to leap into entrepreneurship and a lack of adequate funding or drive among those who did have ambitions to become entrepreneurs. In response to these difficulties, Singapore's government took aggressive actions, with ministers launching new businesses to boost economic growth and innovation.

This deliberate posture by government officials highlights the importance of entrepreneurship as an accelerator of economic growth. By taking an active part in launching entrepreneurial ventures, the government hoped to fill deficiencies in the entrepreneurial environment, such as access to capital and knowledge, which were critical for developing entrepreneurial potential and promoting innovation.

Lee Kuan Yew's argument had a greater implication: for economies to survive and remain effective in the global arena, they must deliberately develop and promote entrepreneurship. This entails not only creating a supportive setting for entrepreneurial activity, but also providing critical resources, mentoring, and networking to assist budding entrepreneurs. This allows governments to unlock their citizens' potential, generate innovation, create jobs, and achieve long-term economic progress.

2.4 Importance of Entrepreneurship in Singapore

The 1985 recession served as an important reminder for the government, forcing an important shift in economic strategy to encourage domestic entrepreneurship. Before this, Singapore depended significantly on foreign finance and multinational

corporations to power its economic growth. However, the downturn showed the risk of such a policy, as external economic turbulence might have a substantial influence on the national economy.

As a result, the government realised that fostering domestic entrepreneurial potential was essential to building a more robust and self-sustaining economy. This signalled a shift away from the prior focus on luring in foreign investment and toward enabling local entrepreneurs to generate value and stimulate innovation within their own country. As a result, the government realised that fostering domestic entrepreneurial potential was essential to building a more robust and self-sustaining economy. This signalled a shift away from the prior focus on luring in foreign investment and toward enabling local business owners to generate value and stimulate innovation within their own country.

A deliberate attempt to change Singapore's work culture and educational system was essential to this new strategy. The government realised that in addition to structural changes, a fundamental shift in societal values and thinking was necessary to create an atmosphere that was favourable to entrepreneurship (BOOKSG, 1985).

There was a drive in the workplace culture to encourage employees to take more initiative, take risks, and have an entrepreneurial mindset. This entailed encouraging workers to think creatively, take charge of their ideas, and research business potential, as well as fostering an innovative and entrepreneurial culture within the company.

In order to foster a new generation of entrepreneurs, reforms were implemented in the institution of higher learning at the same time. The focus moved to giving students the knowledge, skills, and attitude needed to thrive in an economy that is becoming increasingly driven by innovation and entrepreneurship. Through curriculum

improvements, opportunities for experiential learning, and entrepreneurship-focused programs, this includes encouraging creativity, critical thinking, problem-solving skills, and an entrepreneurial mentality.

Singapore endeavoured to establish a resilient ecosystem that would foster the growth of local entrepreneurs and promote economic diversity and resilience using investments in human capital development and the creation of favourable business environments. An important turning point in Singapore's economic history was this strategic move to support homegrown entrepreneurship, which laid the groundwork for long-term growth and prosperity.

2.5 Entrepreneurship and Education in Singapore

Kayne & Altman (2005) criticised Singapore's higher education system for what they see as an overemphasis on specific professional routes to the detriment of encouraging students to take risks, be entrepreneurial, and exercise self-initiative.

Traditionally, Singapore has placed a high priority on creating a workforce with the skills necessary to meet the demands of the two primary industries that operate there: multinational companies (MNCs) and the civil service. This priority has its origins in the country's early economic development plan, which placed a strong emphasis on luring in foreign direct investment and creating a functioning government as a means of promoting economy and growth.

Because of this, Singapore's higher education system is set up to produce graduates who have the skills for employment in these industries. This frequently means emphasising professional credentials, academic achievement, and technical

proficiency—all of which are highly sought after by MNCs and civil service organisations.

Critics challenge that students' inventiveness and entrepreneurial passion may unintentionally be suppressed by this restricted focus. The emphasis placed by the educational system on developing future corporate professionals and government employees at the expense of fostering creativity, risk-taking, and an entrepreneurial mindset could lead to an undervaluation of these attributes.

A distinct set of abilities and qualities is needed for entrepreneurship as opposed to more conventional career routes in the public sector or with multinational organisations. It necessitates resiliency, flexibility, inventiveness, and the capacity to negotiate ambiguity and uncertainty. However, given the emphasis on conformity and academic success in the current educational system, these traits might not be sufficiently encouraged or recognised.

Moreover, the seeming dearth of focus on entrepreneurship in the higher education system might be a factor in the prevailing cultural belief system that prioritises security and stability above creativity and starting new businesses. Because they believe they will not receive the necessary finances, support, or social acceptance for their entrepreneurial initiatives, students may become discouraged from pursuing them.

An increasing number of people are calling for changes to Singapore's higher education system to prioritise encouraging students to take risks, be entrepreneurial, and show self-initiative in order to ease these concerns. This could entail amendments to the curriculum, the launch of initiatives and schemes centred on entrepreneurship,

possibilities for experiential learning, and stronger collaboration between the business community, academic institutions, and the entrepreneurial ecosystem.

Singapore can diversify its economy, foster innovation, and raise a new generation of dynamic and resilient entrepreneurs who can drive sustainable growth and prosperity by fostering an entrepreneurial mindset and giving aspiring entrepreneurs the tools and resources they need.

Wang & Wong (2004) remark highlighted the critical role that entrepreneurship education serves in fostering an entrepreneurial attitude in young people. Institutions such as the National University of Singapore (NUS) have been aggressive in including entrepreneurial education in their extracurricular and academic programs, realising the importance of this component.

An early turning point in Singapore's efforts to advance entrepreneurial education was the founding of the Centre for Management of Innovation and Technopreneurship by NUS in 1988. This centre was established to encourage innovation and entrepreneurial spirit in students by giving them the knowledge, skills, tools, resources, and encouragement they need to start their ventures.

The NUS Entrepreneurial Centre was subsequently established in 1999 by NUS, further solidifying its commitment to entrepreneurial education. To actively foster an entrepreneurial culture on campus, this program offered a variety of workshops, mentoring opportunities, networking events, and activities to encourage and assist students in pursuing their entrepreneurial goals.

Other Singapore higher education institutions have come to understand the value of entrepreneurial education over time. In order to encourage entrepreneurship and

support student ventures, each of the nation's six public or autonomous universities (NUS, Nanyang Technological University (NTU), Singapore Management University (SMU), Singapore University of Social Sciences (SUSS), Singapore Institute of Technology (SIT), and Singapore University of Technology and Design (SUTD) has set up an entrepreneurship hub or centre.

These centres for entrepreneurship function as dynamic environments where students can get the knowledge, skills, tools, advice, and connections they need to turn their ideas into ventures. In addition to entrepreneurship modules, workshops, hackathons, pitch competitions, and access to funding and mentorship networks, they offer a wide range of programs.

These universities are vital to the development of an innovative and entrepreneurial culture among Singapore's younger population because they incorporate entrepreneurship education into the curriculum and give students practical opportunities to engage with entrepreneurial concepts and practices.

In the end, programs like the NUS Entrepreneurship Centre and other centres of a similar nature at other universities help to create a strong entrepreneurial environment in Singapore, enabling students to follow their dreams of becoming entrepreneurs, stimulate innovation, and advance the competitiveness and economic growth of the country.

2.6 Development of Entrepreneurship Education in Singapore

Singapore's economic prosperity depends on supporting innovation and creating a thriving entrepreneurial ecosystem. Knowing this, the government, educational

institutions, and industry partners have worked together to create entrepreneurship education programs at all educational levels.

Before the early 2000s, entrepreneurship education in Singapore was mostly limited to business schools inside higher education institutions (Addie et al., 2019). Tan & Ng (2006) claimed that these programs frequently concentrated on theory, leaving out practical relevance and real-world application. This constraint has led to requests for a more comprehensive strategy that provides students with the skills and mindset required to meet the challenges of entrepreneurship.

The Ministry of Education, Singapore (MOE) encouraged higher learning institutions to create entrepreneurship education in the early 2000s, which signalled an important shift. This approach aimed to promote an entrepreneurial mindset at all levels of schooling, encouraging creativity, innovation, and risk-taking abilities (Wu & Wu, 2017). Entrepreneurship education laid a solid platform for the creation of more comprehensive and practical entrepreneurship education programs.

Singapore's six autonomous or public universities have played an important role in improving entrepreneurship education. They provide a wide range of courses, workshops, and incubation programs geared toward business model development, venture creation, and early-stage funding, for example, NUS Enterprise, NTUitive, and SMU Institute of Innovation & Entrepreneurship. In addition, universities also collaborate with industry partners such as SGInnovate to provide mentorship, networking opportunities, and financing for student startups.

The Spirit of Enterprise (SOE) was founded in 2003 to advance the entrepreneurial spirit in Singapore, as well as to encourage Singaporeans, particularly the young, to

become entrepreneurs by facilitating communication, interaction, and knowledge dissemination among students and entrepreneurs. The extended entrepreneurship education programs cover primary, secondary, and postsecondary institutions. Activities suitable for different ages such as enterprise simulations, design thinking workshops, and innovation competitions are included to accommodate various age groups (Spirit of Enterprise, 2024). The purpose is to instil entrepreneurial skills and mindset in students and introduce them to the prospects of beginning their ventures from an early age.

Despite tremendous improvement, difficulties persist. Gomulya et al., (2015) discovered a possible gap between entrepreneurship education programs and the needs of new entrepreneurs. Porfirio et al., (2022) emphasised the need to create a culture of risk-taking and learning through failure.

Global Entrepreneurship Monitor (2014) reported that Singapore's dedication to entrepreneurship education remains unwavering. The Global Entrepreneurship Monitor (GEM) provides helpful information for monitoring progress and identifying areas for advancement. Increasing collaboration among government agencies, universities, and industry participants promises to drive innovation in entrepreneurship education curricula and programs.

2.7 Current Studies in Entrepreneurship Education Research

Entrepreneurship Education has become a critical component of promoting innovation and economic success. However, the subject is always evolving, and researchers are looking for new ways to improve entrepreneurship education programs for maximum impact.

A major concern in entrepreneurship education research is its effectiveness in fostering entrepreneurial intentions and actions. Krueger (2017) found mixed results. While some research indicates that entrepreneurship education can boost entrepreneurial aspirations (Yan, Huang & Xiao, 2023), others stress the constraints of traditional classroom-based techniques (Fayolle & Gailly, 2015). Understanding the intricate relationship between entrepreneurship education and entrepreneurial behaviour is an ongoing research area.

Researchers are focusing on developing key abilities rather than just motivating entrepreneurship. According to Boldureanu et al., (2020) and Bilen et al., (2005), entrepreneurship education programs should provide students with practical skills such as opportunity recognition, idea generating, business model building, and financial literacy. This skills-based approach is intended to better prepare students for the actualities of setting up and operating a startup or company on their own.

Innovative pedagogical approaches have questioned the traditional lecture-based learning methodology (Watson, McGowan & Cunning, 2018), as well as Tan & Ng (2006) found that experiential methods of instruction such as simulations, business plan competitions, and startup boot camps are highly effective. These approaches promote active learning, experimentation, and cooperation, resulting in a more realistic startup experience for students.

An increasing body of literature underlines the importance of specialised entrepreneurship education programs that cater to a broad student population. Smith-Hunter (2006) and Mattis (2004) researched the problems and opportunities experienced by female entrepreneurs and individuals from minority backgrounds.

Designing entrepreneurship education programs to meet these individual demands is critical for inclusive entrepreneurship education.

Evaluating the effectiveness of entrepreneurship education programs necessitates a diverse approach. While startup establishment is a common indicator, some contend that it is insufficient. Kuratko & Morris (2018) and Rae & Carswell (2001) called for broader evaluation frameworks that take into account qualities such as higher risk tolerance, enhanced innovation, and the ability to notice and grab opportunities, even inside already-existing companies.

Current entrepreneurship education research presents a dynamic picture. While obstacles persist, focusing on skill development, creative pedagogies, inclusion, and extensive evaluation methodologies opens the path for more effective entrepreneurship education programs. As the business landscape evolves, continued research will be critical to ensuring that entrepreneurship education students have the knowledge, skills, tools, mindsets, and support they need to manage the constantly evolving entrepreneurial world. Regardless, government and institutional assistance, family background, and personal characteristics will all influence student's entrepreneurial propensity.

2.8 Triple Helix Model (Macro Level)

Global policymakers repeatedly emphasise the need to support entrepreneurial cultures, acknowledging their critical role in generating economic growth and innovation (OECD, 2007). This need is especially critical for Singapore as it aims to make the switch to an innovation-led economy. Policymakers understand the basic advantages provided by entrepreneurs and innovators, Van Pragg & Versloot (2007)

emphasised the value as drivers of job creation, increased productivity, innovation, and all forms of economic development.

The emphasis on developing entrepreneurial ecosystems is consistent with worldwide trends toward innovation-led economies, OECD (2007) suggested that innovation is a key catalyst for long-term economic development. In this context, the Singapore government understands that cultivating a robust entrepreneurial culture is critical for applying the country's intellectual resources and creating an atmosphere responsive to creativity, experimentation, and risk-taking (Lee & Peterson, 2000).

The growing awareness of entrepreneurship as an essential component of economic growth reflects a more widespread shift in policy paradigms, away from traditional models of economic development centred around capital-intensive industries and toward more dynamic, innovation-led approaches (OECD, 2007). Singapore's strategic emphasis on developing an innovation-led economy demonstrates its will to remain competitive in an increasingly interconnected and technologically advanced global landscape (Lalkaka, 2002).

Policymakers seek to exploit the full potential of Singapore's human capital by prioritising the formation of entrepreneurial mindsets and encouraging the establishment of innovative companies (OECD, 2007). According to Isenberg & Onyemah (2016), this includes not just establishing favourable legislative frameworks and granting access to financial resources but also investing in education, research, and infrastructure to foster a healthy ecosystem of startups and scale-ups.

The Triple Helix model, developed by Etzkowitz & Leydesdorff (1997), is a conceptual framework that emphasises the interaction as well as the cooperation of government,

industry, and academics in supporting innovation and entrepreneurship. This model proposes that working together among these three stakeholders is critical for generating environments conducive to innovation, knowledge transfer, and economic progress (Leydesdorff, 2000).

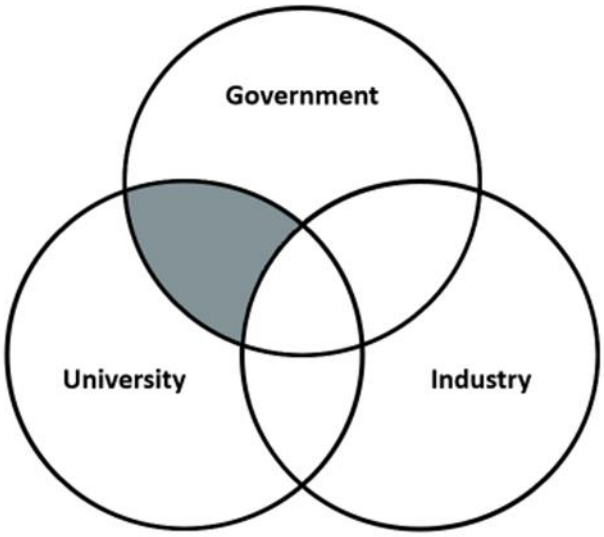

Figure 2.8.1. Triple Helix Model
Source: Adapted from Etzkowitz & Leydesdorff (1997)

The Triple Helix model is especially insightful in understanding the dynamics of Singapore's innovation and entrepreneurship ecosystem. Cai & Amaral (2021) supported that the government, industry, and universities all play unique but interwoven responsibilities in promoting innovation-led growth in the economy.

The government plays an important role in enabling and facilitating innovation and entrepreneurship by developing policies, giving incentives, and building a favourable regulatory environment. Government measures such as grants, tax breaks, and regulatory reforms are crucial in stimulating innovation and promoting the growth of startups and Small and Medium-sized Enterprises (SMEs).

The industry benefits from and contributes to the entrepreneurial ecosystem. Leydesdorff & Deaking (2013) established that through alliances with universities and engagement with government agencies, industries have access to innovative research, talent, and technology, boosting competitiveness and growth. At the same time, industry gives essential insights, resources, and market opportunities to support university research and entrepreneurship.

The Triple Helix approach places universities at the centre of knowledge development and dissemination. Etzkowitz (2003) found that they function as catalysts for innovation, conducting research, developing entrepreneurial potential, and promoting knowledge transfer to industry and society. Singapore's six public universities have increasingly embraced their position as innovation catalysts, building entrepreneurship centres, incubators, and technology transfer offices to help students start startups and commercialise research results.

A focus on analysing Singapore government assistance for universities within the framework of the Triple Helix model is critical for understanding how policies and activities are linked to fostering innovation and entrepreneurship. Rodrigues & Melo (2013) studied that policymakers and stakeholders can identify gaps and possibilities to improve support for innovation-driven entrepreneurship by reviewing funding systems, regulatory frameworks, and university collaboration platforms.

The Triple Helix model allows policymakers to use insights from interactions between government, industry, and academics to generate targeted interventions and projects that foster an active environment for innovation and entrepreneurship in Singapore. Nam (2014) reported that Singapore can expand its position as a global innovation hub

and generate sustainable economic growth in the twenty-first century by facilitating information exchange, investing in talent, and improving infrastructure.

Etzkowitz & Leydesdorff (2000) defined the responsibilities and methods within each helix of the Triple Helix model, highlighting the unique contributions of government, universities, and industry to promoting innovation and generating economic growth.

According to Etzkowitz & Leydesdorff (2000), the mechanisms in the government helix realm are focused on policy frameworks and support systems designed to promote science, technology, and innovation. This includes legal frameworks that protect intellectual property rights and create a favourable environment for research and development activities. Fiscal measures, such as tax breaks and subsidies, encourage private investment in research and innovation. The government funding for scientific, technology, and innovation programs is critical in accelerating research, facilitating technology transfer, and encouraging collaborative activities among academia, industry, and government agencies (Leydesdorff & Zawdie, 2010).

The university helix sphere concentrates on knowledge development and dissemination, as well as offering support frameworks for entrepreneurial endeavours. Sarpong et al., (2017) found that universities function as knowledge creation hubs, undertaking research across multiple disciplines and pushing the boundaries of knowledge. Universities play a crucial part in cultivating an entrepreneurial and innovative culture among students and faculty. This includes incubation assistance, mentorship programs, and access to funds and resources for student startups. By actively participating in the Triple Helix model, universities help to translate research

into commercial applications, which drives economic development and societal benefit (Etzkowitz, 2003).

The fundamental function of the industry helix sphere is to act as a hub of growth and a stimulant for economic progress. Industries promote innovation through research and development activity, product innovation, and the adoption of new technology. Leydesdorff & Ivanova (2016) assumed that industries play a significant role in commercialising breakthroughs developed by universities and research organisations, translating information into real products and services of market value. Industries can obtain a competitive advantage by collaborating with universities and exploiting academic expertise.

The Triple Helix approach emphasises the interconnectedness and collaboration of government, academia, and industry in promoting innovation and economic progress. Understanding the unique mechanisms and functions within each helix sector enables policymakers, stakeholders, and institutions to build synergistic strategies and initiatives that fully realise the Triple Helix model's promise of encouraging innovation-led economic development (Carayannis & Campbell, 2010).

Viale & Etzkowitz (2010) observed that the Triple Helix approach provides a powerful framework for encouraging collaboration and constructive interaction between government, industry, and academia in order to encourage innovation and entrepreneurship. Universities play a crucial role in this approach as hubs of innovation and knowledge creation, serving as critical catalysts for developing entrepreneurial potential and encouraging student startups.

Universities are uniquely positioned as leading hubs of innovation and knowledge due to their research skills, academic experience, and access to a wide range of resources. Universities can provide students with the expertise, skills, and competencies they need to start their businesses through their academic programs, research efforts, and extracurricular activities (Higgins, Jones & Upton, 2008).

Universities provide entrepreneurship education that moves beyond typical classroom learning, including experiential learning opportunities, mentorship programs, and access to entrepreneurial networks. Fitzsimons (2014) mentioned that by immersing students in real-world entrepreneurial experiences, universities help them acquire critical thinking, problem-solving, and leadership skills that are required for creating and running successful ventures.

Holdsworth, Watty & David (2009) studied that universities function as incubators and accelerators for student startups, giving infrastructure, funds, and mentorship support to help transform unique ideas into viable businesses. Universities stimulate creativity, collaboration, and entrepreneurship among students by establishing entrepreneurship centres, hosting business plan competitions, and organising networking events.

When universities are supported by government programs and legislation, their impact on encouraging student entrepreneurs increases. Governments can play an important role in promoting entrepreneurial activities within universities by offering financial incentives, regulatory support, and financing opportunities (Duval-Couetil, 2013). Policymakers may create an enabling climate that stimulates innovation and entrepreneurship while also maximising the impact of the Triple Helix model by combining government resources with university activities.

According to Hicks (2012), universities may prioritise research and global rankings over helping student startups highlighting a widespread dilemma confronting academic institutions around the world. While research excellence is unquestionably crucial for universities, there is an increasing acknowledgement of the need to balance academic pursuits with efforts that encourage student entrepreneurship and innovation (Gibb, 2002).

The findings from the Joint Autonomous Universities Graduate Career Survey (JAUGES) 2022 shed light on the career prospects of Singapore university graduates. The high employment rate of 93.8% within six months after graduation reflects the great demand for competent personnel in the labour market. However, the unemployment rate of 6.2% for recent graduates highlights the difficulties that some people encounter in making the transition from academics to the workplace (Ministry of Education, 2023).

The relatively low prevalence of student startups among university graduates can be attributed to several factors, including limited resources and support structures for entrepreneurship within universities, as well as cultural norms that favour traditional career paths over entrepreneurial pursuits. According to Morris, Kuratko & Cornwall (2013), the pursuit of worldwide rankings and research excellence may divert attention and resources away from activities targeted at developing entrepreneurial ability and facilitating the startup of businesses among students.

To solve this challenge, universities must rethink their objectives and devote resources to projects that promote entrepreneurship education, assist student startups, and build an innovative culture on campus. This could include incorporating courses on

entrepreneurship into the curriculum, creating dedicated entrepreneurship centres and incubators, and offering funding and guidance to budding student entrepreneurs.

Closer collaboration among universities, government agencies, and industry partners is required to create a conducive environment for student startups. Government regulations and incentives can encourage universities to prioritise entrepreneurship teaching and offer funding for student-led enterprises. Wright, Siegel & Muster (2017) suggested that industry alliances can provide crucial coaching, networking opportunities, and funds support to student entrepreneurs, bridging the gap between academia and the startup ecosystem.

The absence of student startups, as shown by the Joint Autonomous Universities Graduate Employment Survey (JAUGES) 2022, highlights a substantial vacuum in university entrepreneurial ecosystems. This gap demonstrates a contradiction between the Triple Helix model's aspirations—in which universities play a critical role in encouraging innovation and entrepreneurship—and the current reality on campus.

The scarcity of student startups shows that universities may not be well-equipped to foster and promote entrepreneurial endeavours among their students. This could be due to several issues, including a lack of understanding of entrepreneurship potential, insufficient resources and support systems for student entrepreneurs, lack of entrepreneurial faculty, and a lack of incentives or recognition for entrepreneurial initiatives in academic environments.

The existence of this divide between the government and the university realm emphasises the necessity for proactive actions to identify and address the underlying issues impeding the formation of student entrepreneurs. Bridging this gap is critical to

realising the Triple Helix model's full potential and leveraging the synergies between government, industry, and academics to drive innovation and economic growth. As a result, it is hypothesised that:

> *Hypothesis 1: The student's entrepreneurial intention is related to government support; that is to have targeted support instead of a blanket policy.*

2.9 Daniel Isenberg's Entrepreneurship Ecosystem Model (Meso Level)

The notion of an entrepreneurial ecosystem has attracted a lot of interest in both academic and policy circles, and it has become recognised as an important topic of research and discussion among researchers and policymakers alike. An entrepreneurial ecosystem is a constantly changing and interconnected network of various stakeholders, such as entrepreneurs, investors, mentors, teachers, and support businesses, who work together and collaborate within a particular geographic area or industry sector to promote entrepreneurship and innovation (Stam, 2015).

According to Audretsch & Belitski (2017), countries that have specifically promoted entrepreneurship as a key component of the country's development plan have seen concrete results when it comes to economic growth, job creation, innovation, and better global competitiveness. These countries have transformed their economies to foster entrepreneurship, establishing favourable settings for the development, growth, and sustainability of startups and entrepreneurial ventures (Acs et al., 2017).

While the study on national entrepreneurial ecosystems is very extensive and substantial, there is a noteworthy gap in the literature on the university entrepreneurial ecosystem or entrepreneurial education ecosystem within higher education institutions (Cao & Shi, 2021). Universities serve an important role in cultivating innovation, the

development of talent, and an entrepreneurial mindset among students. Yet there is limited research on the specific mechanisms, dynamics, and impact of entrepreneurial education within universities as claimed by Fayolle & Linan (2014).

According to Spigel (2017), the absence of a broadly agreed terminology and conceptual framework for the entrepreneurial education ecosystem impacts scholarly debate in this field. While numerous researchers and scholars have made efforts to identify and conceptualise national entrepreneurial ecosystems, there is limited availability of comprehensive frameworks that capture the distinct characteristics and complexities of entrepreneurial education ecosystems in higher education (Malecki, 2018).

To expand our knowledge of the entrepreneurial education ecosystem within universities, researchers must investigate the key elements, methods, and dynamics that distinguish entrepreneurial education and support for student startups in higher education institutions. Guerrero, Rialp & Urbano (2008) suggested that this could include investigating the integration of entrepreneurship education into academic curricula, experiential learning opportunities, support structures like entrepreneurship centres and incubators, industry collaboration, policy frameworks, and financial funding.

Stam (2015) defined an entrepreneurial ecosystem as a set of interrelated stakeholders and variables that are coordinated in an arrangement that is necessary for effective entrepreneurship. This definition emphasises how essential it is to the ever-evolving interactions and relationships between various actors in the ecosystem, such as entrepreneurs, investors, mentors, teachers, support businesses, and

policymakers, who all work together to create an environment conducive to entrepreneurship.

Working on this basic concept, Venkataraman (2004) suggested a more complete framework for an entrepreneurial ecosystem. Venkataraman proposed an entrepreneurial ecosystem as a unified collection of variables that promote the formation of new startups. This ecosystem consists of several elements, including new entrepreneurs, information brokers, resource mediators, demand marketplaces, and innovative applications, all of which work collaboratively to encourage a culture of continuous entrepreneurship within a particular geographic area or industry sector.

Venkataraman's model views young entrepreneurs as the driving force behind venture formation, bringing innovative ideas and solutions to the market. Information brokers play an important role in encouraging knowledge exchange and networking among entrepreneurs, investors, and other stakeholders, which improves communication and collaboration throughout the ecosystem. Stam & Van de Ven (2021) suggested that resource mediators connect entrepreneurs with critical resources like funds, mentoring, and frameworks to help young entrepreneurs develop and expand their startups.

Demand marketplaces in the ecosystem enable young entrepreneurs to discover market needs, validate business models, and launch innovative products or services that fill specific market gaps or possibilities. Ghezzi & Cavallo (2020) put forward that innovative applications are the novel technology, processes, or business models that entrepreneurs use to provide value and differentiate their startups in the market.

These interconnected components and variables collaborate to produce a dynamic and sustainable entrepreneurial ecosystem that promotes invention, cooperation, and growth. Understanding and leveraging the dynamics and relationships between all of these components enables policymakers, scholars, and industry leaders to develop targeted strategies and initiatives to strengthen and expand entrepreneurial ecosystems, driving economic development, job creation, and global competitiveness (Isenberg, 2010; Spigel, 2017).

Daniel Isenberg, an established researcher at Babson College, has substantially influenced the discussion on entrepreneurial ecosystems through his important research and publications. His important papers, notably those from 2010 and 2013, analyse thoroughly the entrepreneurial ecosystem, its framework, and the implications for startup success. Isenberg's views contributed better understanding of the complex nature of entrepreneurial ecosystems and their immense impact on promoting innovation, entrepreneurship, and economic development (Isenberg, 2010; Isenberg 2013).

Stam (2015) pointed out the interrelationships of stakeholders and variables in entrepreneurial ecosystems, focusing on the ongoing relationships and interactions that influence entrepreneurial activities and outcomes. And Spigel (2017) emphasised the collaborative character of entrepreneurial ecosystems, highlighting the importance of collaboration, networking, and knowledge exchange among the ecosystem's diverse actors.

Audretsch & Belitski (2017) discussed the importance of institutions and governance structures in promoting entrepreneurial ecosystems, claiming that supportive

policies, regulations, and institutional frameworks are required to provide a supportive environment for entrepreneurship. The relevance of institutional support and governance in developing entrepreneurial ecosystems, stresses the role of public policies, education systems, and regulatory frameworks in promoting entrepreneurship (Acs et al., 2017).

Feldman (2001) examined the relevance of knowledge transference and knowledge networking in entrepreneurial ecosystems, claiming that the exchange of knowledge, ideas, and information among entrepreneurs, researchers, and other stakeholders is essential for enabling innovation and entrepreneurship. Guerrero, Rialp & Urbano, (2008) championed the importance of knowledge transfer, networking, and collaboration for building entrepreneurial ecosystems and promoting startup growth and success.

Stam & Welter (2020) investigated the role of ecosystems in promoting sustainable entrepreneurship, contending that entrepreneurial ecosystems can play a critical role in addressing global challenges such as climate change, social inequality, and economic disparities by encouraging innovation, sustainability, and inclusive growth.

Isenberg's Entrepreneurial Ecosystem model was adopted in this study with the intent of investigating university support, program pedagogy, and teaching faculty competency that has an immediate influence on students' entrepreneurial intention, allowing the candidate to bring up the subject of the investigation for the pursuit of suitable solutions to support student startups.

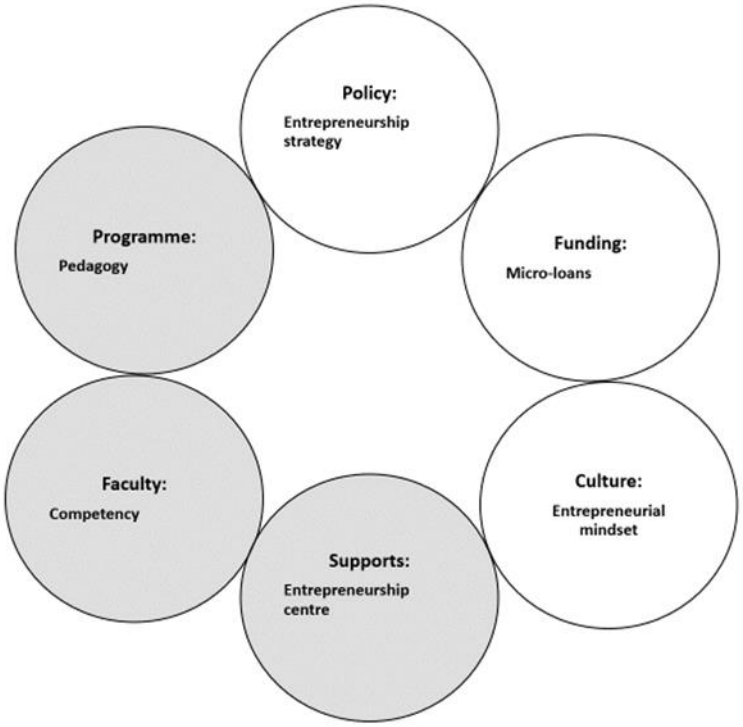

Figure 2.9.1. Isenberg's Entrepreneurial Ecosystem Model
Source: Adapted from Isenberg (2010)

Entrepreneurship education embraces all activities aimed at developing entrepreneurial mindsets, knowledge, skills, and attitudes, and covers a broad spectrum of topics such as ideation, start-up, innovation, and entrepreneurship.

The incorporation of experiential learning into university entrepreneurship programs marks an important development in pedagogical approaches to entrepreneurship education. Seet & Seet (2006) reported this development, which began in the year 2002. The move away from traditional classroom instruction and toward a hands-on, practical approach aims to promote learning through real-world experiences and activities.

2.10 Experiential Learning Theory (Meso Level)

Kolb's (1984) Experiential Learning Theory serves as a fundamental framework for comprehending this teaching technique. Kolb defined learning as "the process by which knowledge is created through the transformation of experience" (Kolb, 1984). Kolb acknowledged four fundamental components that jointly make up the experiential learning process: concrete experiences (feeling), reflective observation (viewing), abstract conceptualisation (thinking), and active experimentation.

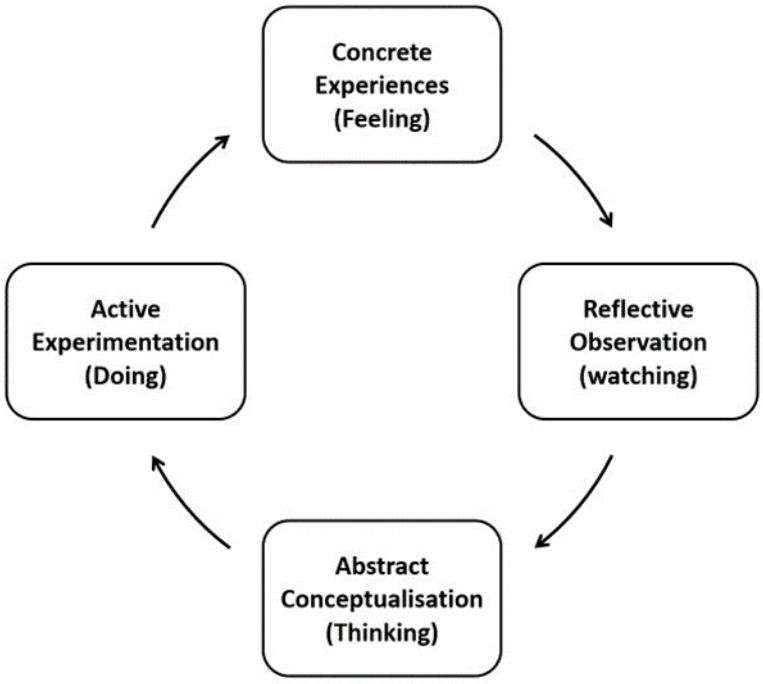

Figure 2.10.1. Experiential Learning Theory
Source: Adapted from Klob (1984)

Rae (2004) expanded upon Kolb's framework to point out the significance of experiential learning in entrepreneurship education, stating that it provides students with indispensable practical skills, nurtures creativity and enhances the development of an entrepreneurial attitude. Neck & Greene (2012) suggested experiential learning

approaches, claiming their effectiveness in boosting entrepreneurial self-efficacy, confidence, and resilience in students.

According to Fayolle & Linan (2014), experiential learning can positively impact students' perceptions of entrepreneurship and motivation to pursue entrepreneurial startups. Pittaway & Cope (2007) discovered the transformative effects of experiential learning, claiming that it can promote deep learning, personal growth, and the development of entrepreneurial skills.

Jones & English (2004) argued on the practical elements of experiential learning, illustrating the significance of incorporating real-world experiences into the curriculum in order to present students with realistic learning opportunities. Bar et al., (2014) identified the relevance of experiential learning in developing entrepreneurial skills and competencies, noting its ability to bridge the gap between theory and practice.

The implementation of experiential learning into entrepreneurship education is consistent with Kolb's Experiential Learning Theory and has been acknowledged by many scholars and researchers. Experiential learning delivers a holistic and transformative educational experience by engaging students in real-world experiences and activities, in addition to enabling them to think, conceptualise, and apply their learning.

Even though there is evidence that experiential learning-based entrepreneurship education impacts students' entrepreneurial attitudes and aspirations, the findings are lacking because important areas such as embracing failure and entrepreneurial intentions have not seemed to be positively affected, according to the Joint

Autonomous Universities Graduate Employment Survey (JAUGES) 2022. As a result, the second hypothesis to be examined is:

> *Hypothesis 2: The student's entrepreneurial intention is related to the entrepreneurship program and pedagogy.*

Experiential learning, while mainly concerned with student results, has significant advantages for teachers, influencing their teaching methods, viewpoints, and roles in the classroom and beyond. Mason & Arshed (2013) emphasised the transformative effect of experiential learning for teachers, arguing that it not only enhances their pedagogical skills but also reshapes their position in the learning process.

Building on this concept, Haase & Lautenschl¨ager (2011) looked deeper into the changing role of teachers in experiential learning settings. According to their findings, teachers' traditional position as knowledge suppliers is no longer sufficient for delivering effective experiential learning scenarios. Instead, teachers must transform into facilitators, mentors, and advisers who actively influence and direct students' learning journeys. This transformation requires a rethinking of the teacher-student dynamic, emphasising collaboration, mentorship, and co-creation of knowledge.

According to Haase & Lautenschl¨ager (2011), teachers must demonstrate entrepreneurial abilities as well as tasks to effectively enable experiential learning in entrepreneurship education. This includes not only theoretical knowledge but also hands-on experience and practical insights into the complexity of launching and managing new startups or businesses. Teachers can serve as role models for students by actively participating in entrepreneurial activities and displaying an entrepreneurial mindset, skills, and competencies (Boldureanu, Ionescu & Bercu, 2020).

Neck & Green (2011) demonstrated the relevance of entrepreneurial self-efficacy among teachers, proposing that teachers who have a strong belief in their entrepreneurial ability are better able to instil entrepreneurial mindsets and skills in their students. Fayolle & Linan (2014) investigated how teachers' entrepreneurial enthusiasm and dedication impact their students' entrepreneurial aspirations and attitudes.

By incorporating these insights into their methods of instruction, teachers can present students with more relevant and impactful experiential learning situations, fostering creativity, innovation, and the development of an entrepreneurial mindset. Teachers can play an important role in teaching students about the challenges and possibilities of the entrepreneurial environment by acting as facilitators, mentors, and advisers, as well as incorporating entrepreneurial knowledge and practices into their instruction (Lorz, Muller & Volery, 2011).

In the rapidly developing field of entrepreneurship education, teachers' roles go beyond standard instruction to embracing entrepreneurial qualities themselves. Teachers must not only have theoretical understanding but also be entrepreneurs themselves, with hands-on experience and practical insights into the intricacies of startups or ventures (Higgins & Elliott, 2011). This experiential knowledge allows teachers to be credible role models and mentors, to motivate and guide students through the complexities of entrepreneurship.

Wagener, Gorgievski & Rijsdijk (2010) provided useful insights into the multidimensional nature of entrepreneurship research, focusing on two main approaches: personality-based and competency-based. The personality-based

approach focuses on finding the traits and attributes that lead to entrepreneurial success, such as risk-taking tendency, resilience, and proactiveness. The competency-based approach focuses on the skills, knowledge, and abilities required for entrepreneurial success, such as business planning, financial management, and marketing (Morris et al., 2013).

According to Peltonen (2015), teachers have an important role in training these competencies in students through their actions and behaviours. Teachers who demonstrate entrepreneurial values and practices in their classrooms can effectively embed these abilities in students, preparing them for success in the entrepreneurial world. Stein, Isaacs & Andrews (2004) mentioned that teachers can create meaningful and impactful learning experiences for students by incorporating real-world experiences, case studies, and practical exercises into their curriculum, as well as equipping them with the skills and competencies required to navigate the challenges and opportunities of entrepreneurship.

Neck & Greene (2011) supported the incorporation of entrepreneurial self-efficacy among teachers, claiming that teachers who have a firm belief in their entrepreneurial ability are better able to instil entrepreneurial mindsets and skills in their students. This self-efficacy, when combined with new pedagogical approaches and hands-on experience, allows teachers to create transformative learning experiences that inspire and empower students to pursue entrepreneurial startups with confidence and competence (Neck & Corbett, 2018).

The changing environment of higher education has placed more importance on the skills and experience of university teachers. Bleiklie (2011) argued that traditionally,

universities have stressed doctoral degrees and research capability as requirements for faculty posts. This emphasis on academic qualifications and research prowess is directly related to the university's reputation and capacity to get funds, with published research acting as an important key performance indicator (Gmelch, Wilke & Lovrich, 1986). As a result, there is an accepted norm inside universities that places a strong priority on obtaining research funds, getting high rankings in academic publications, and contributing to intellectual discussion, frequently at the expense of other important areas of academic life.

Gmelch, Wilke & Lovrich (1986) stated that teaching, administrative tasks, and satisfaction among students are frequently overlooked and considered secondary to research efforts. This disparity in priorities has raised concerns about the quality of instruction and the overall student experience in higher education institutions (Brew, 2017). Despite the significance of teaching and its impact on student learning outcomes and satisfaction, it tends to be overtaken by the emphasis on research excellence and academic standing.

According to the National Institute of Education (2009), teachers must be innovative and entrepreneurial in order to boost students' creativity, critical thinking, and problem-solving skills. These abilities are especially useful in today's rapidly changing and increasingly complicated global landscape, where an entrepreneurial attitude and adaptability are highly prized (Drucker, 1985).

Hayter, Lubynsky & Maroulis (2016) conducted a seminal study that identified a significant correlation between teachers' entrepreneurship and their student's propensity to entrepreneurship. According to the study, teachers with entrepreneurial

abilities and mindsets can inspire their students to undertake entrepreneurial endeavours confidently and competently. By incorporating entrepreneurial concepts, methods, and real-world examples into the curriculum, these teachers can offer students relevant and effective learning experiences that prepare them for the difficulties and opportunities of the entrepreneurial landscape.

While universities undoubtedly place a premium on research excellence and academic standing, there is a growing recognition of the importance of balancing these priorities with a focus on teaching quality, student satisfaction, and the development of critical entrepreneurial skills among students (Jones & English, 2004). Thus, the third hypothesis is:

> *Hypothesis 3: The student's entrepreneurial intention is related to teaching faculty entrepreneurial and competence.*

The current state of university entrepreneurship education is varied, with a wide range of actors and frameworks influencing students' entrepreneurial journeys. At the heart of this ecosystem is the possibility of creating entrepreneurial chances and educating students to identify and seize them. According to Isenberg (2010), the efficiency of this ecosystem is affected by its coordination and integration, emphasising the importance of a coherent and synergistic approach to entrepreneurship education.

Spigel (2015) emphasised the need for a well-coordinated entrepreneurship ecosystem, arguing that a fragmented or disjointed approach can stifle the development and growth of entrepreneurial startups. An integrated ecosystem allows smooth collaboration among diverse stakeholders, such as educators, students,

entrepreneurs, and industry partners, fostering innovation, creativity, and entrepreneurial success.

The entrepreneurship centre or hub is a critical component of the entrepreneurship education ecosystem, acting as a hub for entrepreneurial endeavours. These centres play an important role in providing a wide range of facilities and resources to budding entrepreneurs at various phases of their startup journey (Lackeus, 2015).

These centres' incubation and co-working spaces give students an informal setting in which to develop and improve their startup ideas, interact with like-minded individuals, and receive access to critical resources and support services (Hannon, 2006). Seed finance resources help students get the first capital they need to launch their startups, while mentorship opportunities connect them with seasoned entrepreneurs and industry professionals who can offer guidance, advice, and vital insights (Bridge, Hegarty & Porter, 2010).

In addition to these practical assets, entrepreneurship centres play an important role in hosting extracurricular activities including networking events, workshops, and boot camps. These gatherings allow students to broaden their networks, learn from industry leaders, and receive hands-on experience through real-world difficulties (Neck & Corbett, 2018). Thus, the fourth hypothesis is:

> *Hypothesis 4: The student's entrepreneurial intention is related to the university entrepreneurship support centre.*

2.11 Theory of Planned Behaviour (Miso Level)

Entrepreneurial intention is an essential concept in the field of entrepreneurship study, functioning as a prelude to entrepreneurial behaviour and the following venture creation process. Entrepreneurial intention is commonly characterised as an individual's predisposition or desire to engage in entrepreneurial activity, specifically the formation of a new business endeavour (Krueger Jr, Reilly & Carsrud, 2000). Bird (1988) argued that this predisposition acts as the initial catalyst that propels people into action, laying the groundwork for the future stages of venture formation and entrepreneurship.

Crant (1996) explored the topic of entrepreneurial intention, defining it as a person's goal or aspiration to start and operate their company endeavour. This urge acts as a motivator, driving people to overcome hurdles, persevere through obstacles, and pursue opportunities, affecting their entrepreneurial behaviours and actions.

Expanding on this foundation, Ajzen's Theory of Planned Behaviour (TPB) provides a comprehensive framework for understanding the elements that drive entrepreneurial intention and subsequent behaviour (Ajzen, 1991). TPB defines intention as a significant predictor of behaviour, which is influenced by three primary variables: attitudes, subjective norms, and perceived behavioural control.

Attitudes are an individual's overall opinion or assessment of participation in entrepreneurial endeavours. According to Linan & Chen (2009), individuals who have positive views towards entrepreneurship are more inclined to pursue entrepreneurial possibilities, while negative attitudes may discourage them.

Kolvereil (1996) put forward that subjective norms refer to the perceived social pressures and expectations that individuals have of significant persons, such as family, friends, and mentors, surrounding their participation in entrepreneurial activities. These social effects can either support or limit an individual's entrepreneurial intentions, depending on how closely they relate to prevailing societal norms and expectations.

Perceived behavioural control is an individual's view of their potential to succeed in entrepreneurial endeavours, taking into consideration both internal and external circumstances. A high degree of perceived behavioural control has the potential to increase entrepreneurial intention and subsequent activity, as people believe they can overcome obstacles and negotiate the multifaceted nature of entrepreneurship (Krueger Jr. & Dickson, 1994).

The Theory of Planned Behaviour (TPB) has received substantial attention and recognition in the field of entrepreneurship research, becoming a popular and influential framework for understanding the factors that influence entrepreneurial intentions and subsequent actions. Since its development by Ajzen in 1991, TPB has been widely adopted and applied by entrepreneurship academics, researchers, and practitioners, serving as an essential framework that continues to shape and inform empirical studies, theoretical developments, and educational interventions in the discipline of entrepreneurship.

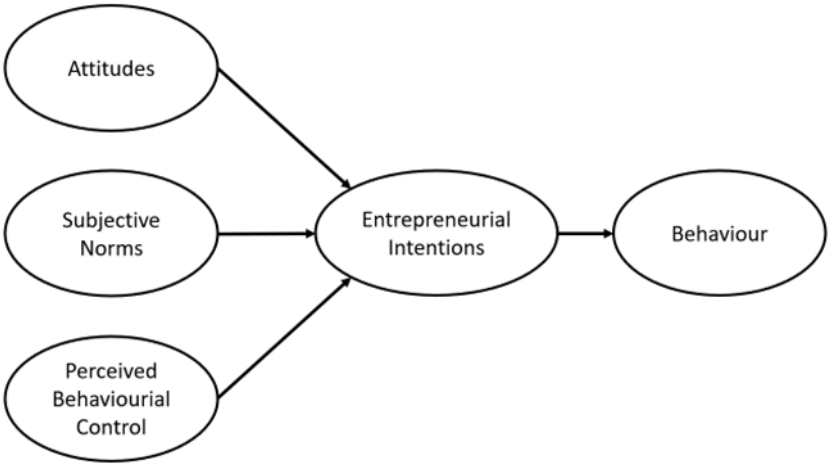

Figure 2.11.1. Theory of Planned Behavior
Source: Adapted from Ajzen (2005)

Tan (2018) research on the National University of Singapore (NUS) stated that over 350 startups were founded between 2008 and 2018. This result demonstrates NUS's dedication to developing entrepreneurial talent and creating an environment conducive to innovation and venture creation. The university's aggressive approach to entrepreneurship teaching, research commercialisation, and industry partnership has surely helped it incubate startups and spin-off firms.

Nanyang Technological University (2022) reported 6 spin-off enterprises and 32 startups founded by staff and students in their annual report for FY2021/2022. NTU's emphasis on multidisciplinary cooperation, experiential learning, and industry engagement has helped its students and faculty turn breakthrough ideas into viable enterprises, adding to the university's developing entrepreneurial ecosystem.

Singapore Management University (SMU), which started in 2009, has nurtured 355 businesses as of 2023 (Singapore Management University, 2023). SMU's emphasis on entrepreneurship education, mentorship programs, and networking opportunities

has helped its students and alumni build successful startups in a variety of industries, contributing to Singapore's thriving startup environment.

The Singapore University of Technology and Design (SUTD) reported 57 student and/or alumni firms, demonstrating its dedication to creating an innovative, design-thinking, and entrepreneurial culture (Singapore University of Technology and Design, 2022). SUTD's distinctive multidisciplinary approach, along with a focus on hands-on learning and industry cooperation, has enabled its students and alumni to create new solutions and launch enterprises that address real-world problems.

Finally, the Singapore University of Social Sciences (SUSS) revealed that its university startup program has fostered over 20 new student startups, demonstrating its commitment to instilling an entrepreneurial mindset and abilities in its students (Singapore University of Social Sciences, 2023). SUSS's emphasis on practical learning, industrial connections, and community participation has helped to foster the development of a dynamic entrepreneurial environment inside the institution, inspiring students to explore entrepreneurial ventures and contribute to Singapore's startup ecosystem.

Lim (2021) put forward the statistic that out of 680 people taking part in the Enterprise Singapore venture-building program, only 20%, or 136 participants, are undergraduates.

According to Fun & Boo (2019), there were over 250 recent graduate startup founders from 2018 to 2019. Kam et al., (2017) reported that in Singapore, startups often have few employees and low revenue levels, with 25% of them not even earning any

revenue. They also discovered that new startups are primarily concerned with building a business, which involves hiring staff and securing financing.

The World Bank Group (2021) reported that Singapore has invested 10.9 billion Singapore dollars in technology startups as of 2019, ranked 14th in the startup ecosystem globally in 2019, and has 3,600 technology startups as of 2019. Even with such a huge investment from the government, only 250 graduate startups from 2018 to 2019 (Fun & Boo, 2019). Singapore is also an international business hub, with an array of large multinational corporations providing quality jobs for graduates and a low youth unemployment rate. The emphasis on material success in Singaporean culture encourages students to study hard in school and graduate with good grades to secure a good career and a good life. As a result, the fifth hypothesis to be examined is:

> *Hypothesis 5: The student's entrepreneurial intention is related to social norms, that is, entrepreneurial motivation, fear of failure, and self-efficacy.*

2.12 Proposed Conceptual Framework

Through the literature review, the candidate can conclude that the impact of entrepreneurship education on entrepreneurial intention amongst students of higher education institutions in Singapore is affected by all three levels: macro-government level: government support, meso-institution level: curriculum design and delivery and teaching faculty essential entrepreneurial competencies; and institutional support, and micro-individual level: social norms. Meso-institution level and micro-individual level are influenced by the macro-government level; the meso-institution level is influenced by the macro-government level, and the micro-individual level is influenced by both the macro-government level and the meso-institution level.

The candidate inductively establishes a proposed conceptual model by bringing together the three levels, which comprise the dependent variables, and the interaction, which constitutes the independent variable, as shown in Figure 2.12.1 below. The proposed conceptual model was developed using a holistic and comprehensive approach of macro-meso-micro levels and the five dependent variables derived from the above literature review toward entrepreneurship education for students' entrepreneurial intentions.

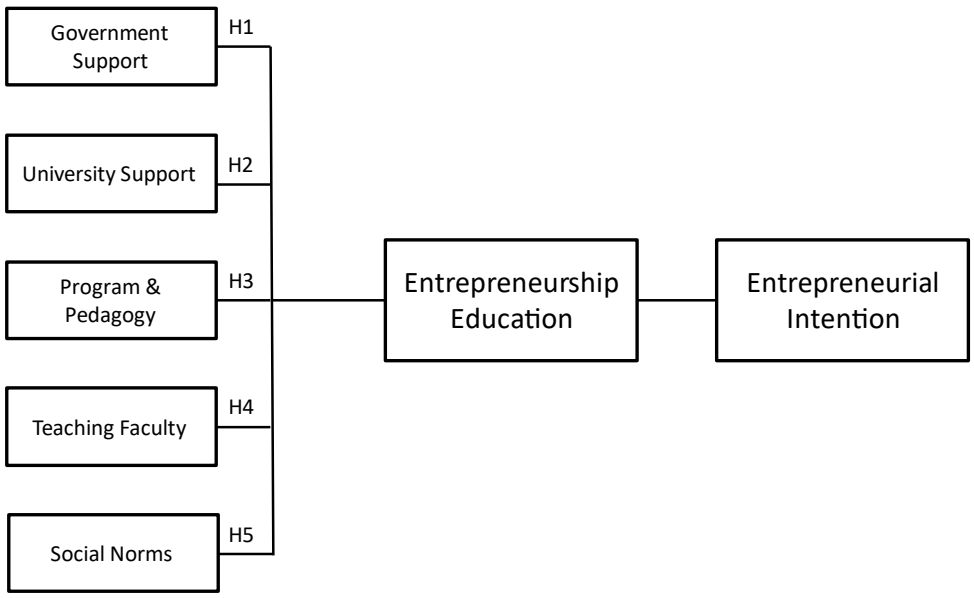

Figure 2.12.1. The proposed conceptual framework of the candidate empirical research study

2.13 Conclusion

This chapter provides an analysis of relevant literature in entrepreneurship and entrepreneurship education, with a special focus on three key perspectives: macro-level: government support, meso-level: curriculum design and delivery, and institutional support, and micro-level: social norms. It also carefully investigates the relationship between entrepreneurship and entrepreneurship education, as well as the notion and evolution of entrepreneurship education.

Finally, the hypotheses and conceptual framework are developed using the empirical evidence given in the literature review. The next chapter will detail the study's research methods.

CHAPTER 3:

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the full research methodology applied to this study, which is guided by Saunders' Research Onion framework (Saunders, Lewis & Thornhill, 2019) to investigate the impact of entrepreneurship education on entrepreneurial intention amongst higher education institutions in Singapore and answer the five hypotheses. The research onion framework outlines a systematic approach to establishing and carrying out research, beginning with the conceptual underpinning and advancing to specific data gathering and analysis techniques. This chapter addresses the quantitative method employed including the research philosophy, approach, strategy, time horizons, primary data collection methods, and ethical considerations associated with this study.

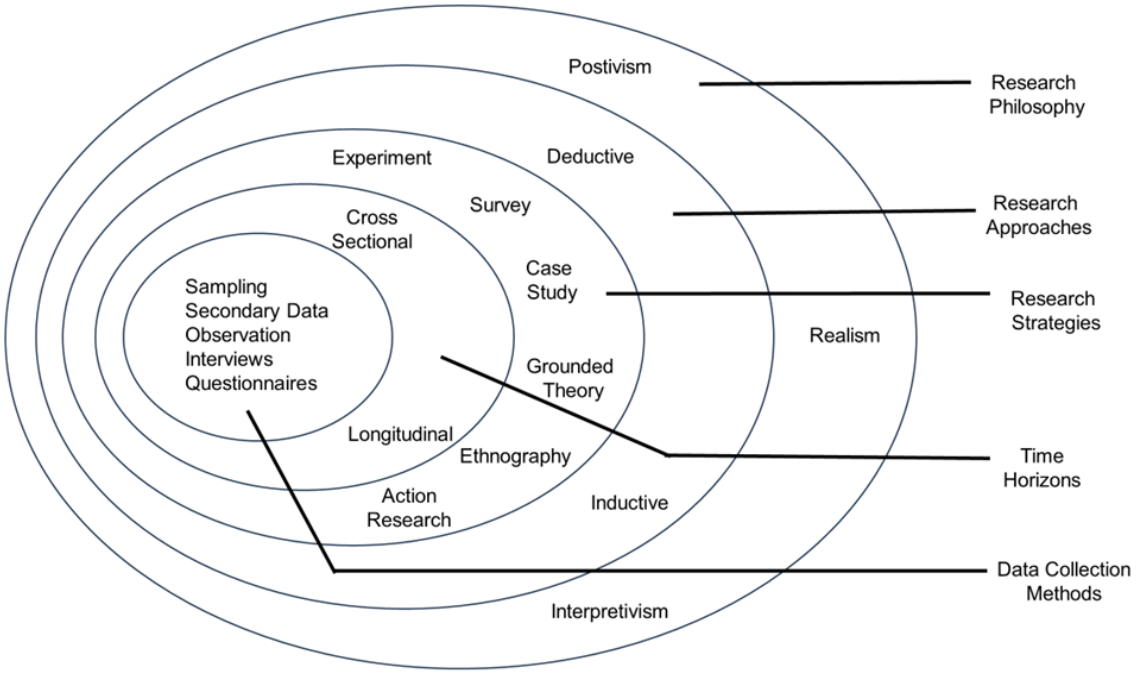

Figure 3.1.1. Saunders' Research Onion Framework
Source: Adapted from Saunders, Lewis & Thornhill (2019)

3.2 Research Philosophy

Kotler et al., (2009) found that the research design is a method or technique of research, while Yin (2006) observed that the research design provides a framework that answers the research objectives based on challenges. Bryman & Bell (2005) noted that it is essential to establish an equitable research design because it will have an impact on the research processes.

The research philosophy serves as the foundation for the entire research process, impacting method selection and data analysis. The three main research philosophies considered are positivism, realism, and interpretivism.

Positivism focuses on visible realities of society and makes conclusions primarily through statistical research. According to Bryman (2016), it is frequently connected with scientific disciplines and quantitative research methodologies, with an emphasis on objectivity and generalisability. Positivist researchers believe in a single, objective reality that can be quantified and evaluated.

Realism bridges the gap between positivism and interpretivism by recognising an objective reality that exists independently of human thoughts and beliefs, while simultaneously acknowledging that human views and understandings may impact our knowledge of this reality (Cohen, Manion & Morrison, 2002). Critical realism, a subclass of realism, maintains that, while the world is real, our perception of it is socially constructed.

Interpretivism is concerned with understanding individuals' subjective meanings and experiences in their social environment. It highlights the significance of context, the experience of humans, and the intricate nature of social issues (Bell, Bryman & Harley, 2022). Interpretivist scholars seek to comprehend the world through the eyes of their participants, acknowledging different realities influenced by cultural, historical, and social aspects. According to Saunders, Lewis & Thornhill (2019), to gain a better knowledge of participants' behaviour and decisions, an interpretivist research method is necessary to investigate the subjective meaning of participants' intentions.

Given the nature of this study, which seeks to investigate the complex elements that influence undergraduate students' entrepreneurial intentions, interpretivism is considered the most relevant research philosophy. This approach allows for a thorough knowledge of the participants' subjective experiences and views, offering valuable

qualitative insights that are critical for comprehending the intricate aspects that drive entrepreneurial goals (Creswell & Creswell, 2014). The interpretivist paradigm allows for the investigation of the intricate interplay of individual motives, institutional support, and sociocultural influences, which is consistent with the study's objectives.

3.3 Research Approach

Research approaches can be classified into inductive and deductive approaches, each with distinct characteristics and applications, with each having its own set of traits and applications.

The inductive approach includes developing theories from evident data, making it an effective approach frequently used in quantitative research. Bryman (2016) argued that it enables researchers to investigate events in depth and create theories based on the trends and general trends revealed by the data. Inductive reasoning begins with specific observations and progresses to broader generalisations and theoretical conclusions.

The deductive approach begins with existing concepts or hypotheses and evaluates them through empirical observation and analysis, which is typically connected with qualitative research (Creswell & Creswell, 2014). Deductive reasoning progresses from general to specific, to determine the validity of hypotheses drawn from existing theories.

This study uses the inductive approach to better comprehend how many variables influence students' entrepreneurial inclinations. The inductive approach is appropriate for this study since it enables the emergence of fresh ideas and theoretical advancements based on the gathered data. Starting with individual observations and

progressing to broader generalisations, the inductive technique enables the creation of a deep understanding of the many variables that drive entrepreneurial intentions (Saunders, Lewis & Thornhill, 2019).

3.4 Research Strategy

The research strategy is the plan of action that the investigator performs while collecting and examining data. Several techniques are available, each customised for specific types of research questions and objectives. These include experiment and survey research, case study research, grounded theory, ethnography, and action research.

Experiment research involves changing factors to identify cause-and-effect interactions in controlled environments such as laboratories (Homer, 2018). This technique is less appropriate for the social sciences since complex human actions are seen in natural settings.

Creswell & Creswell (2014) stated that survey research uses established methods like questionnaires or interviews to collect data from a wide population, making it ideal for collecting quantitative data on attitudes, behaviours, and attributes. Surveys offer advantages for testing hypotheses and drawing broad conclusions about a larger population based on sample data.

Case Study Research delivers an extensive understanding of a given setting or situation by examining a single or a small number of cases (Yin, 2017). This technique is effective for investigating complicated issues in their real-world setting, but it has constraints in its applicability.

Glaser & Strauss (2017) reported that Grounded Theory creates concepts based on field data, with a focus on creating new theories based on empirical evidence. It is especially effective for exploratory study, since established concepts may be inadequate.

Ethnography investigates cultures and communities through intensive observation and engagement, yielding a comprehensive understanding of social activities and interactions (Hammersley & Atkinson, 2019). This method is very qualitative and time-consuming.

Bryman (2016) established that Action research consists of repeated stages of planning, acting, observing, and reflecting to address real problems and develop actionable knowledge. It is collaborative and frequently includes stakeholders in the research process.

The selected strategy for this study is to carry out surveys. This decision is supported by the importance of collecting data from university entrepreneurship undergraduates to understand their entrepreneurial goals. Surveys are an organised technique to collect consistent information that can be statistically examined, making them perfect for testing hypotheses and drawing broad conclusions about the entrepreneurship undergraduate community (Creswell & Creswell, 2014). Surveys' organised design enables the effective collection of data on various variables, making it easier to analyse links between elements such as government assistance, entrepreneurship programs, teacher competence, and social norms.

3.5 Quantitative Method

The study's survey is carried out employing a quantitative technique. Quantitative techniques require the systematic gathering and analysing of numerical data, which enables the detection of patterns, connections, and trends among variables (Bryman, 2016). The quantitative technique is suitable for evaluating concepts and extrapolating results to a broader population. It provides the rigour and objectivity required to reach meaningful and trustworthy results about the elements that influence entrepreneurship undergraduates' entrepreneurial intentions (Saunders, Lewis & Thornhill, 2019).

The use of Likert scales in survey questionnaires Is especially critical. Likert scales allow respondents to determine their agreement or disagreement with a set of items on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). This method is useful to investigate attitudes, perceptions, and intentions systematically (Joshi et al, 2015). Boone & Boone (2012) studied that the Likert scale offers quantitative measures of subjective experiences, making statistical analysis and interpretation easier. It enables the aggregation of individual replies into significant patterns, providing insights into the entrepreneurship undergraduate population's overall attitudes and intentions.

3.6 Time Horizons

Time horizons in research can be cross-sectional or longitudinal, with each having its own set of advantages and constraints.

Cross-sectional studies gather information at a single point in time, resulting in a snapshot of the issue under investigation. They are efficient and cost-effective, making them ideal for investigations with limited time and resources (Bryman, 2016). Cross-

sectional studies are important for discovering connections among variables, but they do not allow for the tracking of changes over time.

Cohen, Manion & Morrison (2002) demonstrated that Longitudinal studies accumulate data throughout time, allowing for the tracking of developments and shifts. They provide more in-depth insights into causal links and change dynamics, but they take longer and require more resources.

This study uses a cross-sectional design to examine entrepreneurship undergraduates' entrepreneurial intentions at a given point in time. The cross-sectional technique is efficient and appropriate for the study's objectives since it allows for the collection of a huge volume of data in a short period of time. While it does not reveal long-term trends, it does provide a useful assessment of entrepreneurship undergraduates' current entrepreneurial intentions, which can be used to guide policy and program development (Creswell & Creswell, 2014).

3.7 Data Collection Methods

This study makes use of a variety of data collection methods, including sampling, secondary data, interviews, and questionnaires.

Sampling entails choosing a representative fraction of the entrepreneurship undergraduates to participate in the study. This study uses stratified random sampling to ensure that different subgroups within the entrepreneurship undergraduates' population are appropriately represented examples, students from various faculties, years of study et cetera (Bryman, 2016). Stratified random sampling improves the ability to generalise the findings by ensuring that the sample appropriately represents the diversity of the entrepreneurship undergraduate population.

Secondary data consists of existing information, such as university reports, government publications, and past research investigations, especially in academic publications. Cohen, Manion & Morrison (2002) noted that this data contributes context and background to the investigation, providing for a more complete comprehension of the research problem. The literature review in chapter two, as part of secondary research, examines current study results to determine the bounds of knowledge on the influence of entrepreneurship education on undergraduates' entrepreneurial intentions, as well as to discover trends or new practices before executing primary research. Secondary data is utilised to augment primary data and triangulate conclusions, which improves the study's validity and reliability.

Interviews provide a comprehensive understanding of participants' experiences and perspectives. This approach enables the examination of patterns and trends that the survey might not have captured, resulting in a more comprehensive knowledge of the factors driving entrepreneurial inclinations (Creswell & Creswell, 2014).

Questionnaires are the major method for data collection in the survey. They comprise a series of questions aimed at assessing relevant variables like as government funding, entrepreneurship programs, faculty competence, and societal norms. According to Joshi et al., (2015), the use of the Likert scale in questionnaires allows for the measurement of attitudes and perceptions, facilitating statistical analysis and data interpretation.

A pilot study will be conducted to refine the questionnaire, ensuring that the questions are clear and reliable. The pilot study highlights any potential flaws with the questionnaire design and makes it possible for necessary changes to improve the

validity and reliability of the data collection instrument (Creswell & Creswell, 2014). Feedback from pilot study participants will be used to improve the language and arrangement of the questions, ensuring that they are easy to understand and effectively assess the target constructs.

3.8 Data Analysis

The survey and interview data are analysed using descriptive statistics to provide an overview of the data's key features. Descriptive statistics give an in-depth understanding of the demographic features and answers of the participants. Creswell & Creswell (2014) reported that this analysis is critical for discovering relationships, trends, and patterns between variables, which can help deliver theoretical insights and practical recommendations. This descriptive statistical technique enables an in-depth comprehension of the variables influencing undergraduates' entrepreneurial intentions and enables the testing of research hypotheses.

3.9 Research Ethics and Limitations

Ethical considerations are critical in this study. All participants give informed consent, ensuring that their participation is voluntary and that their responses are confidential. The study fulfils the university's ethical criteria for human subjects research. Participants have the assurance that they can withdraw from the survey and interview at any moment with absolutely no consequences (Cohen, Manion & Morrison, 2002).

The study's limitations include potential biases in self-reported data, a cross-sectional design, and reliance on a single data collection method (survey). According to Bryman (2016), social desirability bias can influence self-reported data, causing participants to

provide replies that they believe are socially acceptable rather than their genuine thoughts and intentions. The cross-sectional design lacks the ability for the observation of changes over time, which reduces the capacity to make causal conclusions. Despite these limitations, the study offers useful insights into the variables that influence undergraduates' entrepreneurial intentions. Future research could address these constraints by using longitudinal designs, additional sources of data, and mixed methods approaches to improve the findings' robustness and generalisability.

3.10 Conclusion

This chapter explained the research methods for determining the variables that influence undergraduate students' entrepreneurial intentions. The use of an interpretivist research perspective is in line with comprehending students' subjective experiences and perceptions. An inductive research approach is appropriate for developing new insights and hypotheses in this understudied field with a holistic view. A survey research strategy that employs quantitative tools facilitates the identification of patterns and relationships.

A cross-sectional time horizon perspective effectively investigates these interactions at a single point in time. The chosen data-gathering methods, which include sampling, secondary data, interviews, and questionnaires, result in an effective dataset. The Likert scale and pilot surveys improve the reliability and validity of the results. Descriptive statistics will be used to provide a clear summary of the findings. The next chapter will go over the study's analyses and findings.

CHAPTER 4:

RESULTS AND ANALYSIS

4.1 Introduction

This chapter presents the research results, analysis, and key findings in response to the research objectives outlined in Chapter 1, using the research methodology established in Chapter 3. The findings, obtained through the survey questionnaires, provide insights into the factors influencing undergraduate students' entrepreneurial intentions and are aligned with the five hypotheses proposed in Chapter 2.

The first section outlines the response rate and presents the demographic profile of the respondents. The second section delves into the findings from the descriptive analysis, highlighting key trends and patterns in the data. These initial insights will serve as the basis for more detailed statistical analyses, which will be used to test the variables on government support, entrepreneurship education, faculty competence, university entrepreneurship support centres, and social norms. The findings are interpreted concerning the hypotheses to determine their validity.

This chapter aims to provide a comprehensive understanding of the factors influencing students' entrepreneurial intentions, setting the stage for the discussion and implications in Chapter 5.

4.2 Response Rate

The study was conducted over three weeks from 26 August to 13 September 2024, across six autonomous universities in Singapore: National University of Singapore (NUS), Nanyang Technological University (NTU), Singapore Management University

(SMU), Singapore University of Social Sciences (SUSS), Singapore University of Technology and Design (SUTD), and Singapore Institute of Technology (SIT). The study focused on undergraduates of entrepreneurship who are Singapore citizens or permanent residents. The number of undergraduates studying entrepreneurship at the six independent universities is not readily available. The estimated population size is approximately 1,292 students. Out of this population, 66 responded and participated in the survey interviews.

Year	2019	2020	2021	2022	Total	Entrepreneurship Students	%
NUS	7847	7486	7881	7273	**30487**		
NTU	6482	6693	6483	6184	**25842**	400*	1.55%
SMU	2365	2429	2436	2380	**9610**		
SUSS	886	999	1087	986	**3958**		
SUTD	415	475	468	405	**1763**		
SIT	2718	2894	2952	3121	**11685**		
Total	**20713**	**20976**	**21307**	**20349**	**83345**		**1292**

Table 4.2.1. Estimated number of entrepreneurship undergraduates
Source: MOE (2023), Lee (2024)*

4.3 Reliability and Validity

Roscoe (1975) suggested that an appropriate sample size for most research studies lies between 30 and 500 participants, making this sample size well within acceptable limits. Green (1991); Hair et al., (1998); Kelley et al., (2003); Tabachnick & Fidell (2007); and VanVooehis & Morgan (2007) emphasised that a minimum of 50 respondents is required to allow for meaningful statistical analysis. Saunders, Lewis & Thornhill (2019) established that to ensure meaningful statistical analysis, a minimum sample size of 30 is sufficient. According to Budiu & Moran (2021) of Nielsen Holdings

plc, a prominent global research performance management organisation, 40 participants are a suitable amount for most quantitative studies, however, there are circumstances where fewer users can be recruited.

References	Mininium Sample Size	Remarks
Roscoe (1975)	>30<500	To ensure sufficient data for analysis.
Green (1991)	50	For testing individual predictors.
Hair et al. (1998)	50	For meaningful statistical analysis.
Kelley, Clark, Brown, and Sitzia (2003)	50	For meaningful analysis.
Tabachnick and Fidell (2007)	50	To ensure that the analysis has enough power to detect significant relationships.
VanVoorhis and Morgan (2007)	50	For more comprehensive studies.
Saunders, Lewis, and Thornhill (2019)	30	To ensure meaningful statistical analysis.
Budiu & Moran (2021)	40	Suitable for most quantitative studies.

Table 4.3.1. Minimum sample size for quantitative studies

Given these guidelines, a sample size of 66 is more than sufficient to conduct a reliable and accurate analysis in the setting of this study. The use of 66 participants confirms the validity of the findings while also adhering to accepted criteria in quantitative research techniques.

Various scales were established based on the questionnaire replies. There are other approaches for measuring scale reliability. For this study, internal consistency was tested using Cronbach's alpha because it is a common methodology in research (Sekaran, 2003). Gravetter & Forzano (2003) found that there is no minimum value for the alpha coefficient, a greater value suggesting a higher degree of internal consistency or reliability is predicted. In this study, a reliability coefficient of 0.50 will be used as the minimum threshold of acceptability (Felder & Spurlim, 2005). The internal consistency reliability test was performed on each variable using Microsoft 365 Excel.

Variable	Cronbach's Alpha Value
Government Support	0.51
University's Entrepreneurship Centre	0.65
Entrepreneurship Course	0.58
Teaching Faculty	0.58
Social Norms	0.63

Table 4.3.2. Cronbach's alpha value

The impact of entrepreneurship education on entrepreneurial intention among higher education institutions in Singapore was shown to have an internal reliability from 0.51 for government support to 0.65 for the university's entrepreneurship centre as shown in Table 4.3.2. Every value was above the minimum coefficient of 0.5, indicating reliable surveys for each variable (Goforth, 2015).

Survey confidence levels and margins of error are important concepts for determining the reliability and accuracy of survey findings. Based on a sample size of 66 and an estimated population size of 1,292, the population proportion is 5.11%, with a 94% confidence level and a 5% margin of error. Cohen, Manion & Morrison (2002) proposed that the generally used confidence levels are 90%, 95%, or 99%, with 95% being the most common in social science research. The study used a 94% confidence level, which provided a good foundation for evaluating the results with acceptable assurance.

Population Size (N)	1292
Sample Size (n)	66
Population Proportion (p)	5.11%
Confidence Level (a)	94%
Margin of Error (e)	5%

Table 4.3.3. Confidence level and margin of error

Given the sample size of 66 respondents, a moderate margin of error of 5% is estimated based on response variability. Fowler (2013) reported that this degree of

precision ensures that the study's findings are strong enough for useful analysis while still leaving a sufficient margin of error.

4.4 Respondents' Demographic

The initial section of the questionnaire addressed the general information of the undergraduate demography, summarised in Table 4.4.1.

Variable	Demographic	Percentage
Gender	Male	36.4%
	Female	63.6%
Age	Below 20	9.1%
	20 to 24	72.7%
	25 to 29	18.2%
	30 and above	0.0%
Ethnic Group	Chinese	100.0%
	Malay	0.0%
	Indian	0.0%
	Others	0.0%
Household Income	Below $6000	18.2%
	$6000 to $6999	9.1%
	$7000 to $7999	9.1%
	$8000 to $8999	0.0%
	$9000 to $9999	0.0%
	Above $10000	63.6%
Household Dwelling	HDB Flats 1-3 room	18.2%
	HDB Flats 4-5 room	36.4%
	HDB Flats Executive & Others	0.0%
	Condominium, Private Apartment & Others	18.2%
	Landed Property	27.2%

Percentages may not total 100 due to rounding
Table 4.4.1. Respondent's demographic

The majority of respondents (63.6%) were women. According to the Ministry of Education (2023), 48.7% of undergraduates were female and 51.3% were male.

Female undergraduates dominated the survey interview because they were more willing to engage, whereas male undergraduates tended to avoid it.

The significant majority of respondents were between the ages of 20 and 27, which is frequent in Singapore because undergraduates completed their post-secondary education at the age of 19, and male undergraduates were required to complete their 2-year National Service before enrolling in Singapore universities.

The majority of household income, at 63.6%, exceeds $10,000, which correlates with the housing situation, as 45.4% reside in larger HDB flats, private apartments, and landed properties. Singapore's educational system is highly competitive. Tuition can give students an advantage by providing additional resources and support, allowing them to earn higher grades and boost their chances of admission to Singapore's prestigious universities. Seah (2019) reported that Singapore's tuition industry is worth $1.4 billion, and many affluent families have the financial resources to invest in their children's education, which can be viewed as an investment in their future financial security.

The second section of the questionnaire addressed the general information of undergraduate profiles in the university, summarised in Table 4.4.2.

Variable	Undergraduate Profiles	Percentage
University	NUS	36.4%
	NTU	9.1%
	SMU	45.5%
	SUSS	0.0%
	SUTD	9.1%
	SIT	0.0%
Year	1st Year (freshman)	0.0%
	2nd Year	18.2%
	3rd Year	63.6%
	4th Year (final year)	18.2%
Program	Arts	9.1%
	Business	45.5%
	Computing/IT	0.0%
	Engineering	9.1%
	Humanities	0.0%
	Sciences	18.2%
	Interdisciplinary/Integrated	9.1%
	Minor in Entrepreneurship	0.0%
	2nd Major in Entrepreneurship	0.0%
	Others	9.1%

Table 4.4.2. Respondent's undergraduate profile
Percentages may not total 100% due to rounding

The profile of the undergraduate respondents in this survey who have completed at least one entrepreneurship module provides useful information about their entrepreneurial intentions. A considerable proportion of respondents come from the National University of Singapore (NUS) and Singapore Management University (SMU), accounting for 36.4% and 45.5% of the sample, respectively. In contrast, universities like as Nanyang Technological University (NTU) and Singapore University of Technology and Design (SUTD) account for lesser proportions of the sample, each accounting for 9.1%. Interestingly, there were no respondents from the Singapore University of Social Sciences (SUSS), where 76.5% of their undergraduates are working adults doing part-time study (Chia, 2023), and Singapore Institute of

Technology (SIT), where undergraduates are spread across 6 campuses, indicating a lack of engagement or availability.

The distribution of respondents between academic years shows that third-year students make up the majority, accounting for 63.6% of all respondents, followed by second-year and fourth-year students, each representing 18.2%. This shows that students are more inclined to enrol in entrepreneurship modules as they continue through their degrees, especially in their third year when career planning becomes more important. The absence of first-year students from the survey suggests that they are starting as first-year students and attending orientation during the survey period. Third-year and final-year undergraduates nearing graduation are likely to seek entrepreneurial opportunities as they prepare for their post-graduation plans.

In terms of academic fields, the majority of respondents are from business-related schools, with 45.5% reporting a background in business studies. This is expected considering the obvious link between business education and entrepreneurship. However, students from other disciplines, such as Sciences (18.2%) and Arts (9.1%), express an interest in entrepreneurship, indicating that entrepreneurial education is reaching students outside of typical business programs. Notably, no respondents reported majoring in computing/information technology or humanities, both of which are frequently associated with technological innovation. This disparity may reflect the fact that entrepreneurship modules are only available as electives in the majority of universities, as seen in Table 4.4.3, indicating potential areas for universities to offer entrepreneurship programs rather than optional modules.

University	Entrepreneurship Program	Mandatory Entrepreneurship Modules in Some Programs	2nd Major	Minor	Elective	Entrepreneurship Internships
NUS	No	No	Yes	Yes	Yes	Yes
NTU	No	No	Yes	Yes	Yes	Yes
SMU	No	Yes	Yes	Yes	Yes	Yes
SUSS	No	No	No	Yes	Yes	Yes
SUTD	No	Yes	Yes	Yes	Yes	Yes
SIT	No	Yes	No	No	Yes	Yes
		Optional				

Table 4.4.3. 6 Autonomous universities entrepreneurship undergraduate courses
Source: NUS, NTU, SMU, SUSS, SUTD and SIT website

Interestingly, while all respondents had completed at least one entrepreneurship module, none of them stated that they had a minor or second major in entrepreneurship, even though interdisciplinary and integrated programs made up 9.1% of the sample. This implies that, while interest in entrepreneurship exists in a variety of professions, formal educational pathways such as dedicated minors or majors in entrepreneurship may not be as generally adopted or accepted. This could imply a possible opportunity for universities to offer entrepreneurship programs, particularly among students from non-business fields. The presence of students from interdisciplinary and engineering backgrounds demonstrates the growing importance of cross-disciplinary abilities in entrepreneurship, which is consistent with worldwide trends stressing innovation driven by the convergence of multiple fields.

4.5 Factors Influencing Entrepreneurial Intentions

The study, meant to investigate the factors influencing undergraduates' entrepreneurial inclinations, included 25 well-prepared questions addressing multiple characteristics of entrepreneurial intention. These questions were constructed that emphasise the

complexities of entrepreneurial intention and the elements that influence it (Krueger Jr, Reilly & Carsrud, 2000). Drawing on the hypotheses established in Chapter 2, the questions addressed government assistance, university entrepreneurial programs, faculty competence, university support systems, and societal norms such as motivation and perceived self-efficacy. Each question assessed respondents' opinions of these elements and their respective impact on their plans to pursue entrepreneurship. The Likert scale, which ranges from "strongly disagree" to "strongly agree," was used to measure respondents' levels of agreement with various assertions, providing a more comprehensive insight into their attitudes regarding entrepreneurship (Allen & Seaman, 2007).

Questions about government support were designed to investigate how students saw government policies and efforts supporting their entrepreneurial intentions. These questions, consistent with research that indicates institutional support is crucial to entrepreneurial intention (Shinnar, Hsu & Powell, 2014), assessed respondent's perceptions of the adequacy and accessibility of government programs. Specific questions questioned students if they thought government efforts were effective, and whether more targeted support would be good, and better tailored to their requirements. This line of questioning was critical for evaluating the premise that targeted government support had a considerable impact on undergraduate entrepreneurial intentions.

Besides government support, the study examined the role of university entrepreneurship programs and faculty expertise. Previous studies have highlighted the significance of entrepreneurial education in altering students' intentions (Piperopoulos & Dimov, 2015). In this part, respondents were asked to rate the success

of their university's entrepreneurship courses and the extent to which they considered these programs had prepared them for entrepreneurial enterprises. Other questions looked into the impact of faculty competence on students' entrepreneurial goals, specifically if faculty members with entrepreneurial experience provided valuable mentorship and expertise. Finally, the study looked at the impact of societal norms, entrepreneurial motivation, and personal characteristics like fear of failure and self-efficacy, which are fundamental to the Theory of Planned Behaviour (Ajzen, 2005). Linan & Fayolle (2015) found that these factors had a considerable impact on entrepreneurial ambitions, making them crucial variables in this study.

4.6 Student's Entrepreneurial Intention is Related to Government Support

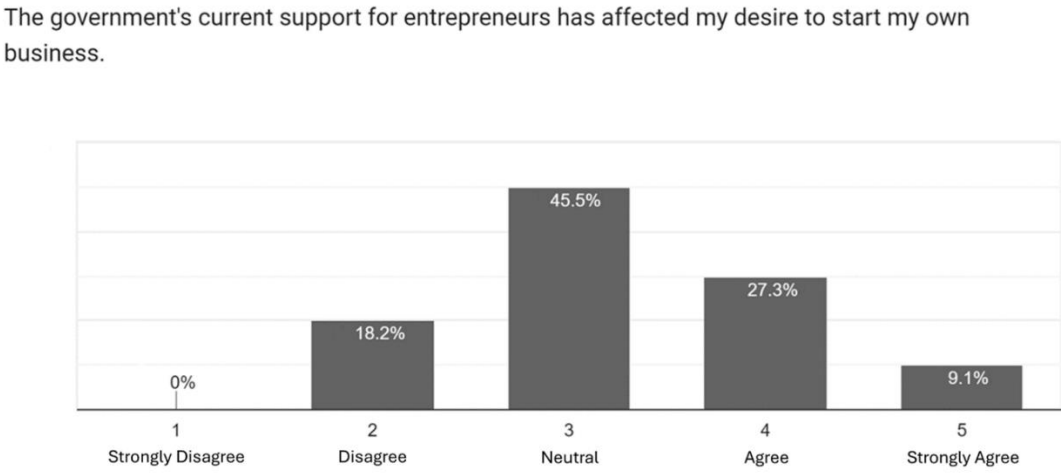

Table 4.6.1. Government current support

"The government's support for entrepreneurs has affected my desire to start my own business," showing that 36.4% of respondents agreed, 45.5% were neutral, and 18.2% disagreed. This implies that, while some students believe government support benefits

their entrepreneurial goals, many are ambivalent or unaffected by such programs. According to Isenberg (2010), government support is crucial in promoting entrepreneurship, particularly when policies are tailored to the requirements of young entrepreneurs. The findings suggest that, while government efforts exist, they may not effectively reach or resonate with students in the early phases of entrepreneurial development.

The neutral response rate of 45.5%" suggests that many students may not be adequately informed or involved with the government's present entrepreneurship assistance mechanisms. Klapper, Lewin & Delgado (2011) found that awareness and accessibility are critical factors in the effectiveness of entrepreneurship policies. Programs aimed to encourage entrepreneurship may not always be visible or suited to the requirements of specific demographics, such as students, resulting in a mismatch between legislative goals and practical impact. This neutral posture could indicate that students are either uninformed of government resources or are sceptical of their relevance to their entrepreneurial path, limiting the potential influence of such assistance.

The 18.2% of respondents who disagreed that government help influenced their decision to establish a business may be dissatisfied with the existing breadth or character of available assistance. According to Autio et al., (2014), broad government policies may fail to appropriately address the unique problems that aspiring entrepreneurs face, particularly in highly competitive or innovation-driven economies such as Singapore. Student entrepreneurs, in particular, may require more specialised, targeted help, such as startup capital, coaching, and legal representation, which is frequently lacking in larger policy projects. These findings highlight the need for more

personalised and accessible government support mechanisms that especially address the student population's entrepreneurial demands.

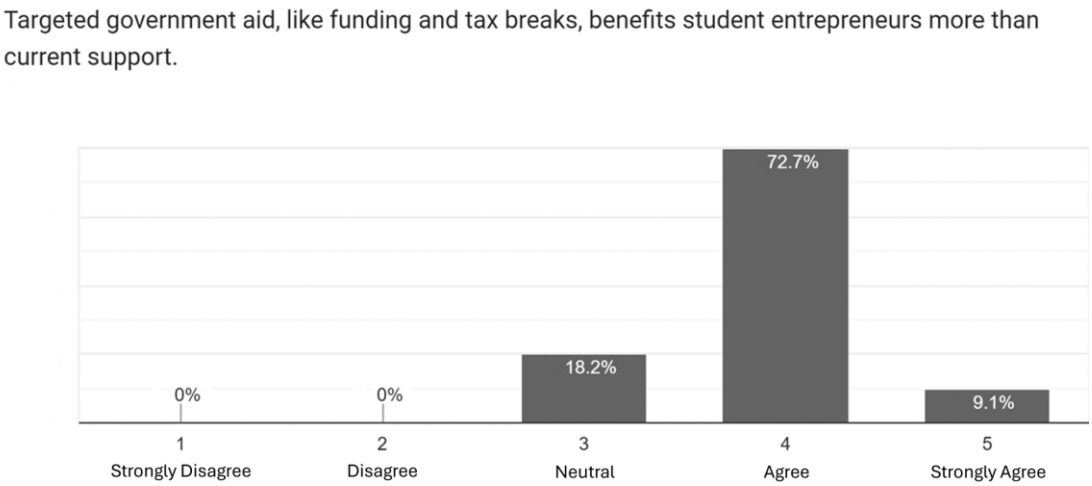

Table 4.6.2. Targeted government aid

According to the study results, 81.8% of respondents agree with the statement "Targeted government aid, like funding and tax breaks, benefits student entrepreneurs more than current support," while 18.2% are neutral. This overwhelming agreement emphasises the need for more targeted and precise government measures that address the unique requirements of student entrepreneurs. According to Brown & Mason (2017), customised government policies such as funding programs, tax breaks, and regulatory support tailored expressly for startups have a significant impact on supporting entrepreneurial growth, particularly in university settings. Student entrepreneurs frequently require specialised assistance due to limited access to resources and finance, which regular government policies may not effectively address.

Shane (2009) supported the idea that specialised help is more useful than present general support mechanisms, arguing that broad-based government support programs

can fail to address the complex needs of specific entrepreneurial groups, such as students. The study results indicate that student entrepreneurs are more inclined to pursue startup ventures when support mechanisms such as funding initiatives and tax advantages are tailored to their specific needs. This tailored strategy helps to eliminate financial obstacles, which are frequently one of the most significant impediments for students aspiring to establish a startup. Government programs such as startup subsidies and low-interest loans for students can have a significant impact on their entrepreneurial path (Gans & Stern, 2003).

The neutral view offered by 18.2% of respondents may indicate that, while these students recognise the importance of government help, they have yet to personally experience the benefits of focused aid. This conclusion is consistent with the findings of Wright, Birley & Mosey (2004), who discovered that many students are ignorant of the specific entrepreneurial resources accessible to them or are unable to manage the intricacies of obtaining these resources. The neutral responses could also imply that these students have not yet faced the obstacles that focused government actions are intended to alleviate. As a result, this emphasises the need for improved communication and dissemination of customised government aid programs, as well as the provision of entrepreneurship education that informs students about the availability of such personalised help.

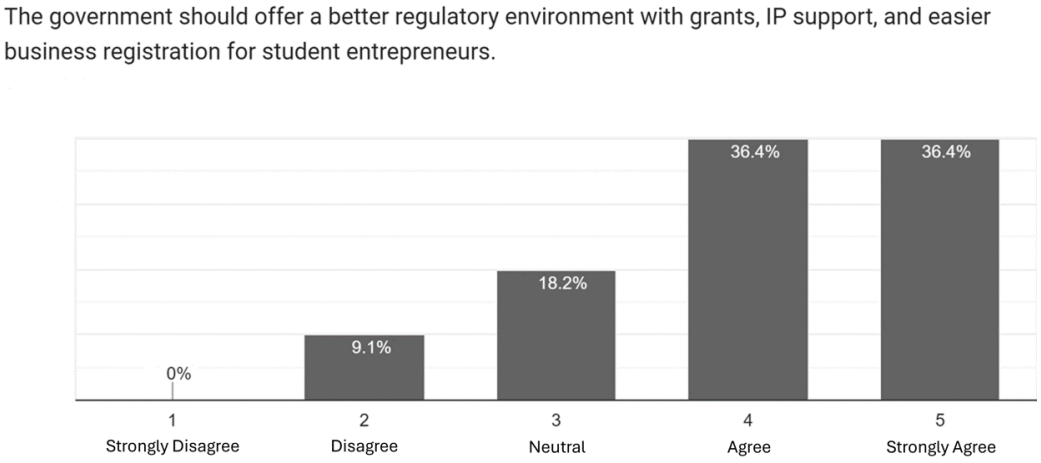

Table 4.6.3. Government to provide a better regulatory environment.

“The government should offer a better regulatory environment with grants, Intellectual property (IP) support, and easier business registration for student entrepreneurs,” showing that 72.8% of respondents agree, 18.2% are neutral, and 9.1% disagree. The substantial majority agreement indicates that students believe the current regulatory framework is insufficient and see opportunities for reform in areas such as grants, IP protection, and expedited business registration. These characteristics are key for enabling the early phases of entrepreneurship, according to Block, Fisch & van Praag (2017), who claim that government policies play an important role in lowering entry barriers for new enterprises, particularly for young and inexperienced entrepreneurs.

The proposal for a better regulatory environment is consistent with existing literature on the role of government support in supporting entrepreneurial ecosystems. For example, Qian, Acs & Stough (2013) argued that well-structured regulatory frameworks, together with financial and legal support mechanisms such as grants and intellectual property protection, are critical for entrepreneurial development. A favourable regulatory framework enables student entrepreneurs to concentrate on

innovation and business growth rather than bureaucratic obstacles. Intellectual property protection is especially important for young entrepreneurs since it protects their innovations and ideas, incentivising them to take entrepreneurial risks (Litan, 2016).

The 18.2% neutral and 9.1% disagreeing responses indicate that some students may not have fully engaged with the regulatory aspects of entrepreneurship or may believe that existing policies already fulfil their needs. According to Stam & van de Ven (2021), regulatory frameworks are necessary, but they must also be adaptable and sensitive to the unique needs of various entrepreneurial groupings. Some students may not have yet encountered regulatory hurdles, which could explain their neutral view, whereas others may deem the current structure enough for their initiatives, resulting in the discrepancy. This emphasises the significance of adapting regulatory reforms to specific groups and ensuring that support mechanisms are widely disseminated and easily accessible to all student entrepreneurs.

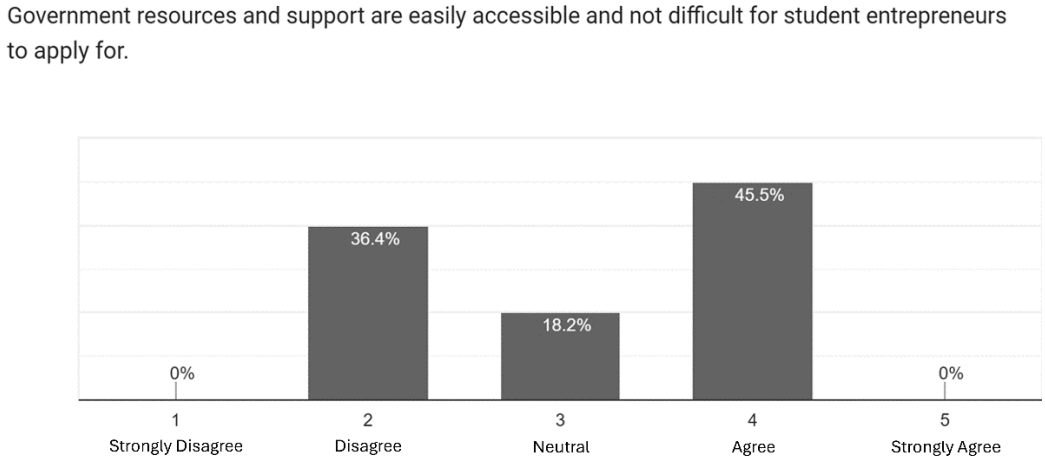

Table 4.6.4. Government resources and support are easily accessible.

The survey results for the statement “Government resources and support are easily accessible and not difficult for student entrepreneurs to apply for” show that 45.5% agree, 18.2% are neutral, and 36.4% disagree. This shows that, while many student entrepreneurs have access to these resources, a significant minority continue to confront difficulties. According to studies, the efficacy of government support is typically determined by how effortlessly businesses can navigate these systems. Block & Sandner (2009) suggested that despite the availability of funds and support, the complexity of application processes can discourage young entrepreneurs, particularly those with little experience dealing with bureaucratic impediments.

The neutral responses (18.2%) could indicate that some students have not had enough exposure or experience with these services or are still unsure about the accessibility of such programs. This is consistent with the findings of Hsu, Wiklund & Cotton (2017), who observed that a lack of awareness or comprehension of government initiatives can lead to doubt. In many situations, students may not fully understand how to request assistance, or they believe the process is too burdensome given their other academic responsibilities.

The 36.4% that disagree represent a considerable obstacle to receiving government assistance. This is a typical issue since many young entrepreneurs struggle with governmental procedures and eligibility requirements. According to Williams & Vorley, (2015), while many government initiatives seek to assist businesses, the administrative burden and cumbersome procedures frequently discourage participation, particularly among individuals with little business experience, such as students. Simplifying application procedures or giving dedicated assistance to students could help overcome these barriers and enhance access to government resources.

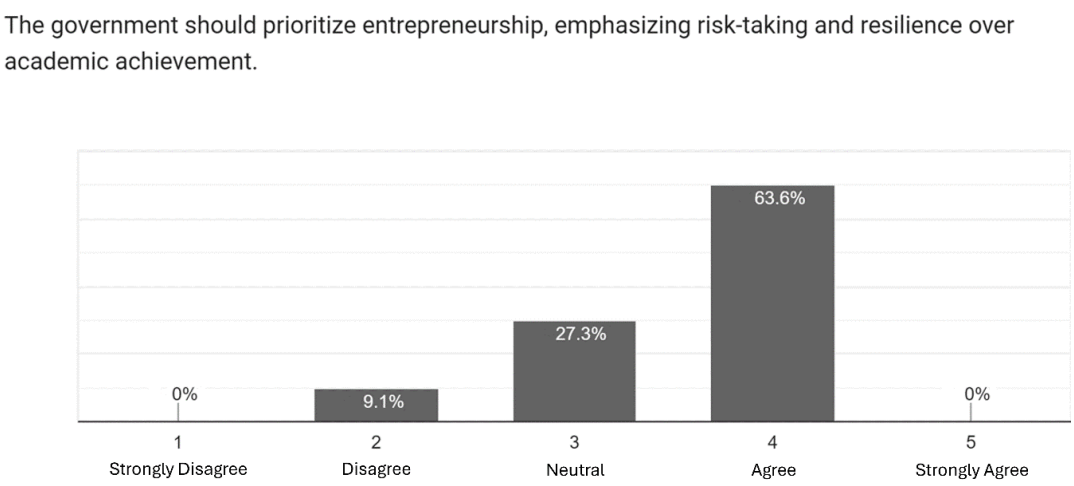

Table 4.6.5. The government should prioritise entrepreneurship over academic.

According to the survey results, 63.6% of participants agree with the statement that "The government should prioritise entrepreneurship, emphasising risk-taking and resilience over academic achievement," while 27.3% are neutral and 9.1% disagree. The high proportion of agreement shows that entrepreneurial traits like risk-taking and resiliency are becoming increasingly important for success in the quickly changing modern economy. The premise that entrepreneurship requires not only technical abilities but also the capacity for risk-taking and failure-resilience is supported by research conducted in 2009 by Timmons and Spinelli. There may be a need for government programs that highlight entrepreneurial abilities among students, as these individuals are often better suited to manage the risks and difficulties involved in starting new businesses.

The 27.3% of respondents who are neutral may reflect ambivalence about the relative relevance of entrepreneurship versus academic accomplishment. For some students, traditional educational courses and excellent academic achievement remain critical to

succeed, particularly in more conventional industries. As Seelig (2012) said, while resilience and risk-taking are essential for entrepreneurs, academic accomplishment should not be overlooked because it provides students with the basic knowledge required for creativity. The neutrality may also originate from a view that a balance between entrepreneurship and academic excellence is necessary.

The 9.1% of students who disagree ” could think that entrepreneurship is not the main career route, or that academic performance should still take precedence, especially in a university context. According to research by Nabi et al., (2017), students frequently view entrepreneurial skills as an addition to academic knowledge rather than a replacement for it. This group may believe that academic rigour should not be sacrificed in the name of entrepreneurship, particularly in professions where technical expertise and credentials are necessary for advancement in the workforce.

4.7 Mean, Standard Deviation and Interval Scaling

Pimentel (2010) emphasised the benefits of employing mean and standard deviation for evaluating Likert scale data, especially when treated as interval data. The mean is a valuable measure of central tendency, providing a single figure that captures a group’s overall response, whereas the standard deviation provides information about the variability or spread of responses around the mean. These statistics are useful because they enable researchers to efficiently summarise data, allowing for comparisons across groups and the detection of trends or patterns in responses. According to Pimentel (2010), employing these parametric measurements allows for a more nuanced interpretation of the data, especially in large-scale investigations, and improves the precision of survey study findings.

Likert Scale Description	Likert Scale	Likert Scale Interval
Strongly disagree	1	1.00 - 1.80
Disagree	2	1.81 - 2.60
Neutral	3	2.61 - 3.40
Agree	4	3.41 - 4.20
Strongly agree	5	4.21 - 5.00

Table 4.7.1. Likert scale interval
Source: Pimental (2010)

The advantage of interval scaling or interval interpretation of Likert scale data is that it allows researchers to utilise a variety of parametric statistical approaches, hence increasing the analytical power of their investigations. When Likert scales with five or more points are represented as interval data, researchers can compute more advanced statistics including means, standard deviations, and correlations. This technique presupposes that respondents consider the distance between points on the scale, such as “agree” and “strongly agree,” to be equal, allowing for meaningful use of central tendency and variability metrics (Norman, 2010). As a result, interval scaling allows for a better understanding of patterns and relationships in data, making it easier to compare groups and identify statistically significant differences.

Additionally, presenting Likert data as an interval enables more complex statistical testing, providing deeper insights into the correlations between variables. Carifio & Perla (2007) reported that research has shown that parametric tests are reliable even when Likert data does not precisely fulfil interval measurement assumptions. In reality, interpreting Likert data as intervals can be immensely useful for researchers in situations when minor deviations from statistical assumptions have little impact on outcomes. This flexibility, combined with the capacity to derive comprehensive, quantitative insights from survey data, is why many social science researchers choose

to consider Likert scale data as intervals, especially in studies of attitudes, perceptions, and views.

	Government current support	Targeted government aid	Government to provide a better regulatory environment	Government resources and support are easily accessible	Government should prioritize entrepreneurship over academic	Mean
Standard Deviation	0.87	0.52	0.95	0.89	0.81	
Mean	3.27	3.91	4.00	3.09	3.55	3.56

Table 4.7.2. Student's entrepreneurial intention is related to government support.

The low standard deviation shows a high degree of agreement among respondents, implying that the data is consistent and reliable. This indicates that respondents have comparable perceptions or opinions regarding government support (Joshi et al., 2015; Boone & Boone, 2012).

The survey results, for Hypothesis 1: The student's entrepreneurial intention is related to government support; that is, having targeted support rather than a blanket policy, shows a positive correlation. The mean score of 3.56, shows agreement, indicating that government backing is viewed as a substantial element in students' entrepreneurial goals. This finding is consistent with prior research emphasising the importance of government interventions in promoting entrepreneurship, particularly among younger generations. Targeted assistance, in particular, appears to resonate more with students than generalised policy, which may explain why responses skew toward agreement (Acs, Autio & Szerb, 2014; Carree & Thurik, 2010; Zoltan, 2010).

The positive relationship between targeted government support and entrepreneurial intentions is consistent with research showing that focused interventions, such as industry-specific funding, tax breaks, and simplified business registration for student entrepreneurs, have a greater impact on entrepreneurial outcomes (Acs, Autio & Szerb, 2014). While generalised rules can be good, they frequently fail to address the specific obstacles that student entrepreneurs experience. Carree & Thurik (2010) confirmed the concept that students prefer support systems that are tailored to their unique needs, implying that a one-size-fits-all strategy is less effective in stimulating entrepreneurial action in this population.

The findings give strong evidence for Hypothesis 1, which states that when government assistance is tailored to the specific requirements of student entrepreneurs, such as through specific grants or mentorship programs, it considerably increases their entrepreneurial intent. This result is consistent with the research, which supports policies that address specific impediments encountered by student entrepreneurs, such as access to financing, regulatory restrictions, and industry-specific challenges (Zoltan, 2010). The favourable outcome for Hypothesis 1 shows that policymakers should prioritise designing and implementing targeted support systems to encourage university students' entrepreneurial goals.

4.8 Student's Entrepreneurial Intention is Related to the Entrepreneurship Program and Pedagogy.

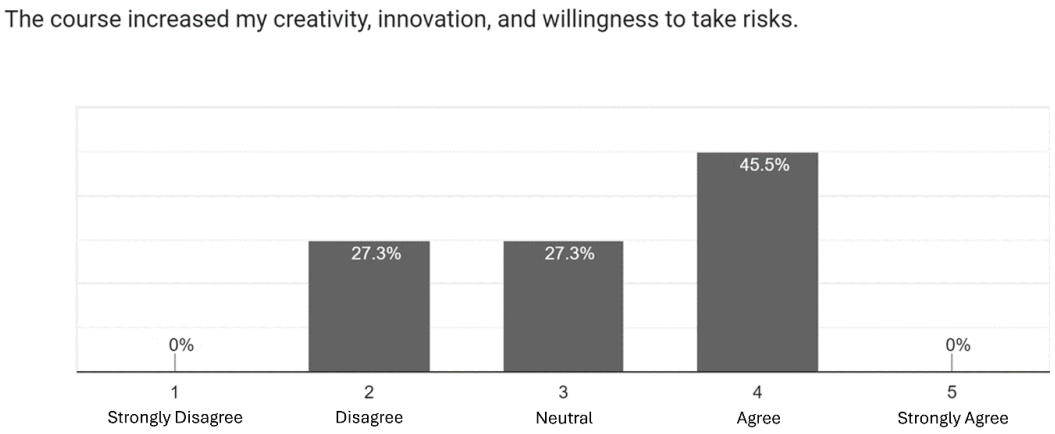

Table 4.8.1. The course increased my creativity and innovation.

The statement "The course increased my creativity, innovation, and willingness to take risks" elicits a mixed response. With 45.5% agreeing, 27.3% neutral, and 27.3% disagreeing, it appears that nearly half of the students believe the entrepreneurship course has improved their creativity and risk-taking abilities, but a sizable proportion are either unsure or do not feel this impact. Gibb (2002) stated that creativity and invention are frequently identified as important aspects of entrepreneurship education because they build the ability to generate new ideas and overcome uncertainty. However, the neutral and disagreeing replies show that some students may have felt that the course did not entirely meet their expectations in these areas, indicating potential gaps in the curriculum or material delivery.

The value of entrepreneurial education in fostering creativity and risk-taking has been well-validated in research. According to scholars such as Bae et al., (2014),

entrepreneurship courses can have a major impact on students' entrepreneurial mindsets by fostering creative thinking and calculated risk-taking. Nonetheless, the 27.3% of respondents who disagreed that the course boosted their creativity, and risk-taking abilities may reflect the difficulties of converting academic concepts into practical, hands-on experiences. This is consistent with the findings of Pittaway & Cope (2007), who argue that entrepreneurship education must go beyond standard teaching approaches and actively engage students in practical learning in order to effectively cultivate these talents.

Students who stayed neutral (27.3%) may have been uncertain about the course's impact or had no visible change in their creative and risk-taking habits. As Rae (2010) pointed out, creativity and originality are highly personal processes, and not all students may gain immediately from a curriculum aimed to improve these characteristics. These findings suggest that, while entrepreneurship courses have the potential to promote creativity and risk-taking, educators should consider more targeted, hands-on approaches to engage all students and cater to different learning styles in order to maximise the course's impact on these important entrepreneurial traits.

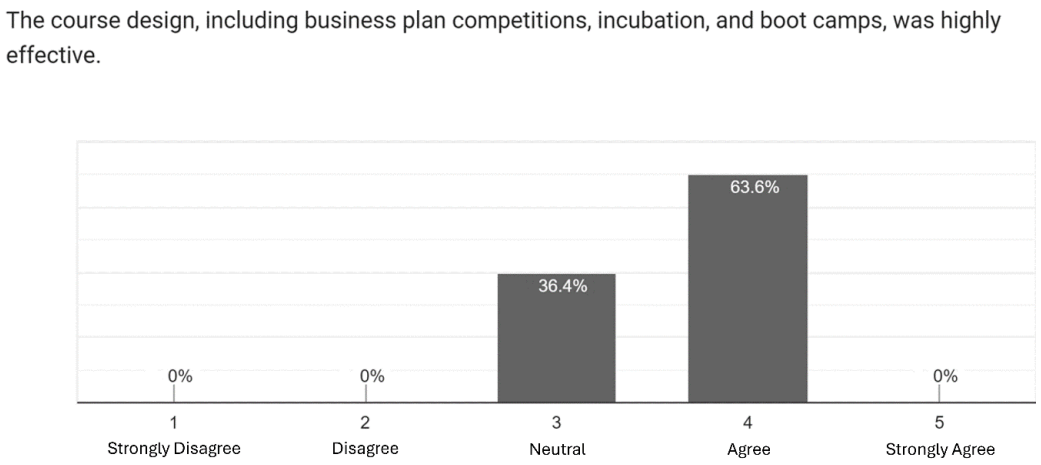

Table 4.8.2. The course design was highly effective.

The results of the survey show that 63.3% of respondents agreed with the statement, “The course design, including business plan competitions, incubation, and boot camps, was highly effective,” while 36.4% were neutral. This good response indicates that the course design, which focuses on experiential learning methods such as business idea competitions, incubation programs, and boot camps, is well received by the majority of students. Such experiential exercises are known for delivering hands-on learning opportunities that closely resemble real-world entrepreneurial issues. According to Neck, Greene & Brush (2014), practical, action-based learning environments that build important abilities such as problem-solving, decision-making, and creativity are extremely beneficial to entrepreneurship education. Universities provide students with the opportunity to use academic knowledge in practical, entrepreneurial environments by including them in contests and incubators.

However, the fact that more than one-third of respondents were ambivalent may reflect a lack of complete engagement or understanding of the benefits of these activities. Neutral responses could indicate various levels of awareness or engagement in these

activities, as some students may not have had direct access to incubation programs or found business plan competitions less relevant to their entrepreneurial ambitions. Fayolle & Gailly (2008) underlined that the effectiveness of entrepreneurship education is dictated not just by curriculum design, but also by the alignment of course activities with students' particular objectives and needs. To increase perceived efficacy, educators might guarantee that students are more actively involved in these components, adapting them to match a variety of entrepreneurial interests.

The usefulness of these experiential learning strategies Is widely documented In academic literature. Rasmussen & Sørheim (2006) emphasised the significance of incubation programs for accelerating entrepreneurial growth, while Volkmann, Tokarski & Grünhagen (2009) suggested that boot camps and business proposal competitions promote entrepreneurial skills including resilience, leadership, and networking. These activities provide students with a simulated environment in which they can practice entrepreneurial skills, receive mentorship, and be exposed to real-world issues, all of which are critical for developing entrepreneurial ambitions. Moving forward, enhancing the inclusion and accessibility of these components may have a greater impact, ensuring that all students benefit from practical entrepreneurship education.

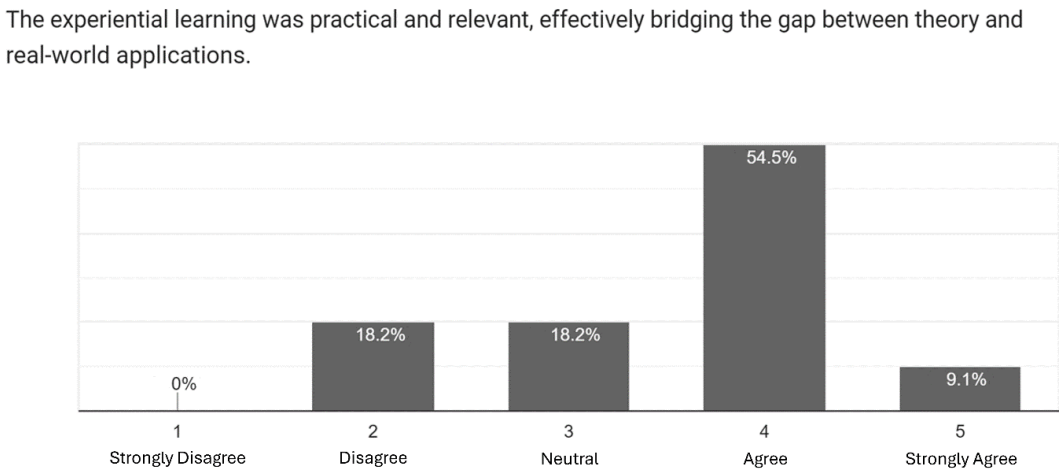

Table 4.8.3. The experiential learning was effective.

According to the survey results, a large proportion of respondents (9.1% strongly agreed and 54.5% agreed) regarded the experiential learning component of their entrepreneurship course to be practical and relevant, effectively bridging the gap between theory and real-world applications. These findings are consistent with previous research on experiential learning, which highlights its usefulness in providing students with practical abilities that may be applied directly in entrepreneurial contexts (Kolb, 1984). Experiential learning, which includes case studies, simulations, and hands-on projects, helps students to apply theoretical information in real-world circumstances, promoting deeper learning and skill development. This practical application is especially useful in entrepreneurship education, where theory alone may not be enough to educate students about the unpredictable nature of entrepreneurial ventures.

The neutral answer percentage of 18.2% indicates that some students may have felt that the experiential learning components did not fully match their expectations or were

not completely relevant to their personal entrepreneurial goals. This could be due to a variety of variables, including the course format or the student's participation in experiential learning activities. According to Pittaway & Cope (2007), while experiential learning is generally beneficial, its impact is determined by the quality of facilitation and the alignment of activities with students' entrepreneurial goals. Experiential learning can be made more effective by giving personalised advice and tailoring learning experiences to students' various backgrounds and objectives.

On the other side, the 18.2% of respondents who disagreed may indicate difficulties in adopting experiential learning in ways that appeal to all students. Some may find certain practical applications irrelevant, or they may believe that the course did not adequately simulate the difficulties of real-world entrepreneurship. Gibb (2002) found that, while experiential learning is important in entrepreneurship education, the success of such approaches is strongly dependent on the design and implementation of the learning activities. This necessitates ongoing examination and improvement of experiential learning curricula to ensure that they satisfy the diverse requirements of students and effectively bridge the gap between theory and practice in entrepreneurial education.

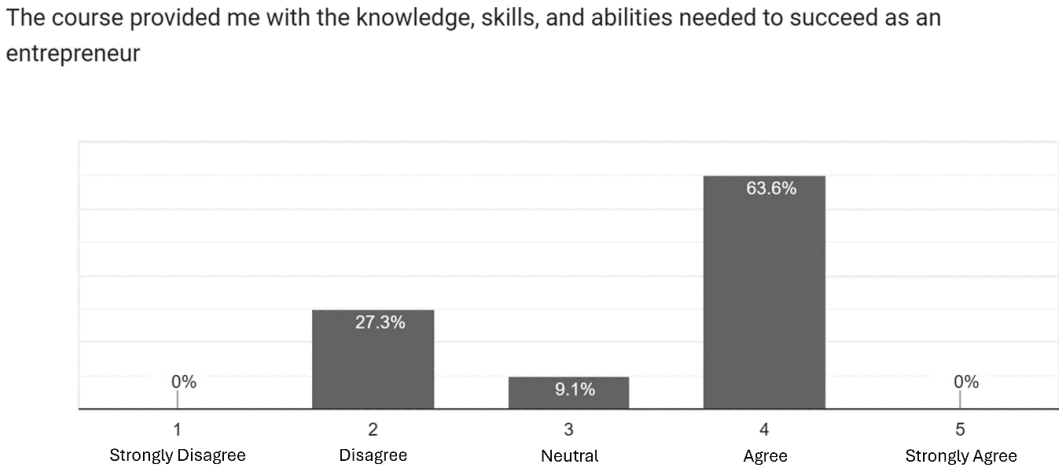

Table 4.8.4. The course provided me with the knowledge, skills, and abilities.

The vast majority of respondents (63.3%) believed that the course equipped them with the information, skills, and talents they needed to succeed as entrepreneurs. This is consistent with the consensus in the entrepreneurship education literature, which emphasises the value of organised learning environments in developing entrepreneurial competencies. According to Rae (2007), entrepreneurship classes that combine theoretical knowledge with practical abilities help students gain confidence and prepare for entrepreneurial endeavours. Such courses frequently include critical skills like opportunity assessment, resource mobilisation, and strategic thinking, all of which are required for entrepreneurial success. By stressing both theory and practice, the course provides students with a full toolkit for navigating the intricacies of beginning and running a firm.

The presence of 9.1% neutral replies Implies that a small proportion of students may have been sceptical of the course's usefulness in preparing them for entrepreneurial success. This could imply a difference in how students view the relevance or

applicability of the subject. According to Fayolle & Gailly (2015), the impact of entrepreneurship education varies depending on the particular learner's attributes, such as experience and motivation. Others with more entrepreneurial expertise may find some portions of the curriculum unnecessary, but others with less exposure to business may benefit more dramatically. Thus, educators must consider students' different backgrounds when developing entrepreneurship programs to promote inclusivity and relevance across varying levels of entrepreneurial expertise.

27.2% of respondents did not believe that the course equipped them with the information, skills, and talents required to succeed as entrepreneurs. This conclusion emphasises the significance of constantly evaluating and improving entrepreneurship programs to meet students' changing demands. Rasmussen & Sørheim (2006) advocate for dynamic entrepreneurial education that balances core knowledge with the development of soft skills such as creativity, adaptability, and resilience. Students who believed the course did not adequately prepare them for entrepreneurship may have desired additional experiential learning opportunities or increased exposure to real-world entrepreneurial difficulties. These findings underscore the need to incorporate practical experiences into courses, such as mentorship and incubation programs, in order to better support students' entrepreneurial goals and talents.

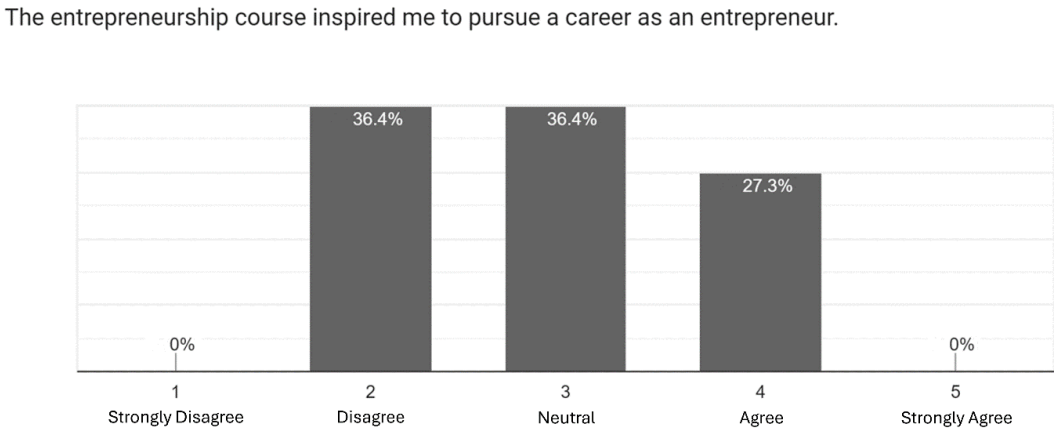

Table 4.8.5. The course inspired me.

According to the study results, 27.3% of respondents said the entrepreneurship course motivated them to become entrepreneurs. This is consistent with the findings of other research on the effect of entrepreneurship education on career intentions. According to Sánchez (2013), entrepreneurship classes can boost students' entrepreneurial self-efficacy, which improves their motivation to pursue entrepreneurial careers. Such courses frequently introduce students to entrepreneurial role models, case studies, and company simulations, which can encourage them to pursue entrepreneurship as a career option. However, the low percentage of students who were encouraged to pursue entrepreneurship implies that the course may not have piqued the attention of a larger audience.

Surprisingly, 36.4% of respondents had a neutral attitude toward the course's influence on their entrepreneurial career goals. This neutrality may indicate that, while the course provided useful knowledge and skills, it did not necessarily result in a strong desire to pursue entrepreneurship as a career. Souitaris, Zerbinati & Al-Laham (2007) stated that exposure to entrepreneurship education does not always result in entrepreneurial

intents; rather, the student's interest and drive play an important role. Students may value the entrepreneurial abilities acquired during the course, but many prefer to employ such skills in corporate settings or other non-entrepreneurial career choices. This emphasises the significance of personalising course content to build skills while also cultivating a deeper entrepreneurial attitude.

An interesting 36.4% of students disagreed that the course inspired them to become entrepreneurs. This conclusion raises critical concerns regarding the course's design and delivery. According to Nabi et al., (2017), for entrepreneurship education to have a true impact, it must go beyond knowledge transfer and actively engage students in experiential learning, real-world problem-solving, and entrepreneurial ecosystems. If students do not recognise the course content's practical application to their personal goals, they may lack a strong entrepreneurial intention. Thus, future iterations of entrepreneurship classes could benefit from including more hands-on, real-world entrepreneurial experiences, like as internships with firms or interactions with successful entrepreneurs, in order to motivate a larger number of students to become entrepreneurs.

	The course increased my creativity & innovation	The course design was highly effective	The experienti al learning was effective	The course provided me the knowledge, skills, and abilities	The course inspired me	Mean
Standard Deviation	0.84	0.48	0.89	0.88	0.77	
Mean	3.18	3.64	3.55	3.36	2.91	3.33

Table 4.8.6. Student's entrepreneurial intention is related to the entrepreneurship program and pedagogy.

The overall survey results show that students' entrepreneurial inclinations are marginally related to the entrepreneurship program and pedagogy, with a mean score of 3.33 suggesting a neutral view. This indicates that the program may have some benefits but does not significantly encourage or affect students' inclinations to pursue entrepreneurship. Mueller (2012) argued that entrepreneurship education frequently focuses on conveying knowledge about business creation but does not necessarily succeed in instilling a strong passion or drive to be an entrepreneur. This demonstrates a possible gap between teaching entrepreneurship as a subject and persuading students to apply their knowledge to real-world entrepreneurial initiatives.

The neutral reaction also implies that students may not be fully engaged by the current instructional style. According to Rasmussen & Sørheim (2006), experiential learning methods including simulations, business proposal competitions, and internships play a crucial role in developing entrepreneurial intents. Programs that concentrate too heavily on theoretical or traditional teaching methods may not adequately foster students' entrepreneurial mindsets. This could explain why students in this survey responded neutrally, indicating a need for more practical, hands-on experiences that are immediately applicable to entrepreneurial activity.

The neutral mean score of 3.33, together with the low standard deviation, indicates that students have a consistent opinion of the entrepreneurship program, revealing both potential for growth and areas of strength. Regardless of the neutral perspective, it is critical to recognise that excellent pedagogy, when combined with practical learning methodologies, can positively promote entrepreneurial intention. To better match course design with entrepreneurial ambition, educators could include more practical learning and real-world application opportunities. This shift in teaching technique is

consistent with the findings of Neck & Greene (2011), who argue that process-oriented entrepreneurship education can improve students' creative problem-solving abilities and opportunity detection. Thus, the results provide support for Hypothesis 2: The student's entrepreneurial purpose is linked to the entrepreneurship program and pedagogy, implying that program enhancements could encourage students to pursue entrepreneurial goals.

4.9 Student's Entrepreneurial Intention is Related to Teaching Faculty Entrepreneurial and Competence.

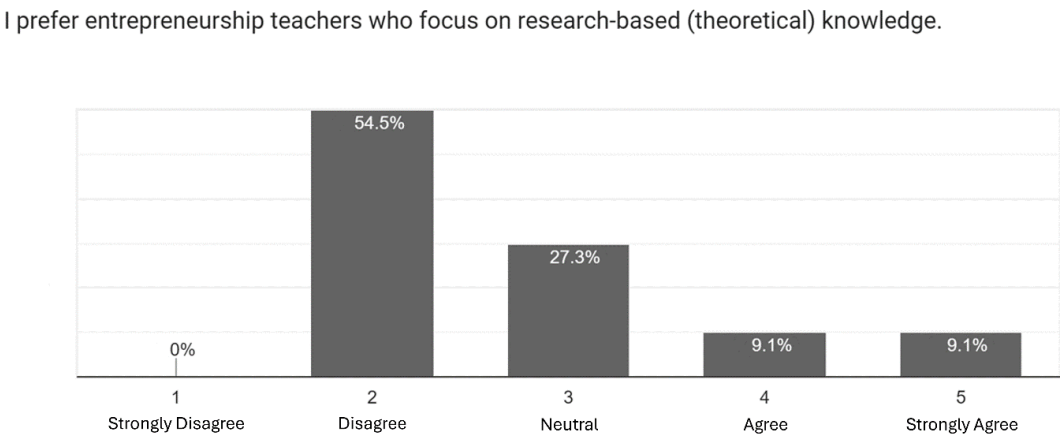

Table 4.9.1. I prefer research-based teachers.

A small percentage of respondents (9.1% strongly agree, 9.1% agree) preferred entrepreneurial teachers who emphasise research-based, theoretical knowledge, whereas a large majority (54.5%) disagreed. This shows that most students find theory insufficient when studying entrepreneurship, which could be due to the discipline's emphasis on practical application. Theoretical models, while useful, may not fully capture the intricacies of real-world entrepreneurial processes. According to Pittaway & Cope (2007), students in entrepreneurship programs favour learning opportunities

that stress experiential and action-oriented learning since they are more closely related to the dynamic nature of starting and maintaining a business.

The neutral opinion provided by 27.3% of respondents indicates that some students understand the value of balancing theory with practice. Entrepreneurship researchers, such as Neck & Greene (2011), argued that while entrepreneurship education must be founded on rigorous research, it should also be supplemented with practice-based learning that builds important abilities such as creativity, resilience, and problem-solving. Students are inclined to value understanding theoretical models, but they do not consider them sufficient without practical insights. This underlines the importance of a hybrid approach to entrepreneurship education that combines academic understanding with real-world application.

The significant number of students (54.5%) who disagree with the emphasis on theoretical knowledge suggests that they want more practical, hands-on learning opportunities in the classroom. Gibb (2011) put forward that students enrolled in entrepreneurship programs prefer educational techniques that allow them to work on real-world projects, connect with entrepreneurs, and participate in entrepreneurial activities. This choice reflects a larger trend in entrepreneurship education toward “learning by doing” models that better prepare students for the uncertainties and challenges of entrepreneurial endeavours. Based on these findings, entrepreneurship teachers may want to modify their teaching methodologies to include more practical elements, promoting both theoretical understanding and the development of practical abilities.

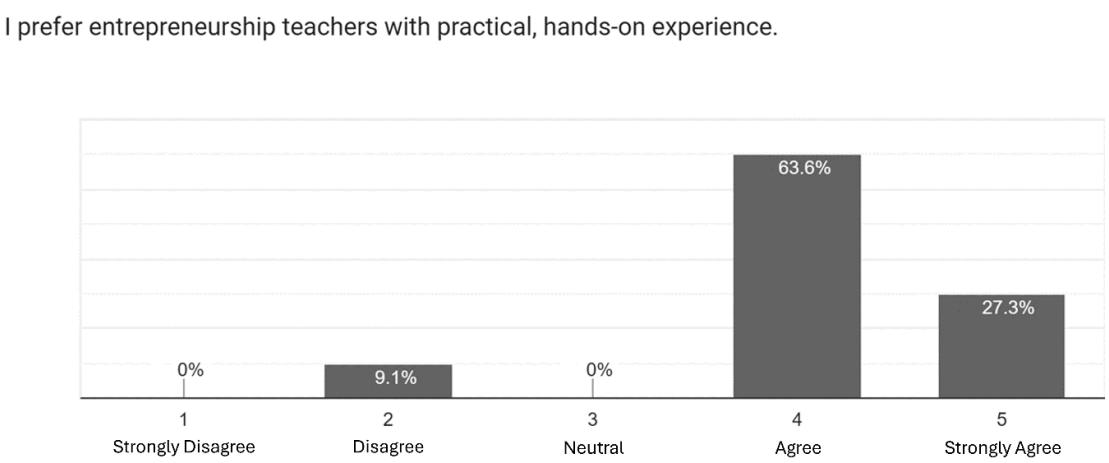

Table 4.9.2. I prefer hands-on experience teachers.

The survey results show that a sizable majority of respondents (27.3% strongly agree, 63.6% agree) prefer entrepreneurship teachers with actual, hands-on experience. This preference for teachers with real-world entrepreneurial experience is understandable, given that students frequently desire firsthand insights into the reality of starting and maintaining a business. According to research, teachers with hands-on experience can provide essential contextual knowledge, discuss their entrepreneurial adventures, and mentor students, bridging the gap between theory and practice. Rasmussen & Sørheim (2006) found that educators with practical experience are more likely to use experiential learning approaches to prepare students for the uncertainties and obstacles of entrepreneurship.

The 9.1% of respondents who disagreed with this preference may place a higher value on academic expertise, indicating that some students still respect the depth of information available from theoretically trained teachers. However, the overwhelming preference for practical experience reflects a larger trend in entrepreneurship education, which has shifted toward experiential learning as a primary pedagogical

technique. As Rae (2010) pointed out, entrepreneurship is intrinsically action-oriented, and students benefit from teachers who can model entrepreneurial behaviours, share lessons from their triumphs and failures, and walk them through real-world problem-solving scenarios.

This preference for teachers with practical expertise is consistent with research highlighting the value of practice-based entrepreneurship education. Neck, Greene & Brush (2014) supported that theoretical knowledge alone is insufficient to completely comprehend entrepreneurial behaviour. Instead, hands-on learning experiences, such as designing business models, interacting with startup ecosystems, or participating in entrepreneurial simulations, are critical for acquiring entrepreneurial abilities. The findings of this survey highlight the necessity for teachers who can teach by doing, implying that entrepreneurship programs should prioritise the recruitment and development of teachers with industry expertise to match students' expectations and learning needs.

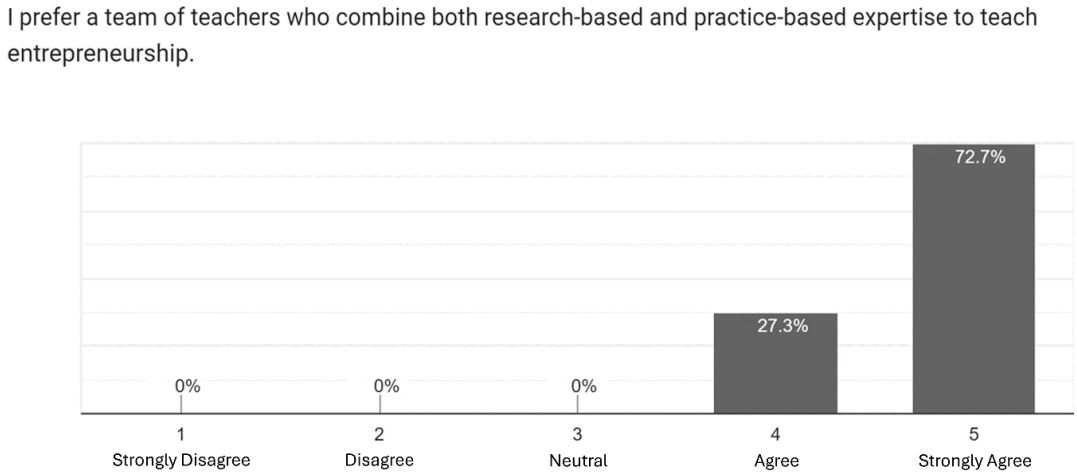

Table 4.9.3. I prefer a team of teachers.

The findings from the survey show that respondents highly favour a team of teachers who integrate research-based and practice-based knowledge in teaching entrepreneurship, with 72.7% strongly agreeing and 27.3% agreeing with this approach. This finding emphasises the importance of students focusing on a balanced teaching technique that combines academic knowledge with practical insights. According to Fayolle & Gailly (2008), the integration of theory and practice in entrepreneurship education enables students to benefit from evidence-based research while also learning from real-world experiences. This dual approach not only provides students with the intellectual understanding required to traverse the entrepreneurial landscape but also with the practical abilities to apply that knowledge in real-world business scenarios.

The overwhelming support for this mixed approach is consistent with current trends in entrepreneurship education. Scholars say that entrepreneurship is a discipline that benefits from both empirical research and practical application. Sarasvathy & Venkataraman (2011) stated that entrepreneurial education should include hands-on learning activities such as case studies, company plan preparation, and industry simulations, rather than only theoretical frameworks. By combining research-based information with hands-on experience, educators may provide a more comprehensive education that prepares students for the dynamic and uncertain world of entrepreneurship.

The students' preference for this dual method emphasises the value of interdisciplinary teamwork in teaching entrepreneurship. Teams of teachers with varied backgrounds—both academic and practical—can provide multiple viewpoints, improving the learning experience. According to Honig (2004), combining research-based and practice-based

education allows students to have a better understanding of both the theoretical underpinnings and real-world issues of entrepreneurship. The survey results reinforce the idea that students want a holistic education that combines the best of both worlds, and institutions should work to establish curricula that reflect this balance.

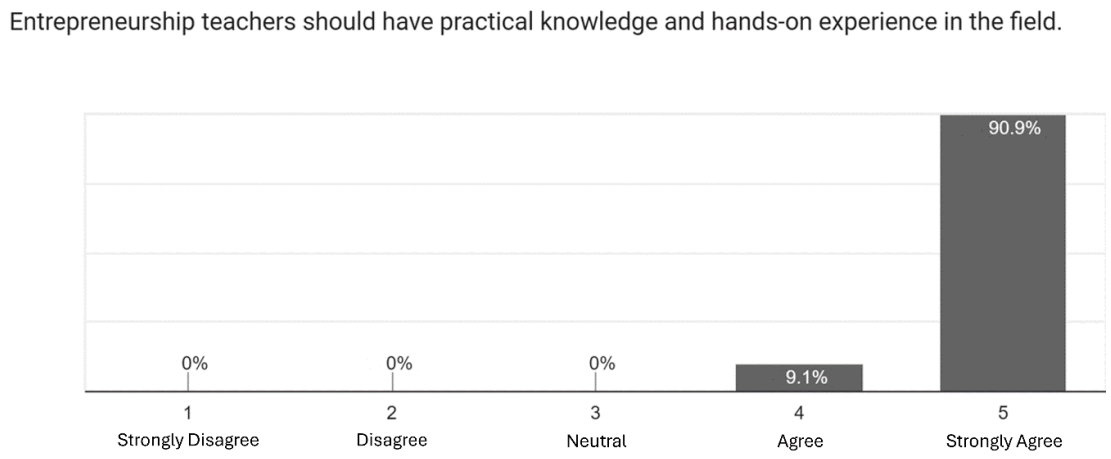

Table 4.9.4. Entrepreneurship teachers should have entrepreneurship experience.

The survey results show an almost uniform agreement among respondents, with 90.9% strongly believing that entrepreneurship teachers should have practical knowledge and hands-on experience in the sector. This overwhelming unanimity emphasises the important relevance of experience learning in entrepreneurship education. Theories and academic studies may not be enough to prepare students for the realities of entrepreneurship. Teachers with practical expertise bring a wealth of industry knowledge, and insights from business failures and achievements, and may provide students with meaningful guidance based on real-world scenarios. Rae (2010) reported that entrepreneurship education benefits from educators who can bridge the gap between theory and practice by effectively mentoring and guiding students based on their entrepreneurial journeys.

The emphasis on practical experience is consistent with a larger trend in entrepreneurial education, in which students are increasingly seeking out programs that offer applied learning opportunities. Gibb (2011) found that entrepreneurship is essentially an action-oriented discipline, and students frequently benefit from teachers who have experienced the uncertainties and dangers associated with starting and maintaining a business. Teachers who bring their hands-on experiences into the classroom can create more engaging learning environments and offer insights that theoretical teachers may not be able to convey. These real-world experiences boost the teacher's credibility and encourage pupils to explore entrepreneurship with more confidence.

The small number of respondents (9.1%) who disagreed may represent a minority that places a higher priority on the theoretical foundations of entrepreneurship education or has had less exposure to practical implementation. The overwhelming preference for practical experience is consistent with the research, which highlights the significance of learning by doing in entrepreneurship (Neck & Greene, 2011). The findings strongly indicate that universities emphasise hiring industry-experienced teachers to teach entrepreneurship courses, ensuring that students obtain a well-rounded education that combines both theoretical knowledge and practical insights from the field.

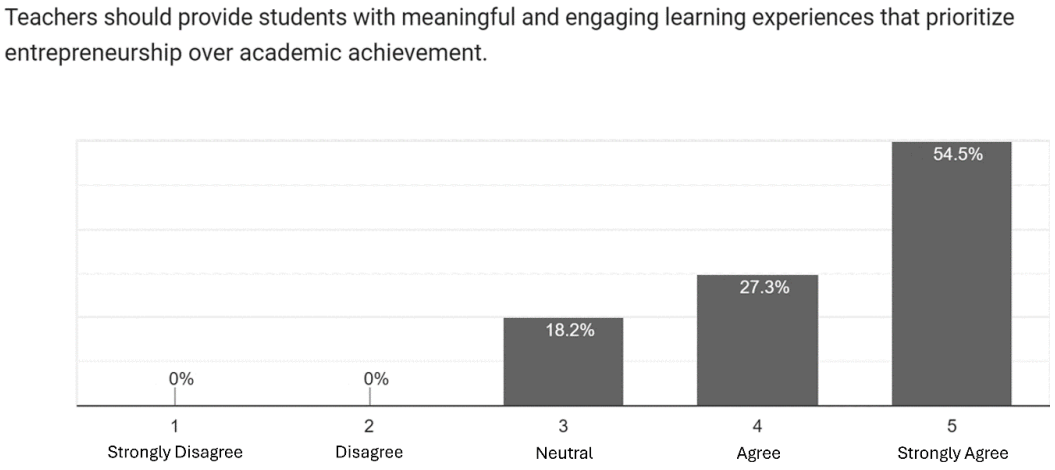

Table 4.9.5. Teachers should prioritise entrepreneurship over academic.

The survey results indicate a high preference for entrepreneurship teachers to give relevant and engaging learning experiences, with 54.5% strongly agreeing and 27.3% agreeing that these experiences should take precedence over academic accomplishment. This conclusion underscores the value of practical, real-world applications in entrepreneurship education. Nabi et al., (2017) studied that students who engage in active, experiential learning gain fundamental entrepreneurial abilities such as opportunity recognition and problem-solving, which are essential for real-world entrepreneurial success. The emphasis on participation rather than just academic accomplishment reflects a larger change in higher education toward developing entrepreneurial attitudes through applied learning experiences rather than traditional lecture-based models.

Experiential learning is important in entrepreneurship education because research shows that project-based learning and business simulations are excellent at bridging the gap between theory and practice. Pittaway & Cope (2007) established that entrepreneurship is essentially practical, and students benefit the most when they

are exposed to real-world difficulties, such as competing in business plan contests, interning, or starting their businesses. This hands-on approach allows students to apply academic information in a practical situation, boosting their entrepreneurial skills and self-efficacy. The findings of the survey corroborate this trend, with students indicating a strong preference for an education that emphasises real-world entrepreneurship experiences.

The remaining 18.2% of respondents who were neutral on this question may reflect a belief that academic accomplishment and entrepreneurship are not mutually exclusive. According to Souitaris, Zerbinati & Al-Laham (2007), entrepreneurship programs can combine academic rigour and practical application to provide a well-rounded education. While hands-on experience is beneficial, a solid theoretical basis can help students grasp the larger entrepreneurial ecosystem and adapt to new difficulties. The evident preference for practical engagement indicates that universities should continue to evolve their entrepreneurship programs to provide dynamic, applied learning opportunities that better prepare students for the realities of entrepreneurship.

	I prefer research-based teachers	I prefer hands-on experience teachers	I prefer team of teachers	Entrepreneurship teachers should have entrepreneurship experience	Teachers should prioritize entrepreneurship over academic	Mean
Standard Deviation	0.97	0.80	0.45	0.29	0.63	
Mean	2.73	4.09	4.73	4.91	4.36	4.16

Table 4.9.6. Student's entrepreneurial intention is related to teaching faculty entrepreneurial and competence.

The survey results for the teaching faculty indicate a high level of student satisfaction, as evidenced by a low standard deviation and a mean of 4.16, which falls within the

“agree” category. This suggests that students generally have a positive attitude toward the teaching faculty, particularly their ability to deliver entrepreneurial instruction. Research supports the idea that teachers have an important influence in influencing students’ entrepreneurial ambitions and talents. Gibb (2011) established that the efficacy of entrepreneurship education is closely related to the teachers’ ability and practical experience. The survey results support this, indicating that students highly regard the faculty’s capacity to give meaningful and practical entrepreneurship education.

Further analysis reveals that the consistency of student replies, as evidenced by the low standard deviation, indicates a broadly shared opinion regarding the faculty’s ability throughout the student population. This is congruent with the research of Jones, Matlay & Maritz (2014) who argued that consistent, high-quality teaching is an important predictor of student satisfaction in entrepreneurship education. The faculty’s involvement extends beyond typical teaching methods to include mentoring, coaching, and experiential learning opportunities, all of which are essential for developing entrepreneurial abilities. The high mean score suggests that the teaching faculty may succeed in these areas, hence positively affecting students’ entrepreneurial aspirations.

The emphasis on faculty expertise is critical in entrepreneurial education, as theoretical knowledge must be paired with practical insights. Rae & Wang (2015) found that the teaching faculty with both academic expertise and practical entrepreneurship experience are better suited to bridge the gap between theory and practice. This, in turn, helps students get a more comprehensive grasp of entrepreneurship, boosting their confidence and readiness to establish their own businesses. The survey’s high

mean score and low standard deviation provide compelling evidence that the teaching faculty in this setting are satisfying these expectations. Thus, the findings give strong support for Hypothesis 3: The student's entrepreneurial intention is related to teaching faculty entrepreneurial competence, reinforcing the notion that competent and experienced faculty play a critical role in shaping students' entrepreneurial aspirations.

4.10 Student's Entrepreneurial Intention is Related to the University Entrepreneurship Support Centre.

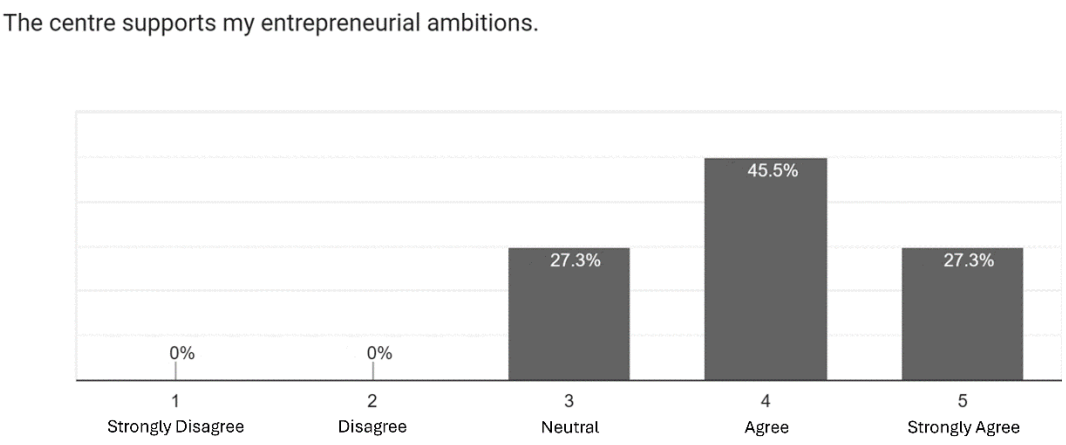

Table 4.10.1. The entrepreneurship centre supports me.

The importance of university entrepreneurship centres in developing students' entrepreneurial goals is becoming more widely recognised. Entrepreneurship support centres provide services such as coaching, co-working spaces, and funding opportunities that are critical for developing students' entrepreneurial goals. Maritz & Brown (2013) found that these institutes play an important role in building entrepreneurial ecosystems within universities, encouraging students to undertake entrepreneurial initiatives. The survey results, in which 72.8% of respondents agreed that the centre encouraged their entrepreneurial objectives, show that such centres

help to shape entrepreneurial attitudes. This highlights the importance of institutional support in promoting student entrepreneurship.

Entrepreneurship centres not only give resources, but they also foster an environment that promotes creativity and risk-taking. According to Morris, Kuratko & Cornwall (2013), these centres frequently serve as the first platform for students to experiment with their entrepreneurial ideas, acquiring valuable practical experience and confidence. The fact that 27.3% of respondents stayed neutral implies that, while the centre's offers are beneficial to many, there may be room for development in terms of making these resources more accessible or targeted to specific needs. Tailored activities, such as sector-specific coaching or customised funding alternatives, have the potential to increase the effectiveness of these centres in supporting entrepreneurial success.

Institutional support through these centres has been demonstrated to boost students' chances of becoming entrepreneurs after graduation. Nabi et al., (2017) discovered that students who actively participate in entrepreneurship centres are more likely to have entrepreneurial goals and make concrete efforts toward starting their businesses. The survey results reflect this positive influence, with a sizable proportion of respondents recognising the centre's role in supporting their entrepreneurial goals. These findings emphasise the significance of well-structured entrepreneurship centres as a catalyst for student-led innovation and firm growth.

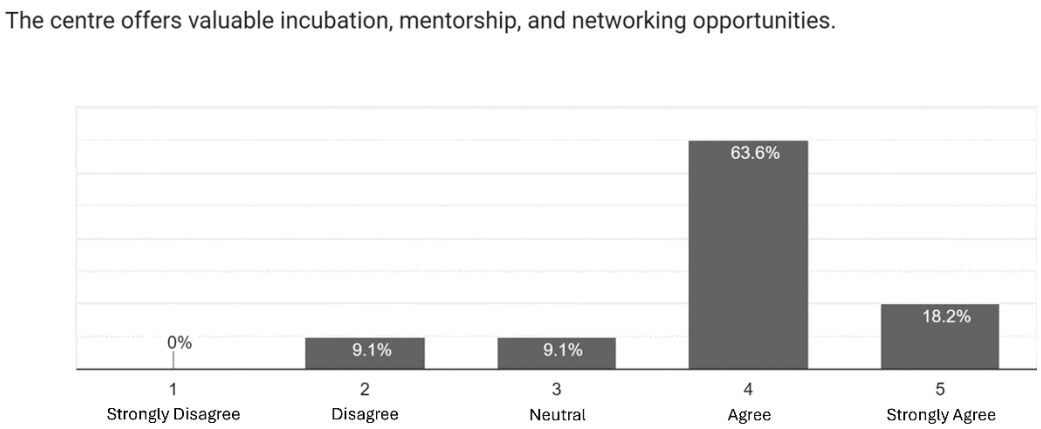

Table 4.10.2. The centre offers valuable opportunities.

University entrepreneurship centres aim to provide students with valuable chances for entrepreneurial growth and development. These centres provide access to tools including networking events, mentorship programs, and funding opportunities, all of which are necessary for turning entrepreneurial ideas into sustainable businesses. The survey results show that 81.8% of respondents (18.2% strongly agree and 63.6% agree) believe the centre provides good chances. This outcome is consistent with Siegel & Wright's (2015) research, which emphasises the relevance of entrepreneurship centres in providing experiential learning and networking opportunities necessary for entrepreneurial success. Such changes provide an atmosphere in which students can receive real knowledge and experience, thereby increasing their entrepreneurial confidence.

Entrepreneurship centres function as innovation incubators, providing a platform for students to conceive, test, and refine their company ideas. Rasmussen & Sørheim (2006) observed that these centres help enhance entrepreneurial skills by providing resources and chances to deal with real-world situations. Only 9.1% of respondents

were neutral, and 9.1% disagreed, indicating that the majority of students value the chances provided by the centre, albeit there may be potential for improvement in the inclusion or relevancy of the options offered. Entrepreneurship centres could add value to student entrepreneurs by increasing outreach efforts and tailoring possibilities to students' unique requirements.

The importance of entrepreneurship centres in giving useful possibilities goes beyond resource availability; they also cultivate entrepreneurial mindsets. According to Pittaway & Cope (2007), the effectiveness of these centres stems from their ability to combine academic knowledge with practical application via hands-on experiences such as business idea competitions, workshops, and boot camps. These opportunities enable students to acquire not only entrepreneurial abilities but also the resilience and adaptability required for success in challenging corporate contexts. The survey's good results indicate that most students recognise and value the opportunities provided by the entrepreneurship centre, validating its significance in fostering entrepreneurial dreams and intentions.

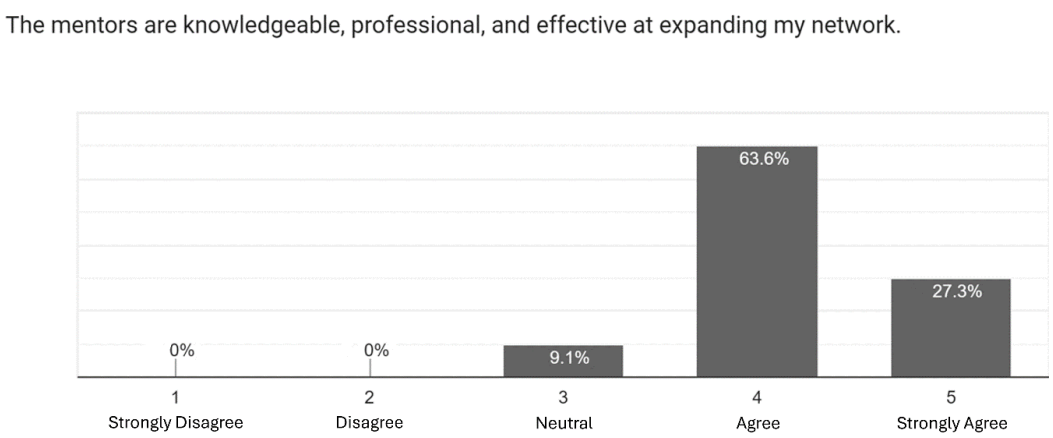

Table 4.10.3. The mentors are knowledgeable and professional.

Mentorship has a significant impact on entrepreneurial outcomes, particularly in academic environments where students are navigating the difficult process of venture development. The survey results show that the vast majority of respondents (27.3% strongly agree, 63.6% agree) regard their mentors as informed and professional. This good response emphasises the value of mentor knowledge in providing useful counsel and suggestions. Sullivan (2000) showed that experienced mentors can have a substantial impact on students' entrepreneurial development by providing targeted guidance, comments, and professional insights that help mentees expand their businesses and develop personally. The survey's high degree of agreement implies that the entrepreneurship program's mentors have the expertise needed to effectively support student entrepreneurs.

Professional mentorship gives students access to industry-specific information, which is essential when negotiating entrepreneurial hurdles. St-Jean & Audet (2012) studied that mentorship helps students bridge the gap between theory and practice by providing practical insights into real-world business difficulties. The good survey findings indicate that mentors are fulfilling this role by using their professional skills to guide students through the entrepreneurial process. However, the 9.1% neutral response indicates that there is still space for growth in ensuring that all mentors consistently provide high-quality mentorship experiences. Ensuring mentors have both practical experience and the ability to interact effectively with students may improve the mentorship program's overall impact.

Mentors' professionalism is critical for building trust and teamwork in the mentoring relationship. Kram (1985) argued that the quality of mentor-mentee relationships is a critical factor in the effectiveness of mentoring programs, particularly in terms of

personal and professional growth. According to the survey results, students regard their mentors as professionals, which is critical for creating a supportive and productive learning environment. Mentors who maintain a high level of professionalism can better assist students' entrepreneurial dreams and help them negotiate the hurdles of beginning and expanding a business.

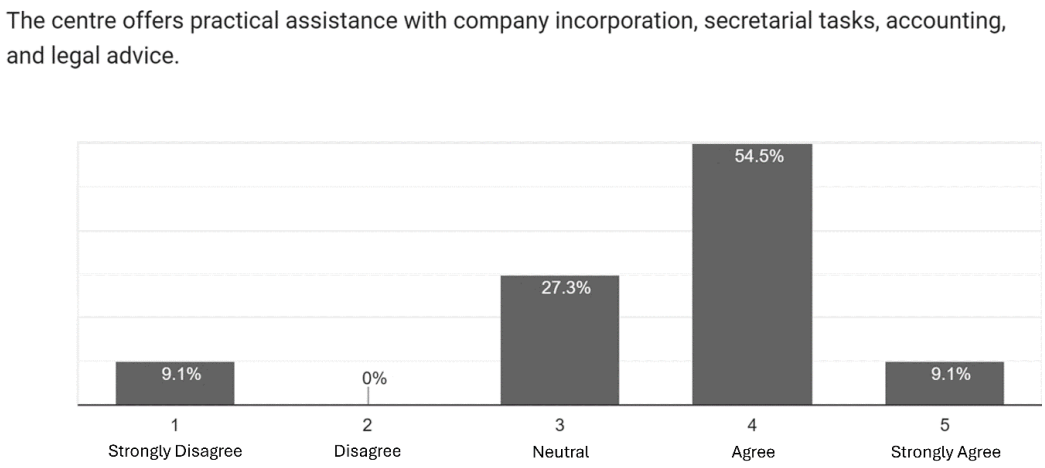

Table 4.10.4. The centre offers practical support.

According to the survey results, 54.5% of respondents agree and 9.1% strongly agree that the entrepreneurship centre provides practical support, whereas a sizable proportion (27.3%) stay indifferent and 9.1% strongly disagree. These data indicate that, while the majority of students like the practical assistance provided, there may be service gaps or differing assessments of the centre's success. Practical support in entrepreneurship education is critical because it allows students to apply theoretical information in real-world scenarios. Rae (2007) reported that practical support, such as access to resources, finance, and networking opportunities, is critical for developing entrepreneurial abilities and assisting students in transitioning from idea generation to

business formation. Thus, favourable feedback implies that many students like the practical resources provided.

However, the 27.3% neutral reaction indicates a potential area for improvement. Neutral responders may see the practical assistance as adequate but not transformative or especially valuable to their entrepreneurial journey. According to Pittaway & Cope (2007), to be genuinely effective, entrepreneurship centres must include substantial and easily accessible support services such as mentorship, incubation programs, and funding options. The neutral responses could indicate that students are aware of the materials but have not fully used or experienced their influence. It also raises the potential that the support is not properly tailored to suit various student needs, emphasising the significance of personalising services to individual entrepreneurial aspirations and backgrounds.

The 9.1% strongly disagree response indicates unhappiness with the centre's practical assistance. This could be due to a mismatch between the students' expectations and the services they receive. Maritz & Brown (2013) demonstrated that entrepreneurship support frameworks should continuously adapt to the changing demands of student entrepreneurs, addressing developing difficulties and providing current resources. To address this unhappiness, the entrepreneurship centre should perform further assessments, such as focus groups or extensive feedback questionnaires, to better understand the needs of these students. The centre's effectiveness in developing successful student entrepreneurs can be improved by increasing the relevance and accessibility of practical support.

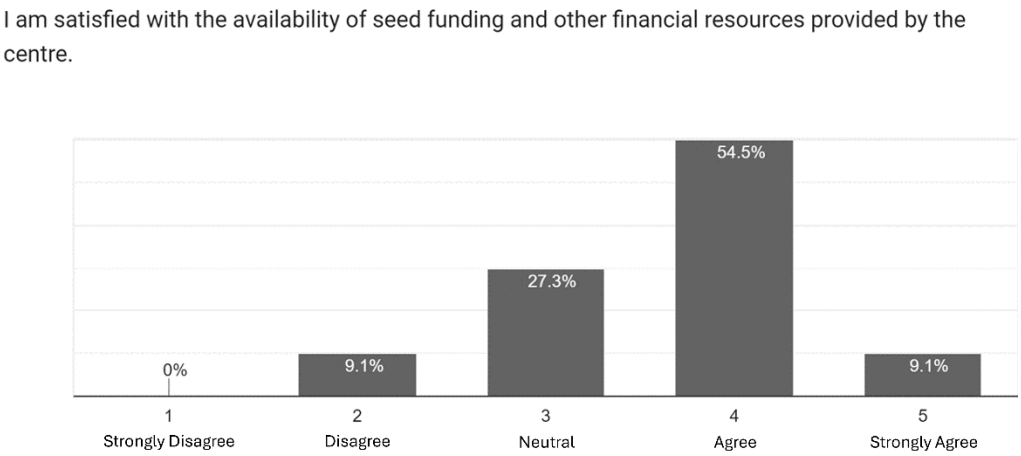

Table 4.10.5. I am satisfied with the centre's funding.

The survey results show that 54.5% of respondents agree, with 9.1% strongly agreeing, that they are content with the entrepreneurship centre's funding, while 27.3% stay indifferent and 9.1% disagree. This shows that, while the majority of students are content with the funding, a sizable number may be indifferent or unsatisfied with the financial assistance given. Funding is important in entrepreneurship education because it provides students with the resources they need to prototype their ideas, test markets, and eventually start their firms. Rasmussen & Sørheim (2006) found that access to capital is crucial for entrepreneurial initiatives, especially for student entrepreneurs with minimal resources.

The neutral response of 27.3% of participants suggests that some students may not have strong feelings regarding the centre's funding, either because they have not used it or because their experiences have been neither extremely favourable nor negative. The funding process may likely be made more visible or better conveyed to students, as confusing eligibility requirements or cumbersome application processes may lead to disinterest. According to Wright, Birley & Mosey (2007), making students fully aware

of financing sources and streamlining the application procedure can considerably increase their participation in entrepreneurial programs. As a result, neutral replies could be minimised by providing more information about available funding and making the process more transparent.

The 9.1% disagreement suggests that a modest but significant number of students are unsatisfied with the centre's funding. These students may believe that the financial support is insufficient or does not satisfy their individual entrepreneurial needs. Oosterbeek, Van Praag & Ijsselstein (2010) established that the availability of suitable financial assistance is crucial for encouraging entrepreneurial aspirations among students, and discontent with funding may reduce their enthusiasm to pursue entrepreneurial projects. To address this issue, the entrepreneurship centre could assess its funding structure to ensure that it meets the needs of a diverse range of student entrepreneurs, such as by providing more flexible or tailored funding options that are better suited to different types of entrepreneurial projects.

	The entrepreneurship centre support me	The centre offers valuable opportunities	The mentors are knowledgeable and professional	The centre offers practical support	I am satisfied with the centre funding	Mean
Standard Deviation	0.8	0.58	0.99	0.77	0.78	
Mean	4	3.91	4.18	3.55	3.64	3.85

Table 4.10.6. Student's entrepreneurial intention is related to the university entrepreneurship support centre.

The survey results, which show a mean of 3.85 and a low standard deviation for the statement “The student’s entrepreneurial intention is related to the university entrepreneurship support centre,” reflect a widespread belief that the university’s support centre plays an important role in shaping students’ entrepreneurial aspirations. A low standard deviation indicates a high level of agreement among respondents, supporting the idea that the entrepreneurship centre’s resources, mentorship, and programs are influential. According to Pittaway & Cope (2007), support structures within universities, such as entrepreneurship centres, are critical in providing students with the guidance, tools, and networks they need to pursue entrepreneurial goals.

Entrepreneurship support centres frequently serve as catalysts, offering students mentorship, business networks, and hands-on learning opportunities, all of which are critical for developing confidence in entrepreneurial activities (Morris, Kuratko & Pryor, 2013). The findings of this study are consistent with previous literature, which emphasises the relevance of institutional support in encouraging entrepreneurial inclinations among students. These centres remove perceived barriers to entrepreneurship by providing resources that assist students in navigating its intricacies. This is directly related to the survey results, suggesting that students appreciate and value the assistance provided by these centres in developing their entrepreneurial ambitions.

Given the largely positive reaction of the 3.85 mean, universities may continue to create and improve their entrepreneurship centres to guarantee that they fulfil the changing demands of students. Improvements could include more specialised mentorship programs or increased funding opportunities, which could lead to even stronger entrepreneurial inclinations among students. Fayolle & Gailly (2008)

suggested that the quality and relevance of institutional support have a direct impact on the effectiveness of entrepreneurship education and training programs. As a result, ensuring that entrepreneurship support centres are well-resourced and aligned with students' requirements might result in improved outcomes for entrepreneurial companies launched by students after graduation.

Thus, the data provide significant support for Hypothesis 4: The student's entrepreneurial intention is linked to the university's entrepreneurship support centre. The good survey results support the idea that when students have access to strong university support systems, they are more likely to develop the skills, knowledge, and confidence required for entrepreneurial careers.

4.11 Student's Entrepreneurial Intention is Related to Social Norms, that is, Entrepreneurial Motivation, Fear of Failure, and Self-efficacy.

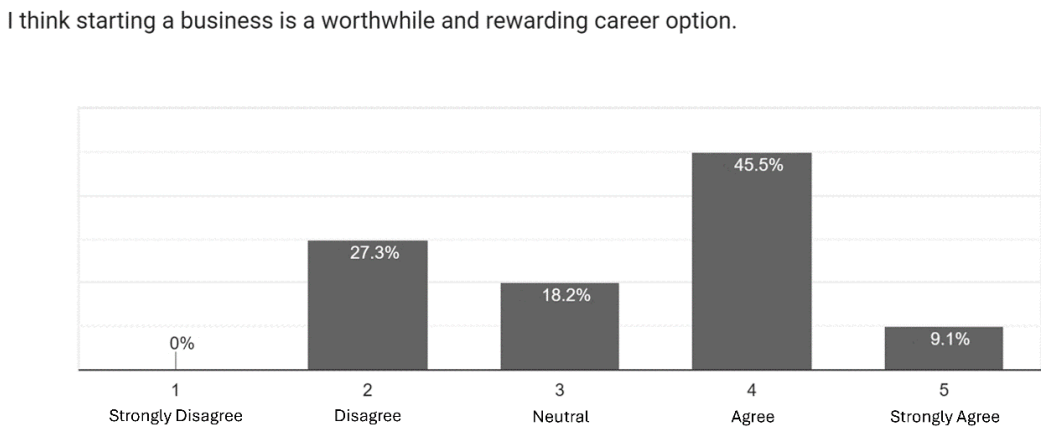

Table 4.11.1. I think starting a business is worthwhile.

The survey findings for the statement "I think starting a business is worthwhile" reveal a wide range of respondents' attitudes toward entrepreneurship. A total of 54.6% (9.1%

strongly agree, 45.5% agree) of the students surveyed think starting a business is a worthwhile effort. This data supports the assumption that entrepreneurial aspirations remain robust among students, even if other variables such as risk aversion or financial restrictions dampen the excitement. According to the literature, students who see value in entrepreneurship have stronger entrepreneurial ambitions (Turker & Selcuk, 2009), highlighting the importance of perceived advantages in determining the chance of starting a business.

The neutral stance of 18.2% of respondents indicates that some students are unsure about the importance of entrepreneurship. This middle-ground perspective could be linked to uncertainty regarding the possible success of company endeavours or the problems that entrepreneurship presents, such as financial risks or competition. Nabi, et al., (2017) found that, while entrepreneurship education had a favourable influence on students' views on establishing a firm, perceptions of external factors such as market circumstances and availability of resources are as important. As a result, students may regard entrepreneurship as valuable but are hesitant to completely engage owing to perceived impediments or personal concerns.

The remaining 27.3% of respondents who disagree that establishing a business is desirable may have a preference for traditional career pathways or a lack of interest in the uncertainties that come with entrepreneurship. According to Shane & Venkataraman (2000), not all people have the same entrepreneurial tendency, and this difference in perspectives could be explained by personality factors, risk tolerance, or social influences. This finding highlights the necessity of addressing individual motivations and impediments in entrepreneurship programs in order to boost overall entrepreneurial intention.

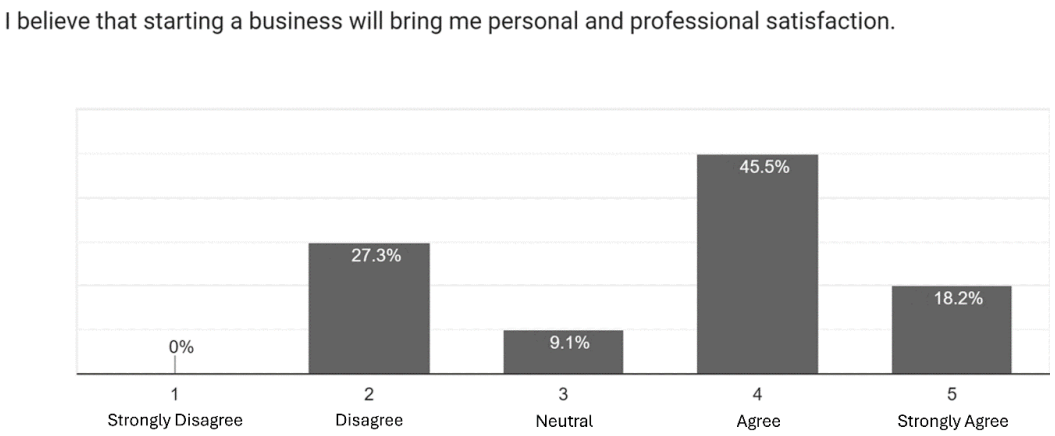

Table 4.11.2. Starting a business brings me satisfaction.

The survey findings for the statement “I believe that starting a business will bring me personal and professional satisfaction” show that the majority of respondents (63.7%) agree or strongly agree with this idea. This demonstrates students’ positive attitudes regarding the non-monetary benefits of entrepreneurship, such as personal development, job satisfaction, and career advancement. According to research, intrinsic motives such as personal fulfilment and the desire for independence frequently motivate entrepreneurial intent (Gorgievski, Ascalon & Stephan, 2011). These students are likely to see entrepreneurship as an opportunity for self-realisation and significant professional development, rather than simply a path to financial success.

Despite the majority of respondents' positive attitudes, 9.1% are neutral, reflecting some scepticism about whether entrepreneurship will bring the desired fulfilment. This ambivalence may be due to concerns about the possible difficulties of running a business, such as the chance of failure, the long hours required, and the unpredictable nature of entrepreneurship. According to Cardon et al., (2009), while entrepreneurship can provide great professional pleasure, it can also cause tremendous stress and

uncertainty, which may dampen excitement in some people. As a result, while these students may see the potential benefits of entrepreneurship, they may also be afraid of the associated risks.

27.3% of respondents disagreed with the statement, indicating that a significant proportion of students do not believe that entrepreneurship will provide them with personal or professional fulfilment. This could be due to a variety of factors, including a preference for more organised career routes, risk aversion, or a poor perception of entrepreneurial stress and pressure (Baron, 2008). For many individuals, the uncertainty and obstacles of entrepreneurship may outweigh the possibility of personal fulfilment. This emphasises the necessity of entrepreneurship education programs that focus on realistic portrayals of entrepreneurial life, including both the potential rewards and obstacles so that students can make informed career selections.

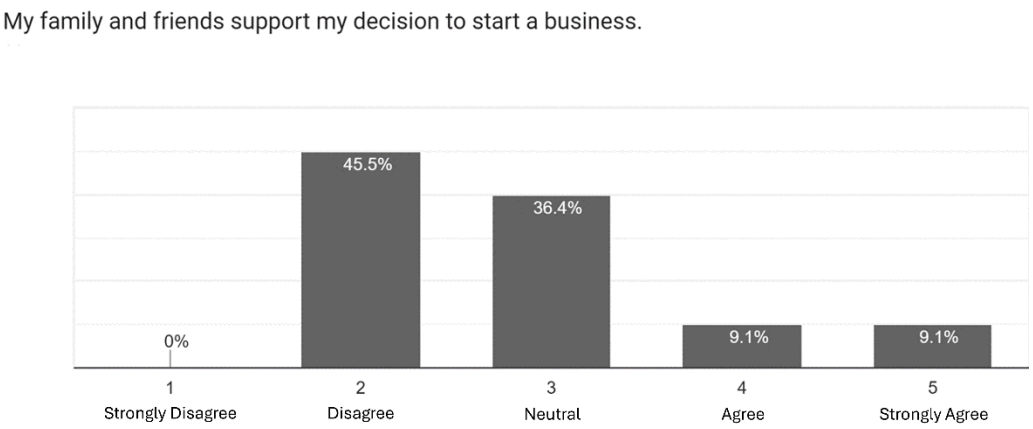

Table 4.11.3. My family and friends support my decision.

The survey results show a high amount of disagreement, with 45.5% of respondents disagreeing and 36.4% neutral. This shows that a sizable proportion of students do not feel fully supported by their social circle in their entrepreneurial endeavours. Family

and peer support are important elements in determining entrepreneurial goals and success because they provide both emotional encouragement and practical resources such as financial aid or business coaching (Shirokova, Osiyevskyy & Bogatyreva, 2016). The absence of support shown in these comments may undermine students' confidence and motivation to venture into entrepreneurship.

Surprisingly, only 9.1% of respondents strongly agree, with another 9.1% agreeing, demonstrating that a small percentage of students feel positively reinforced by their social network. According to Carr & Sequeira (2007), family support influences entrepreneurial goals, particularly in the early phases of establishing a company venture. The limited number of students who report receiving this support may be more likely to pursue entrepreneurship because of the apparent safety net provided by their family and friends. In these circumstances, strong social support might help boost resilience in the face of entrepreneurial hazards.

For the 36.4% of respondents who chose neutrality, their families or friends may be neither enthusiastically supportive nor blatantly negative of their business goals. This ambivalence might cause ambiguity and alter the level of entrepreneurial engagement. As van Auken, Fry & Stephens (2006) pointed out, neutral or inactive social network support can lead to a lack of enthusiasm or confidence in pursuing entrepreneurial initiatives. As a result, entrepreneurship programs may benefit by emphasising the importance of social support systems and assisting students in developing networks that encourage their entrepreneurial ambitions.

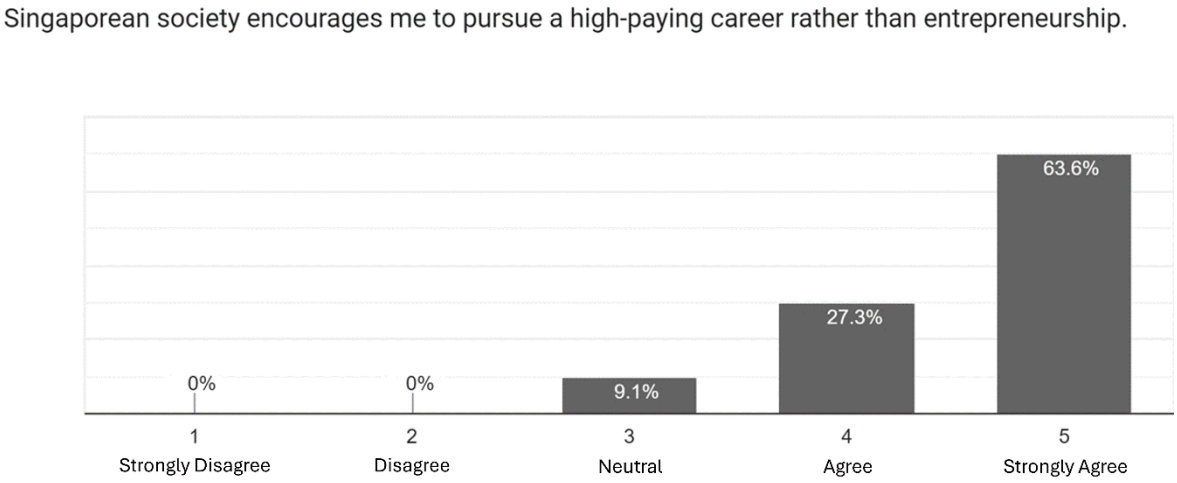

Table 4.11.4. Singapore society encourages high-paying career.

According to the study results, a large majority of respondents believe that Singaporean society promotes high-paying jobs, with 63.6% strongly agreeing and 27.3% agreeing. This tendency reflects Singapore's larger socioeconomic context, in which high-paying jobs, particularly in finance, law, engineering, and technology, are highly appreciated. Singapore's competitive school system, which emphasises academic excellence and high-income jobs, fosters this societal norm (Ng, 2014). In this setting, entrepreneurship may be perceived as a more uncertain or dangerous career path than these secure, well-established professions.

This cultural emphasis on obtaining high-paying occupations has profound roots in Singapore's developmental history. Singapore's rapid economic expansion was largely driven by government policies that promoted education, skill development, and high-paying employment sectors (Wong, 2001). These policies have moulded cultural expectations, with personal success frequently defined by one's income and employment status. Wong & Singh (2011) reported that although entrepreneurship is

growing in popularity, the cultural pressure to pursue high-paying employment can inhibit people from exploring entrepreneurial endeavours, more risk-averse and particularly young graduates.

Of those respondents who were neutral (9.1%), their attitudes may reflect the changing narrative surrounding entrepreneurship in Singapore, where government programs and support institutions are increasingly encouraging entrepreneurship as a viable career option. However, the overwhelming societal focus on establishing financially secure employment may continue to eclipse these initiatives. According to Sidhu, Ho & Yeoh (2011), while entrepreneurship is on the rise, the pressure to conform to established professional pathways remains strong, especially among younger generations negotiating societal expectations and their own job goals.

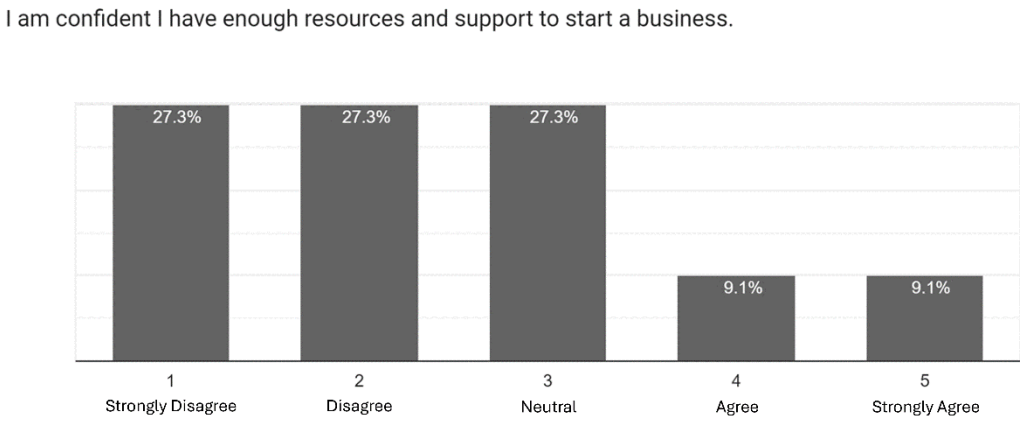

Table 4.11.5. I have the resources and support to start a business.

According to the survey results, just 9.1% of respondents strongly agree and another 9.1% agree that they have the resources and support to start a business, with a total of 54.6% neutral or disagreeing, emphasising the perceived lack of support for aspiring entrepreneurs. This finding is consistent with a prior study, which found that access to

finance, mentorship, and infrastructure are important barriers for entrepreneurs, particularly those at the undergraduate level (Chua & Bedford, 2016). These difficulties might be exacerbated in Singapore due to the high costs of launching a firm, such as regulatory fees, office space, and marketing charges, which can discourage potential entrepreneurs from pursuing their initiatives without appropriate resources.

The perceived lack of support could also be attributed to limited access to mentorship and networking opportunities, both of which are crucial for early-stage entrepreneurs. According to Nahapiet & Ghoshal (1998), networks are essential for supplying not only financial resources but also the social capital required to negotiate the business landscape. The idea that these networks are difficult to reach may explain the survey's high number of indifferent and negative replies. Programs explicitly established for student entrepreneurs, such as incubators or university entrepreneurship centres, may not fully meet these demands, or they may be regarded as lacking in real resources like cash or mentorship.

Interestingly, the neutral responses (27.3%) may reflect a lack of awareness or underutilisation of accessible services rather than their actual absence. Daradkeh & Mansoor (2023) discovered that many young entrepreneurs are ignorant of or hesitant to use existing government programs or institutional resources due to perceived bureaucracy or a lack of tailored support. This shows that boosting awareness, accessibility, and personalising resources to students and first-time entrepreneurs might dramatically improve the support ecosystem and inspire more students to explore entrepreneurial endeavours.

	I think starting a business is worthwhile	Starting a business brings me satisfaction	My family and friends support my decision	Singapore society encourages high-paying career	I have resources and support to start a business	Mean
Standard Deviation	0.99	1.08	0.94	0.66	0.92	
Mean	3.36	3.55	2.82	4.55	2.45	3.35

Table 4.11.6. Student's entrepreneurial intention is related to social norms, that is, entrepreneurial motivation, fear of failure, and self-efficacy.

The survey results demonstrate that students' entrepreneurial ambition is related to societal norms—such as entrepreneurial motivation, fear of failure, and self-efficacy—with a low standard deviation and a mean of 3.35, indicating a neutral reaction. This research suggests that, while some students may be impacted by societal standards and personal efficacy in their entrepreneurial decisions, others are ambivalent or unaffected by these social influences. According to Liñán & Chen (2009), social norms strongly influence entrepreneurial goals by determining society's acceptance and support. In Singapore, where high-paying jobs in established industries are highly valued, students may be less likely to diverge from typical career tracks unless they have significant social or familial support.

Fear of failure is another important element that influences entrepreneurial intention. According to Cacciotti et al., (2016), fear of failure can either discourage people from starting businesses or motivate them to enhance their skills and reduce risks. Fear of failure can have a particularly severe impact on entrepreneurial ambitions in countries with high levels of uncertainty avoidance, such as Singapore, restricting the number of students eager to pursue entrepreneurial opportunities. Thus, the survey's neutral mean indicates that while some students are influenced by this anxiety, others may be unaffected due to higher self-efficacy or a stronger entrepreneurial desire.

Self-efficacy, or belief in one's ability to achieve, is a significant predictor of entrepreneurial ambition. Bandura (1997) underlined that people who have greater levels of self-efficacy are more inclined to engage in entrepreneurial activities because they believe they can overcome obstacles. However, the survey's neutral response could indicate that students are dubious about their entrepreneurial ability. This could be due to a lack of exposure to entrepreneurial education or hands-on experiences that boost confidence. Increasing opportunities for experiential learning, mentorship, and success stories may help students build greater self-efficacy, thereby increasing their entrepreneurial purpose.

4.12 Motivation

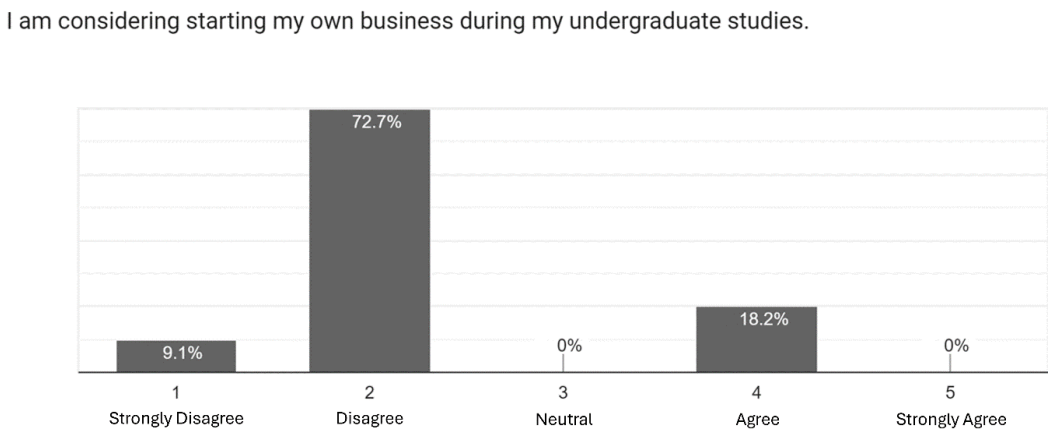

Table 4.12.1. Considering starting my business during my undergraduate studies.

According to the survey results, the majority of respondents (72.7%) are opposed to the idea of beginning a business during their undergraduate studies, with an additional 9.1% strongly disapproving. This implies that students may perceive considerable impediments to entrepreneurship while in university. According to research, undergraduates frequently prioritise academic accomplishment and job preparation

above entrepreneurial initiatives, especially when the university environment lacks adequate support structures (Kraus et al., 2018). Students may also be concerned that juggling a business and academic obligations will hurt their education, prompting many to postpone entrepreneurial pursuits until after graduation.

Another probable explanation for this reluctance to establish a business during undergraduate study is a perceived lack of funds and time. Shirokova, Osiyevskyy & Bogatyreva (2016) found that time restrictions, restricted access to cash, and insufficient entrepreneurial networks can considerably impede students' entrepreneurial goals. Undergraduate students may feel unprepared to take on the risks and obligations of starting a business if they do not receive enough mentorship, financial support, or time management skills. This could explain why a big proportion of respondents are unwilling to pursue entrepreneurship at this point in their academic careers.

However, some entrepreneurial programs have been found to effectively overcome these problems by incorporating entrepreneurship into the curriculum and giving students hands-on experience developing business ideas while learning. Wright, Siegel & Mustar (2017) claimed that universities that provide incubator programs, business competitions, and mentorship create cultures in which students are more inclined to contemplate entrepreneurship throughout their studies. Despite this, the survey results show that many respondents do not feel adequately equipped or supported to start their enterprises while still undergraduates, emphasising the need for further improvements in university entrepreneurial ecosystems.

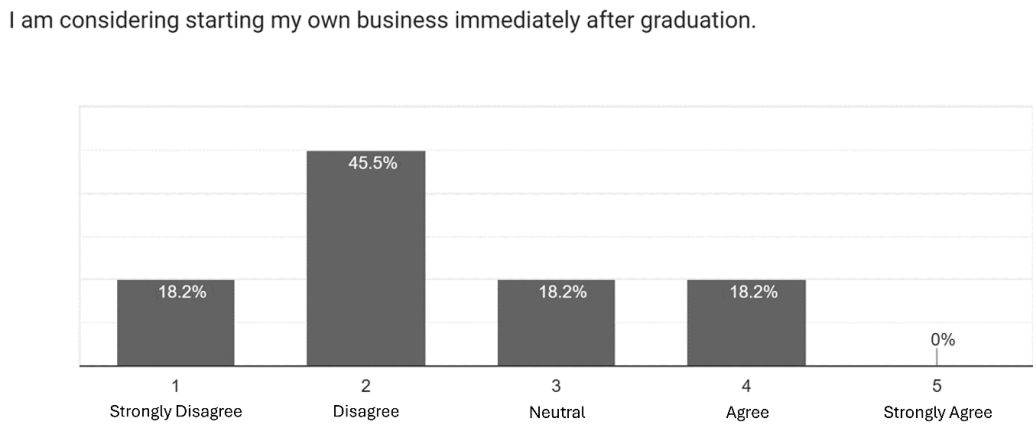

Table 4.12.2. Considering starting my business after graduation.

The survey results, which show that 45.5% of respondents disagree and 18.2% strongly disagree with the idea of starting a business after graduation, indicate that a sizable proportion of undergraduates do not see entrepreneurship as a viable or appealing career path immediately after finishing their education. This could be due to several factors, including the perceived dangers and uncertainties of establishing a business, as well as the availability of more stable, high-paying job options (Nabi et al., 2017). Students may be more likely to select stable career opportunities after graduation, particularly in situations where societal expectations and financial pressures favour regular employment over entrepreneurial enterprises.

Another possible explanation for the low desire to establish a firm after graduation is a lack of proper entrepreneurial preparation during their studies. According to research, the quality of entrepreneurship education and university assistance influences students' entrepreneurial inclinations (Piperopoulos & Dimov, 2015). If the curriculum or support mechanisms such as mentorship, networking opportunities, or capital access are inadequate, students may lack the confidence or skills required to pursue

entrepreneurship immediately after graduation. This may explain why many survey respondents choose to postpone or discontinue business endeavours.

Personal motives and preferences play an important part in entrepreneurial decision-making. Nabi et al., (2017) found that students' self-efficacy and risk tolerance have a substantial impact on their entrepreneurial inclinations. Those who lack confidence in their entrepreneurial ability or are risk-averse are more likely to pursue standard employment pathways after graduation. Cultural and social factors may hinder entrepreneurship if students are under pressure to achieve family or society expectations of success through traditional careers. Thus, the survey results highlight the importance of improved entrepreneurship programs and broader social support in encouraging more students to consider entrepreneurship as a viable career option after graduation.

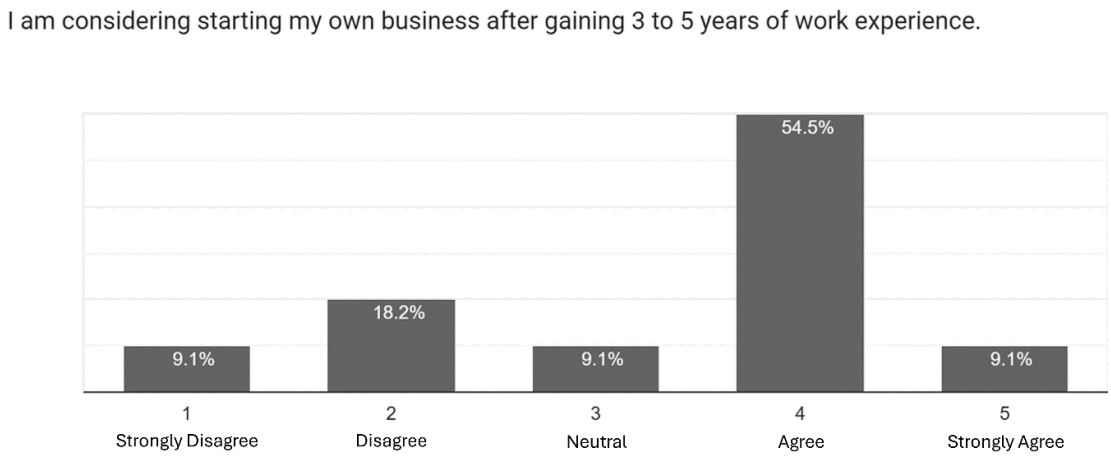

Table 4.12.3. Considering starting my business after gaining 3 to 5 years of work experience.

According to the survey results, 54.5% of respondents agree, and 9.1% strongly agree, that they are thinking of starting their own business after 3 to 5 years of work experience. This shows that a sizable proportion of undergraduates see work experience as a critical basis for entrepreneurial success. Prior research supports this viewpoint, pointing out that hands-on industry experience provides aspiring entrepreneurs with important skills, networks, and industry knowledge, increasing their chances of business success (Davidsson & Honig, 2003). Work experience allows people to see industry difficulties directly and find prospective business prospects, giving them the confidence to pursue entrepreneurship.

Delaying entrepreneurship to gather job experience is consistent with the notion that practical learning in professional contexts supplements academic knowledge. Work experience helps to develop critical qualities such as leadership, management, and decision-making abilities, which are essential for negotiating the complexity of running a firm (Politis, 2005). According to Rotefoss & Kolvereid (2005), people who have worked before beginning their firm typically have a better awareness of the industry, a well-established professional network, and the financial stability required to sustain entrepreneurial activities. As a result, it is understandable that undergraduates would desire to establish a strong career basis before embarking on business.

The neutral and disagreeing responses represent students' diverse business ambitions and professional goals. While some students recognise the benefit of getting work experience before establishing a business, others may choose instant entrepreneurship or believe that extensive work experience is unnecessary. Krueger, Reilly & Carsrud (2000) reported that a variety of characteristics influence entrepreneurial goals, including individual personality qualities, risk tolerance, and

personal incentives. As a result, colleges and entrepreneurship programs should provide specialised support that caters to the various entrepreneurial paths that students may choose whether they prefer to start enterprises immediately after graduation or after obtaining job experience.

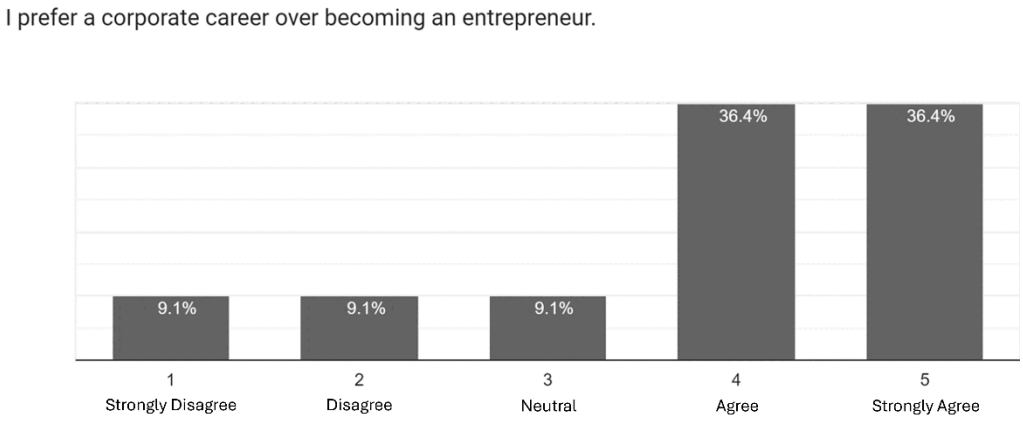

Table 4.12.4. I prefer a corporate career over becoming an entrepreneur.

According to the survey results, 36.4% strongly agree, and 36.4% agree that they would prefer a corporate career over being an entrepreneur, indicating a significant preference for corporate options among undergraduate students. Wendler et al., (2012) reported that many students emphasise employment security, financial stability, and career advancement while considering corporate careers. The appeal of established career pathways, competitive compensation, and perks such as health insurance and retirement plans frequently make corporate jobs more appealing to individuals who value stability over the dangers associated with entrepreneurship (Gathungu & Mwangi, 2014).

The options for professional advancement and learning provided by large firms contribute to people's desire for corporate professions. De Clercq & Arenius (2006)

claimed that many students see corporate jobs as a way to gather skills, professional networks, and industry-specific information that they can then use to launch their businesses. For some, corporate positions can be a stepping stone to entrepreneurship, allowing them to gain confidence and financial resources before launching their own company (Kolvereid, 1996). This pragmatic approach to job development is typical among those who consider entrepreneurship as a long-term goal rather than a quick professional path.

The small number of students who reject or strongly disagree with the idea of pursuing a corporate job implies that some people have an entrepreneurial attitude. These students may be more prone to independence, invention, and creativity, which are frequently regarded as fundamental reasons for entrepreneurship (Krueger, Reilly & Carsrud, 2000). Diverging preferences highlight the need for colleges to provide comprehensive career support that caters to both entrepreneurial and corporate ambitions, allowing students to pursue their preferred pathways with confidence and access to the required resources.

4.13 Conclusion

Chapter 4 examines the important variables that influence students' entrepreneurial intentions. According to the survey results, government backing, university programs, and teaching staff all have a major influence on these objectives. Most respondents liked practical teaching approaches and assistance from entrepreneurship centres but were dissatisfied with the available resources. While some students reported significant entrepreneurial aspirations, others preferred corporate professions, illustrating the range of their goals and support requirements. Social norms, such as

societal expectations of high-paying occupations and fear of failure, were found to have a minor impact on students' entrepreneurial desires, complicating their decision-making process.

The chapter supports the hypothesis that undergraduates' entrepreneurial intentions are strongly linked to government and institutional elements such as targeted support policies, effective educational programs, and societal norms. Universities and policymakers must understand the need for more tailored support systems that encourage risk-taking and entrepreneurship while also accommodating students who prefer established career pathways. Enhanced assistance, such as greater tools and a more entrepreneurial culture, can assist students in navigating these competing incentives, thereby improving entrepreneurship education outcomes.

CHAPTER 5:

DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter presents an integrative evaluation of the findings reported in Chapter 4, understanding them within the wider context of existing research and the theoretical underpinnings established earlier. The objective is to evaluate the findings about the study's objectives and hypotheses, providing insights into the factors that influence students' entrepreneurial intentions. This chapter examines how government support, university support, entrepreneurship programs and pedagogy, teaching faculty, and social norms all influence undergraduates' entrepreneurial intentions and decision-making.

The discussion also looks at the implications of these findings for governments, educational institutions, and other stakeholders working to create entrepreneurial ecosystems. It proposes realistic strategies for improving support systems and educational frameworks that promote entrepreneurship. This chapter finishes by noting the study's contributions, limitations, and recommendations for future research, establishing the groundwork for continued discussion in entrepreneurship education. This comprehensive strategy ensures that the study findings contribute not only to academic discourse but also have practical applications.

5.2 Summary of Major Findings

The study's key findings, summarise the survey results and their significance for understanding the elements that influence students' entrepreneurial intentions. The study examines how government policies, university support, entrepreneurship

programs and pedagogy, teaching faculty competence, and social norms, all influence students' attitudes and behaviours towards entrepreneurship.

- Government Support

Students have conflicting feelings about government assistance. While targeted support, such as money and tax incentives, was deemed beneficial, the accessibility of present resources and regulatory frameworks was judged to be deficient, emphasising the need for more specialised support mechanisms.

- Entrepreneurship Programs and Pedagogy

Experiential learning methods, such as business plan competitions and boot camps, were found to effectively bridge theory and practice in entrepreneurship programs. However, the study found that course design should be improved to stimulate more entrepreneurial desired outcomes.

- Teaching Faculty

There was a considerable preference for teachers with real-world experience. The findings emphasise the value of a faculty team that blends research-based expertise with industrial knowledge to improve the learning experience.

- University Entrepreneurship Centres

University entrepreneurship centres were rated generally supportive, with mentorship being highly valued. However, satisfaction with funding and the accessibility of resources revealed possible weaknesses in university support.

- Social Norms

Social norms such as fear of failure, self-efficacy, and cultural values that prioritise high-paying corporate professions over entrepreneurship have a substantial impact on entrepreneurial intentions. The evidence implies that cultural modifications are required to increase entrepreneurial motivation.

5.3 Discussion

Hypothesis 1: The student's entrepreneurial intention is related to government support; that is to have targeted support instead of a blanket policy.

Government support for entrepreneurship has a significant impact on the entrepreneurial scene. However, its impact is highly dependent on how accessible and adapted these resources are to the needs of new startups. The survey results suggested that students' perceptions were varied. While many students welcomed specific supports like as financing and tax incentives, they also identified severe deficiencies in resource accessibility and appropriateness, as well as regulatory frameworks. This dual perspective highlights the critical need for a new approach to government-led entrepreneurial efforts.

To close these gaps, governments can consider simplifying the processes for getting financing and incentives. According to research, simpler grant and tax benefit applications enable younger entrepreneurs to participate more (Lerner, 2012). Integrating digital platforms that centralise these resources could greatly improve their accessibility. Collaborative research and development initiatives between universities and industry can promote creativity and practical learning, preparing students to tackle real-world entrepreneurial difficulties.

Localised entrepreneurship support schemes are another interesting option. These systems should include efforts like seed funding, startup incubators, and networking opportunities that are customised to the specific issues that student entrepreneurs encounter. According to Meoli & Vismara (2016), incorporating mentorship programs into these systems, in which experienced entrepreneurs provide help, significantly improves students' entrepreneurial readiness. Creating a conducive ecosystem for student startups requires encouraging co-working spaces and peer-to-peer learning environments.

Simplifying regulatory processes is also critical in lowering barriers for student entrepreneurs. Reduced licensing requirements, clear standards, and the establishment of targeted help centres could all help to remove the bureaucratic barriers that deter potential entrepreneurs. In addition, Lerner (2012) claimed that incorporating evaluation methods into assistance programs ensures that they remain effective and responsive to the needs of students, resulting in increased satisfaction and utilisation. Governments should also actively incorporate student voices in policymaking to ensure that efforts are in line with the dynamic challenges of entrepreneurship.

OECD (2021) supported innovative strategies, such as public-private partnerships, that can broaden the scope of government assistance. These collaborations could include co-investment schemes with venture capital firms, skill-building programs headed by multinational corporations, and export facilitation seminars. Such collaborations not only give financial resources but also bring knowledge and networks that are critical for aspiring student startups. To address the survey's mixed feedback, governments

can create an inclusive and innovation-driven support structure that fosters an entrepreneurial culture.

Hypothesis 2: The student's entrepreneurial intention is related to the entrepreneurship program and pedagogy.

Entrepreneurship programs and pedagogies are critical for providing students with the skills and information necessary for successful entrepreneurship. Business pitch competitions, incubation programs, and boot camps are examples of experiential learning approaches that have been shown to effectively bridge the gap between theoretical understanding and practical application. These strategies expose students to real-world situations, thereby improving their problem-solving and decision-making abilities. Pittaway and Cope (2007), for example, emphasise the importance of experiential learning in developing critical thinking and adaptability, both of which are crucial characteristics for entrepreneurs. Nevertheless, survey findings indicate that course designs in entrepreneurship programs require more refinement to provide more impactful results.

One of the primary benefits of experiential learning is the opportunity to engage students in real-world entrepreneurial activity. Simulations, case studies, and business pitches enable students to experiment with entrepreneurial concepts in a risk-free environment. Neck, Greene & Brush (2014) put forward that this technique not only boosts confidence but also fosters an innovative and resilient mindset. Regardless of its qualities, a mismatch between course objectives and anticipated entrepreneurial outcomes can restrict the effectiveness of these programs. Universities must

consequently take a more holistic approach to course design, incorporating varied learning styles and demands.

Research has shown the significance of adapting entrepreneurship education to varied levels of entrepreneurial preparedness among students. This means that beginner entrepreneurs may benefit more from essential information and structured activities, whereas experienced students may need opportunities for self-directed learning and experimentation. According to Fayolle and Gailly (2015), entrepreneurship education should be dynamic, involving conventional lectures supplemented by interactive workshops and real-world experience. Incorporating personalised learning routes into entrepreneurial programs can help to address individual learning curves, hence improving program outcomes.

The adoption of digital tools and platforms that support blended learning is one of the innovative proposals for improving entrepreneurship programs. virtual reality and augmented reality technology, for example, may model complicated entrepreneurial scenarios and provide immersive learning experiences. On top of that, working with industry partners to co-create curriculum may ensure that the content remains relevant and in line with market demands. Regularly bringing in successful entrepreneurs as guest speakers or adjunct faculty can provide students with significant insights and mentorship possibilities.

Incorporating mechanisms for continual feedback into course designs is critical for ensuring program quality and relevance. Student surveys, focus groups, and alumni feedback can all assist in discovering shortcomings in course design and delivery. Developing measures to track entrepreneurial results, such as the number of

startups founded or funds acquired by students, can provide a concrete assessment of program efficacy. Universities may better educate students about entrepreneurial challenges and possibilities by focusing on experiential learning and adopting creative tactics.

Hypothesis 3: The student's entrepreneurial intention is related to teaching faculty entrepreneurial and competence.

The findings from the survey show that students have a high preference for teachers with practical, hands-on experience in the field of entrepreneurship. This emphasises the necessity of bridging the gap between academic knowledge and real-world application through the faculty's practical backgrounds. Research backs up this viewpoint, with researchers such as Nabi et al., (2017) highlighting that educators who combine academic competence with entrepreneurial experience improve the relevance of the learning content and better prepare students for entrepreneurial struggles. Faculty with entrepreneurial experience can use their real-life experiences to deliver case studies, difficulties, and solutions that align with students' goals.

Students also appreciated a team of teachers who combined research-based knowledge with entrepreneurial practical experience. According to Neck et al. (2014), this combination ensures that students receive not only fundamental information but also practical tools and tactics for navigating the entrepreneurial world. Faculty who focus on research can help students gain a better knowledge of the theoretical foundations of entrepreneurship, whereas teachers with entrepreneurship experience can provide practical insights and guidance. Together, this collaboration can help students develop a diverse range of entrepreneurial skills.

One major problem in achieving this preference is attracting faculty with both research and entrepreneurial skills. Universities should provide incentives for post-exit entrepreneurs to migrate to academics, such as flexible teaching responsibilities or adjunct employment. Adding faculty development initiatives that allow current academic personnel to connect with entrepreneurs through shadowing projects or partnerships can help to close the gap. Fayolle and Gailly (2015) argued that cultivating collaborative networks between academics and entrepreneurs can lead to a more dynamic and responsive entrepreneurship program.

Innovative solutions for addressing this issue include using technology to incorporate external industry experts and entrepreneurs in education. Virtual classrooms and guest lectures by successful businesses can enhance the learning experience while avoiding full-time faculty responsibilities. Universities can develop co-teaching models in which academic academics collaborate with industry practitioners and entrepreneurs to give integrated courses. This strategy improves information delivery while also encouraging cross-disciplinary collaboration and innovation.

Regular evaluations of teacher effectiveness in entrepreneurship education are crucial. Incorporating student feedback, performance indicators, and alumni success rates can assist universities in analysing and improving their teaching practices. Encouraging teachers to stay current on market developments and entrepreneurial practices can improve the relevance and quality of training. Universities can better match their programs with student expectations and entrepreneurial realities by emphasising a diverse faculty profile and utilising new teaching approaches.

Hypothesis 4: The student's entrepreneurial intention is related to the university entrepreneurship support centre.

University entrepreneurship support centres are crucial for developing students' entrepreneurial intents and competencies. These centres offer a variety of services, including mentorship, funding possibilities, skill development, and resource access. While mentorship programs were highly valued by survey respondents, satisfaction with other aspects, particularly financial and resource availability, revealed significant gaps in university support. These findings underscore the need for universities to rethink and improve their support systems in order to better serve potential student entrepreneurs.

Mentorship has emerged as the most valued service offered by entrepreneurship centres. Mentors play a critical role in bridging the gap between academic knowledge and practical business practices. Effective mentorship not only helps students polish their business ideas but also boosts their confidence in overcoming entrepreneurial challenges. Pittaway et al., (2004) found that mentorship programs dramatically boost students' entrepreneurial self-efficacy, which is an important predictor of entrepreneurial success. Universities should consequently invest in increasing their pool of experienced mentors, drawing on both internal faculty expertise and external industry specialists.

Although the benefits of mentorship, survey results revealed unhappiness with funding and resource accessibility. Many students are discouraged from fully utilising the centre's capabilities due to limited funding opportunities and regulatory difficulties. Addressing this requires a two-pronged approach: expanding the availability of seed

money and streamlining application processes. Recent research advocates for using technology to speed funding applications and resource allocation, eliminating administrative inefficiencies and boosting student experiences (Meoli & Vismara, 2016). Also, implementing tiered funding schemes customised to students at various phases of their entrepreneurial journeys could improve financial assistance equity and effectiveness.

Creating collaborative ecosystems involving relationships with businesses, alumni networks, and government organisations is one innovative recommendation for improving entrepreneurship centres. These collaborations can give students access to a wider range of resources, such as internships, networking opportunities, and real-world initiatives. Entrepreneurship hackathons and innovation challenges, for example, can provide hands-on experience while encouraging creativity and teamwork. Additionally, developing virtual entrepreneurship platforms can enable 24/7 access to resources, mentorship, and peer interactions, making support more accessible to a varied student body.

Another interesting concept is to incorporate a feedback loop into the activities of entrepreneurship centres. Regular surveys and focus groups with students and alumni can provide useful information about the success of present programs and highlight areas for improvement. This iterative approach keeps the centres vibrant and sensitive to the changing demands of student entrepreneurs. Universities should position their entrepreneurship centres as strong platforms for nurturing entrepreneurial talent by solving financing and resource deficiencies while utilising mentorship strengths.

Hypothesis 5: The student's entrepreneurial intention is related to social norms, that is, entrepreneurial motivation, fear of failure, and self-efficacy.

Social norms have an important role in influencing entrepreneurial ambitions, frequently serving as both accelerators and impediments to entrepreneurial activity. The fear of failure, a common social norm, has a substantial impact on people's inclination to pursue entrepreneurship. As Pidduck, Clark & Lumpkin (2023) pointed out, cultures that stigmatise failure inhibit risk-taking and hinder entrepreneurial behaviour. This concern is frequently exacerbated in contexts where societal norms prioritise stable, high-paying corporate roles over the risks of entrepreneurship. Addressing this issue demands a cultural shift that normalises failure as a learning opportunity, hence creating a more supportive ecosystem for budding entrepreneurs.

Self-efficacy, or people's belief in their own ability to succeed, is another important element influenced by social expectations. According to Bandura's (1997) theory of self-efficacy, those who believe they are capable are more likely to engage in entrepreneurial activity. However, in many cultures, including those that prioritise corporate success, low self-efficacy is caused by a lack of role models and supportive social networks (Schlaegel & Koenig, 2014). Developing mentorship programs and success stories that showcase entrepreneurial accomplishments can boost self-efficacy and motivate people to pursue their business ideas.

Entrepreneurial aspirations are also hindered by cultural attitudes that place a higher priority on corporate success than on entrepreneurship. For example, Singapore is a society that places a high importance on having a stable income and a prestigious

corporate position (Bhasin, 2007). Because entrepreneurship is seen as less prestigious and riskier, these values deter people from pursuing it. By integrating entrepreneurship into the popular narrative of success and promoting it as a legitimate and fulfilling career path, governments and educational institutions may combat this.

One creative suggestion to overcome these obstacles is to launch educational initiatives that reframe how society views entrepreneurship. Initiatives such as entrepreneurial storytelling events and community pitch contests can draw attention to the benefits of entrepreneurship for society. Governments can also encourage entrepreneurial activities by recognising them publicly, giving them accolades, and providing funding for new businesses. The gap between these two professional paths can also be closed by promoting cooperation between corporate and entrepreneurial ecosystems, for as through corporate-sponsored incubators.

Social attitudes can be changed by promoting a cooperative society that values entrepreneurial endeavours. It is possible to change attitudes and highlight how entrepreneurship fosters innovation and economic expansion by utilising public endorsements from prosperous businesspeople, alumni networks, and media campaigns. In order to gauge the impact of these cultural interventions, institutions should also take into account longitudinal research that track changes in entrepreneurial motivation over time.

5.4 Implications of the Study

The study's findings have substantial implications for policymakers, universities, and the larger entrepreneurial ecosystem. First, the significance of government support in encouraging entrepreneurial intents emphasises the necessity for tailored policies

addressing accessibility and resource distribution. According to previous research, entrepreneurship thrives in contexts with streamlined regulatory frameworks and strong financial incentives (Autio et al., 2014). To eliminate entrance barriers, policymakers must guarantee that these resources are readily available to potential entrepreneurs, particularly those from under-represented groups.

The report emphasises the need to develop experiential and practical entrepreneurship programs at universities. Boot camps and business simulations are examples of programs that combine theoretical underpinnings with hands-on experiences to help students build entrepreneurial skills and self-efficacy. This recommends that universities should engage in interdisciplinary courses that include real-world business issues, mentorship, and industry partnerships to encourage student innovation and problem-solving skills.

The findings also highlight the importance of teaching faculty in determining entrepreneurial outcomes. According to Fayolle & Gailly (2015), faculty members who have both academic and entrepreneurial experience are better able to deliver a complete education that balances theory and practice Universities should prioritise faculty development activities, such as entrepreneurial immersion programs, to close the gap between academic instruction and entrepreneurial reality.

The impact of social norms on entrepreneurial goals emphasises the necessity for cultural interventions. Bosma & Levie (2010) reported that fear of failure and cultural preference for corporate professions over entrepreneurship remain significant impediments. This suggests that awareness campaigns and success stories about entrepreneurship must be promoted in order to influence society's perceptions and

stimulate entrepreneurial aspirations. This cultural transition can be accelerated by collaborative efforts by the media, educational institutions, and legislators.

The implications for university entrepreneurship centres are clear: they must improve their mentorship and resource offerings to better support entrepreneurs' goals. Providing specialised support, such as sector-specific guidance and early-stage funding, can help to close the gaps found in this study. Developing alumni networks and encouraging community engagement can help to establish a supportive environment that promotes entrepreneurial growth.

5.5 Limitations of the Study

Like any other academic effort, this research study has limitations to be acknowledged when evaluating the results. The study's self-reported data may add bias, as respondents may provide socially desirable answers rather than entirely true reflections of their beliefs and behaviours (Podsakoff et al., 2003). Self-reported surveys usually suffer from recollection bias or question misinterpretation, which can have an impact on the data's dependability. Future studies could solve this limitation by using other methods for validating findings, such as longitudinal studies or third-party reviews.

The study's sample size and demographic variables can limit the generalisability of the findings. While the study targeted students in entrepreneurial programs, Sarstedt, Ringle & Hair, (2021) argued that the unique environment, such as cultural and institutional characteristics, may not be indicative of larger student groups or educational settings. Entrepreneurial intentions in students can range dramatically between countries or universities with distinct socioeconomic situations and

entrepreneurial ecosystems. The findings would be more applicable if the sample was larger and included people from various educational and cultural backgrounds.

The study's cross-sectional design limits its capacity to identify causal links. While the study finds connections between variables including government support, teaching faculty, and entrepreneurial goals, causation cannot be determined (Bryman, 2016). Longitudinal research designs may provide further insight into how these variables change over time and influence entrepreneurial intentions. Experimental studies could evaluate specific interventions, such as transformed entrepreneurship courses or improved university support centres, to identify their direct impact on entrepreneurial intent.

5.6 Future Research

Future research should address the limitations indicated in this study to gain a more complete understanding of the variables impacting entrepreneurial intentions. The longitudinal study methods could assist in investigating the evolution of entrepreneurial motivations and behaviours over time. Long-term studies would provide insights into how changes in education, government policies, and cultural developments affect entrepreneurial intentions at various phases of a student's academic and professional career (Donaldson, 2019). The use of experimental approaches such as randomised controlled trials could be used to evaluate the efficacy of specific interventions, such as curriculum redesigns or tailored mentorship programs, in encouraging entrepreneurial aspirations.

Another key future research direction is to widen the study's demographic scope. Amorós, Cristi & Naudé (2021) claimed that cross-cultural comparisons could shed

light on how societal norms and cultural values influence entrepreneurial goals in various circumstances (Amoros & Bosma, 2014). Such research may help in identifying universal solutions versus those that must be customised to specific cultural or institutional contexts. Investigating the involvement of under-represented groups, such as minority students, will help to build a more inclusive perspective of entrepreneurship education and assistance.

Future studies should look at how emerging trends like digital entrepreneurship and sustainability interact with established entrepreneurial pathways. The rise of digital platforms, combined with a focus on sustainable business strategies, presents distinct difficulties and opportunities for prospective entrepreneurs (Nambisan, 2017). It is vital to investigate how educational programs and support systems might respond to these trends. Researching the impact of technology, such as artificial intelligence and blockchain, in promoting entrepreneurship may pave the door for innovative educational and policy interventions.

5.7 Conclusion

This study gives important insights into the variables that influence university students' entrepreneurial intentions, with a particular emphasis on government backing, university resources, instructional methodologies, faculty expertise, and societal norms. The findings show the interaction between individual incentives and systemic supports, emphasising the need for targeted interventions in fostering entrepreneurial aspirations. While government initiatives were recognised, accessibility and practical application were highlighted as essential areas for improvement. Similarly, university entrepreneurial programs and centres showed promise, but financial shortfalls and

limited experience opportunities point to the need for a more holistic and integrated approach to student support.

Societal norms, such as cultural views towards entrepreneurship and corporate professions, were proven to have a substantial influence on students' decisions. Fear of failure and cultural pressure to prioritise stable, high-paying jobs over entrepreneurial endeavours appeared as significant hurdles. This highlights the importance of cultural and systemic changes that support entrepreneurship as a viable and recognised career choice. The study emphasises the relevance of teachers who combine academic expertise with real-world entrepreneurial experience in their teaching, resulting in an impactful learning environment.

In conclusion, this study increases understanding by offering light on the multifaceted character of entrepreneurial aspirations, as well as the institutional, cultural, and individual-level variables that influence them. It emphasises the importance of collaboration among governments, universities, and industry leaders in creating an ecosystem conducive to developing future entrepreneurs. Future research and practical activities should prioritise addressing identified shortcomings, particularly in resource availability, curricular innovation, and encouraging a culture shift towards entrepreneurial acceptability and support.

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APPENDIX

Survey Introduction

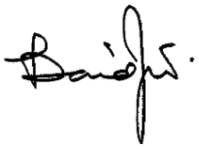
Dear Undergraduate,

Good morning/afternoon!

I am a doctoral student at Selinus University of Sciences and Literature. As part of my research, I am surveying to understand how entrepreneurship education affects students' interest in starting a business.

Your participation in this survey would be incredibly valuable. Please be assured that all your responses will be kept confidential and will be securely deleted after the research is completed.

Thank you for taking the time to help with this important study.



David Teo Kim Thai

Survey Form

Qualifier

Are you a Singaporean or Permanent Resident undergraduate studying or have completed an entrepreneurship module?

If yes, please proceed with the survey.
If no, this survey does not apply to you. Thank you for your time.

What is your gender?
□ Male
□ Female

What is your age?
□ below 20
□ 20 to 24
□ 25 to 29
□ 30 and above

What is your ethnic group?
□ Chinese
□ Indian
□ Malay
□ Others

Which university are you from?
□ NUS
□ NTU
□ SMU
□ SUSS
□ SUTD
□ SIT

Which year are you in now?
□ 1st Year (freshmen)
□ 2nd Year
□ 3rd Year
□ 4th Year (final year)

What is your undergraduate / Bachelor's major?
□ Arts
□ Business
□ Computing / Information Technology
□ Engineering
□ Humanities
□ Sciences
□ Interdisciplinary / Integrative
□ Minor in Entrepreneurship
□ Second Major in Entrepreneurship
□ Others, please specify_____

What is your family's household income?
□ Below $6,000
□ $6,000 to $6,999
□ $7,000 to $7,999
□ $8,000 to $8,999
□ $9,000 to $9,999
□ Above $10,000

What is your housing dwelling?
□ HDB Flats 1-3 room
□ HDB Flats 4-5 room
□ HDB Flats Executive & Others
□ Condominium, Private Apartment & Others
□ Landed Property

	Entrepreneurship education involves several factors that can influence your interest in starting a business. Please rate how each factor affects your decision to become an entrepreneur. 1 - Strong Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Government Support					
1.	The government's current support for entrepreneurs has affected my desire to start my own business.	1	2	3	4	5
2.	Targeted government aid, like funding and tax breaks, benefits student entrepreneurs more than current support.	1	2	3	4	5
3.	The government should offer a better regulatory environment with grants, IP support, and easier business registration for student entrepreneurs.	1	2	3	4	5
4.	Government resources and support are easily accessible and not difficult for student entrepreneurs to apply for.	1	2	3	4	5
5.	The government should prioritize entrepreneurship, emphasizing risk-taking and resilience over academic achievement.	1	2	3	4	5
	University's Entrepreneurship Centre					
6.	The centre supports my entrepreneurial ambitions.	1	2	3	4	5
7.	The centre offers valuable incubation, mentorship, and networking opportunities.	1	2	3	4	5
8.	The mentors are knowledgeable, professional, and effective at expanding my network.	1	2	3	4	5
9.	The centre offers practical assistance with company incorporation, secretarial tasks, accounting, and legal advice.	1	2	3	4	5
10.	I am satisfied with the availability of seed funding and other financial resources provided by the centre.	1	2	3	4	5

	Entrepreneurship Course					
11.	The course increased my creativity, innovation, and willingness to take risks.	1	2	3	4	5
12.	The course design, including business plan competitions, incubation, and boot camps, was highly effective.	1	2	3	4	5
13.	The experiential learning was practical and relevant, effectively bridging the gap between theory and real-world applications.	1	2	3	4	5
14.	The course provided me with the knowledge, skills, and abilities needed to succeed as an entrepreneur.	1	2	3	4	5
15.	The entrepreneurship course inspired me to pursue a career as an entrepreneur.	1	2	3	4	5
	Teaching Faculty					
16.	I prefer entrepreneurship teachers who focus on research-based (theoretical) knowledge.	1	2	3	4	5
17.	I prefer entrepreneurship teachers with practical, hands-on experience.	1	2	3	4	5
18.	I prefer a team of teachers who combine both research-based and practice-based expertise to teach entrepreneurship.	1	2	3	4	5
19.	Entrepreneurship teachers should have practical knowledge and hands-on experience in the field.	1	2	3	4	5
20.	Teachers should provide students with meaningful and engaging learning experiences that prioritize entrepreneurship over academic achievement.	1	2	3	4	5
	Social Norms					
21.	I think starting a business is a worthwhile and rewarding career option.	1	2	3	4	5
22.	I believe that starting a business will bring me personal and professional satisfaction.	1	2	3	4	5

23.	My family and friends support my decision to start a business.	1	2	3	4	5
24.	Singaporean society encourages me to pursue a high-paying career rather than entrepreneurship.	1	2	3	4	5
25.	I am confident I have enough resources and support to start a business.	1	2	3	4	5
	Entrepreneurial Aspirations					
26.	I am considering starting my own business during my undergraduate studies.	1	2	3	4	5
27.	I am considering starting my own business immediately after graduation.	1	2	3	4	5
28.	I am considering starting my own business after gaining 3 to 5 years of work experience.	1	2	3	4	5
29.	I prefer a corporate career over becoming an entrepreneur.	1	2	3	4	5

Thank you for completing this survey!