

The Effect of Entrepreneurial Orientation on Students' Entrepreneurial Intention.

The Role of University Support.

By

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(Master of Science in Strategic Management and Leadership)

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## DECLARATION

I hereby declare that this submission is my work towards a degree in Master of Philosophy in Business Administration, that to the best of my knowledge, includes no material previously published by others nor material which has been accepted for the award of any other degree of the university, except where due acknowledgement has been made.

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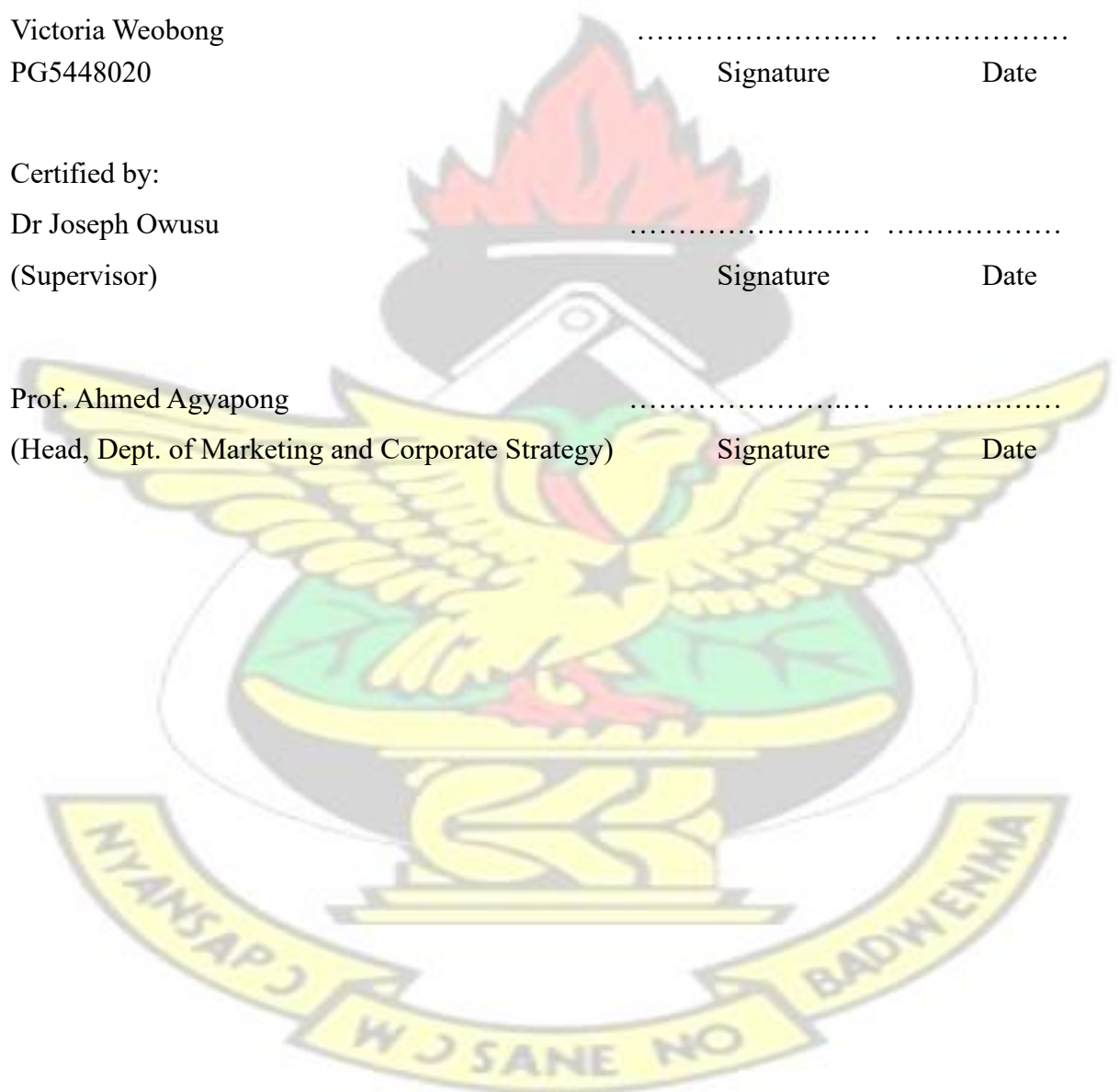
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.....  
Signature Date



## DEDICATION

This thesis is dedicated to my amazing husband, Dr Albert K. Awopone and my children, Magdalene, Wopolo, Wemanga, and Atudeawe; you are my inspiration and driving force. This

work is also dedicated to a wonderful family member, Rev. Fr. Augustine Bobi. Thank you for your prayers and words of encouragement. Furthermore, to my parents Mr and Mrs Weobong, you laid a solid foundation for my education. I will be eternally grateful to you. This thesis is also dedicated to my mother-in-law, Mrs Selorem Awopone. Thank you for raising a son into a loving husband and responsible father. Continue to stay in good health.



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Finally, I wish to thank all the students and lecturers of Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED) who willingly participated in the study. This study would not have been possible without your participation. May God bless you all.



## **ABSTRACT**

The Theory of Planned Behaviour (TPB) was used in this study to investigate the effect of entrepreneurial orientation on students' entrepreneurial intention as well as whether their relationship is moderated by university support. A cross-sectional survey design was adopted for the study. Data was collected with the aid of a questionnaire using the stratified random sampling technique. Participants in the study included 728 undergraduate students from the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development

(AAMUSTED). The data was analysed using Structural Equation Modelling (SEM) with AMOS version 21. The results revealed that innovativeness and pro-activeness significantly affect students' entrepreneurial intention in AAMUSTED, Ghana. The findings also discovered that university support is a predictor of entrepreneurial intention, as well as strengthening the relationship between innovativeness and students' entrepreneurial intention and improving the relationship between pro-activeness and students' entrepreneurial intention. The study concluded that students' entrepreneurial development efforts should focus more on their level of innovativeness and pro-activeness. Additionally, the support provided by universities would reinforce university students' entrepreneurial intention to consider entrepreneurship as a career option. This would help in planting the seed of entrepreneurship in students at an early age.

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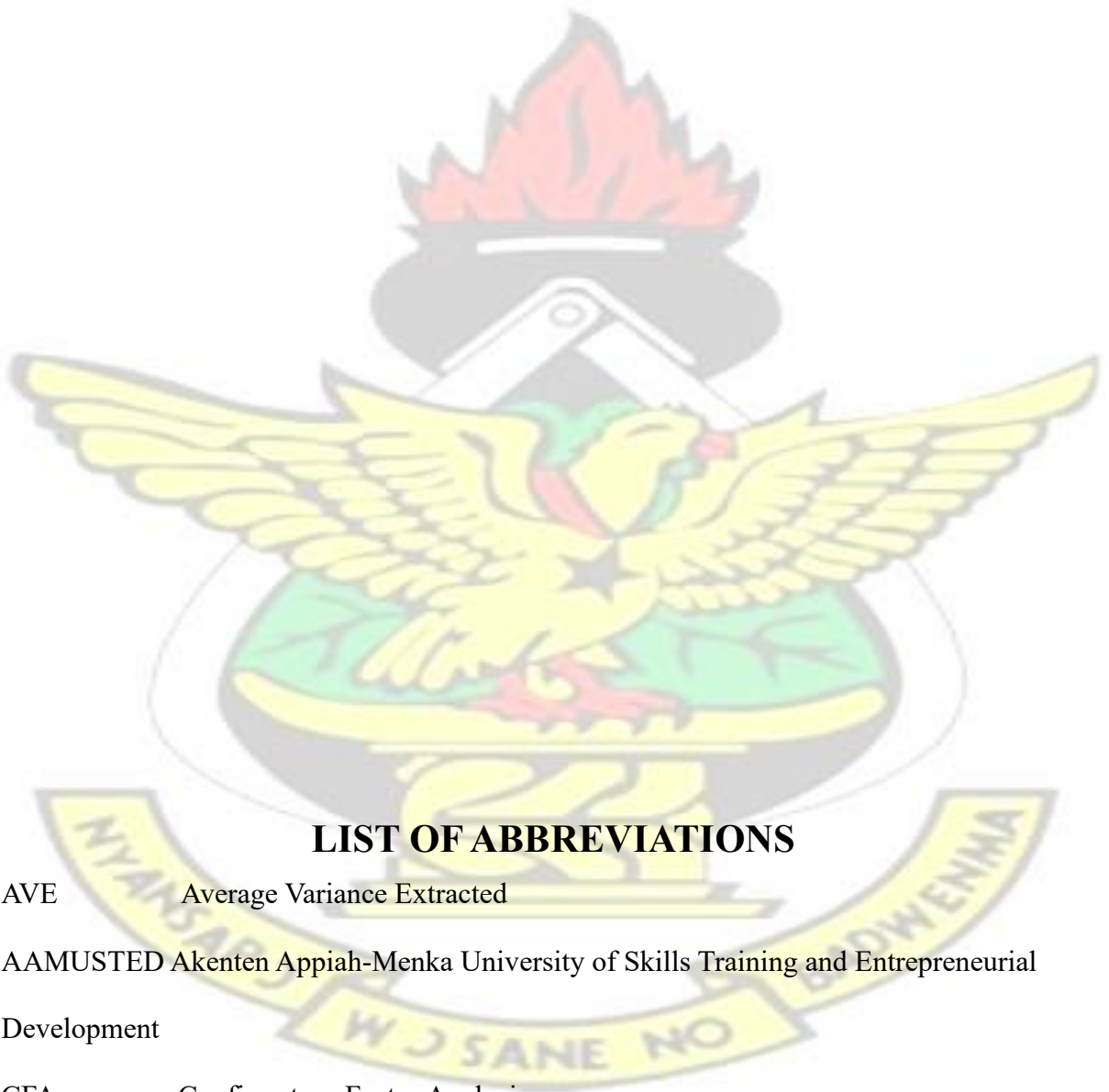
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## LIST OF ABBREVIATIONS

|          |                                                                                    |
|----------|------------------------------------------------------------------------------------|
| AVE      | Average Variance Extracted                                                         |
| AAMUSTED | Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development |
| CFA      | Confirmatory Factor Analysis                                                       |
| CFI      | Comparative Fit Index                                                              |
| CR       | Composite Reliability                                                              |

|         |                                                     |
|---------|-----------------------------------------------------|
| df      | Degree of Freedom                                   |
| EI      | Entrepreneurial Intention                           |
| EO      | Entrepreneurial Orientation                         |
| RT      | Risk-Taking                                         |
| IN      | Innovativeness                                      |
| PA      | Pro-activeness                                      |
| CA      | Competitive Aggressiveness                          |
| AU      | Autonomy                                            |
| UBI     | University Business Incubators                      |
| BIs     | Business Incubators                                 |
| HCT     | Human Capital Theory                                |
| PLS-SEM | Partial Least Squares Structural Equation Modelling |
| IEO     | Individual Entrepreneurial Orientation              |
| AMOS    | Analysis of Moments Structures                      |
| ILO     | International Labour Organisation                   |
| KNUST   | Kwame Nkrumah University of Science and Technology  |
| US      | University Support                                  |
| SEM     | Structural Equation Modelling                       |
| NFI     | Normed Fit Index                                    |
| NNFI    | Non-Normed Fit Index                                |
| PBC     | Perceived behaviour control                         |
| RMSEA   | Root Mean Square Error of Approximation             |
| SPSS    | Statistical Package for the Social Sciences         |
| SRMR    | Standardized Root Mean Square Residual              |
| TPB     | Theory of Planned Behaviour                         |
| $X^2$   | Chi-Square                                          |

$\alpha$

Cronbach's alpha

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# CHAPTER 1 INTRODUCTION

## 1.1 Background of the Study

Entrepreneurs and entrepreneurship are regarded as important growth factors for an economy to achieve economic, technological, social, and organizational development, (Urbano, Aparicio 2016). This is because they create jobs, facilitate the transfer of technology from the lab to land, enhance competitiveness, introduce innovative products and services and enable social empowerment (Carree, Thurik 2010). The ability of an individual to turn ideas into reality is a global call towards entrepreneurship (Piperopoulos 2012). It is in this regard that policy-makers and governments across the globe are calling for several entrepreneurship support initiatives (Blackburn 2016, Gürol, Atsan 2006). The World Bank, United Nations, and International Labour Organisation (ILO) have championed programmes cornering entrepreneurship to inculcate the entrepreneurial spirit among the youth (Avura, Ulzen-Appiah 2016). Similarly, the Nigerian Federal Government through the National Universities Commission has embraced entrepreneurship by making it mandatory for all undergraduates in the education curricula to take up entrepreneurship programmes (National Universities Commission, 2007).

In the past few years in Ghana, entrepreneurial initiatives towards self-employment have been high on the country's national agenda to tackle the graduate unemployment problem (OwusuAnsah, Poku 2012). Considering the increasing focus on developing entrepreneurial activities, the potential for entrepreneurial training and education in higher institutions could be a viable starting point to create awareness and achieve more interest and creativity in students (Izedonmi 2010). Given this, Audretsch, David et al. (2002) supported the claim that students/individuals can acquire entrepreneurial competencies, behaviours, and intentions through education. In line with this belief, the government of Ghana has created a new

university Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED), formally the University of Education Winneba- Kumasi campus which was established in 2020 to provide higher education in technical, vocational and entrepreneurial training to develop skilled manpower for job creation and economic development. Additionally, Kwame Nkrumah University of Science and Technology (KNUST) is offering an entrepreneurship development programme with Business Incubator and Enterprise Centre to create entrepreneurial awareness to facilitate the development of the entrepreneurial intention of an individual to consider self-employment as a career option (Adarkwa 2010). The intention is for these universities to focus more on entrepreneurial activities that would instil confidence in students, and develop their entrepreneurial abilities to enhance their entrepreneurial intention.

It is evident from studies that, intention plays a significant role in the decision to start a business venture (Barba-Sánchez, Atienza-Sahuquillo 2018, Ferreira, Trusko 2018, Koe 2016). Therefore, the leading trend is that aside from universities offering entrepreneurial education programmes to students, they have started playing a vital role in strengthening entrepreneurial activities (Sahoo, Panda 2019, Jiménez et al. 2015) such as encouraging mentorship through successful entrepreneurs as role models to influence students through real-life experience (Ismail et al. 2015) and providing other resources (Dakhan et al. 2021). The effect of having these supports coupled with their entrepreneurial orientation may enhance their entrepreneurial intention to start a business as a career option.

## 1.2 Statement of the Problem

Many studies have proven that EO affects firm performance (Gali 2018, Lechner, Gudmundsson 2014, Shan et al. 2016). Other researchers have also reported on the relationship between individual entrepreneurial orientation (IEO) and entrepreneurial intention (EI) (Robinson, Stubberud 2014, Bolton, Lane 2012, Ibrahim, Mas'ud 2016). Adopting a strong EO is regarded as an essential predictor of new entrepreneurs and new venture start-ups (Uysal et al. 2021).

It is important to note that EO can be measured at two levels: the firm level and the individual level (Elenurm 2012). However, the majority of studies on EO have been conducted at the organizational level, with few studies at the individual level (Abubakar et al. 2019, Koe 2016). It is therefore prudent to investigate EO at the individual level because understanding what drives a person to become an entrepreneur is key in developing new entrepreneurs.

Additionally, in student entrepreneurial intention studies, the concept of individual entrepreneurial orientation (IEO) has not been critically examined (Koe 2016). Are university students sufficiently entrepreneurial? Are elements of entrepreneurial orientation relevant to university students' entrepreneurial intentions? These are questions that have remained unresolved.

Furthermore, studies on individual entrepreneurial orientation (IEO) that considered risktaking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy are still scarce necessitating more research in this regard (Uysal et al. 2021, Bolton, Lane 2012, Lee et al. 2011). As a result, the purpose of this study is to assess the impact of IEO on university students' entrepreneurial intention.

A recent study called for additional potential moderators in the EO and EI relationship to be investigated (Martins, Perez 2020). This is because the presence of a moderator may improve the relationship between the EO and EI. The type of university, access to financial support and gender, on the other hand, have been identified as moderators in the relationship between EO and EI (Twum et al. 2021, Uysal et al. 2021, Nguyen et al. 2019). As a result, this study responds to the quest to investigate additional potential moderators in the EO and EI relationship that may be enhanced in certain circumstances, such as university support. Driven by the aforementioned propositions and motivation, the study seeks to examine the effect of entrepreneurial orientation and university support on students' entrepreneurial intentions.

### **1.3 The objectives of the Study**

The objectives of the study are to:

1. investigate the effect of risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy on the entrepreneurial intention of students;
2. investigate the effect of university support on the entrepreneurial intention of students; and
3. examine the moderating role of university support in the association between entrepreneurial orientation and entrepreneurial intention.

### **1.4 Research Questions**

The study addressed the following research questions:

1. Does risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy affect students' entrepreneurial intention?
2. Does university support affect students' entrepreneurial intention?
3. Does the university support moderate the relationship between entrepreneurial orientation and entrepreneurial intention?



## 1.5 Significance of The Study

This study provides theoretical and practical 'foundations on the effect of entrepreneurial orientation and university support which lead to students' entrepreneurial intention.

Theoretically, the study emphasized the significance of individual entrepreneurial orientation (IEO). It also backed up the notion that entrepreneurial orientation (EO) can be studied and measured on an individual level. Given that, the findings could facilitate the understanding of the individual entrepreneurial orientation and provide information for researchers to explore the association between the five dimensions of entrepreneurial orientation and other factors of interest.

Furthermore, the study's findings could be useful to policymakers and university administrators as a tool for planning and prioritizing resources in order to provide the necessary support, as this support would reinforce university students' entrepreneurial intention to consider entrepreneurship as a career option. This would help in planting the seeds of entrepreneurship in students at an early age.

Furthermore, given Ghana's rising graduate unemployment rate, this research recommends that universities focus more on building entrepreneurial programmes that teach and promote graduates with entrepreneurial mindsets. Students will be encouraged to not just create new businesses but also to locate and exploit opportunities in existing businesses.

The entrepreneurial knowledge, competencies, and skills of university students still need to be refined. As a result, it provided the administration of higher educational institutions with some



insights into focusing on the development of entrepreneurship programmes that educate and promote graduates with an entrepreneurial mindset.

### 1.6 Scope of the Study

To address the objectives of the study, the scope is limited to Ghana to investigate the entrepreneurial orientation (risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy) as well as the effect and interaction role of university support on students' entrepreneurial intention. The target population for the study comprises students from Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED), Kumasi. The reason for selecting this university is because it is an entrepreneurial university that has been set up to provide higher education in technical, vocational and entrepreneurial training to develop skilled manpower for job creation and economic development. Additionally, the study seeks to investigate the entrepreneurial activity preparedness in AAMUSTED in supporting students to start up their businesses after graduation.

### 1.7 Definition of Key Terms

**Risk-Taking:** The proclivity of an individual to make decisions in uncertain situations is defined as risk-taking.

**Innovativeness:** The tendency to engage in activities that lead to a novel product, service, or technical process.

**Pro-activeness:** The capacity to make strategic decisions regarding the gradual development of identifying and using market opportunities before other competitors control the market.

**Competitive Aggressiveness:** The ability of the company to directly and fiercely challenge its competitors to gain entry or improve its position.

**Autonomy:** The ability to work independently, carry out actions and make decisions.

**University Support:** The variety of supports in the form of guidance, training programmes, and entrepreneurship courses in developing students to take up self-employment.

**Entrepreneurial intention:** The planning and implementation of business ideas, which are guided by a psychological process

## 1.8 The organisation of the study

The research is structured into three main sections: theoretical framework, empirical analysis, and conclusion. These sections were organized into five chapters. Chapter 1 provides the background, which identifies the need for the research, and describes the objectives and significance of the thesis. The chapter also outlines the research framework and structure.

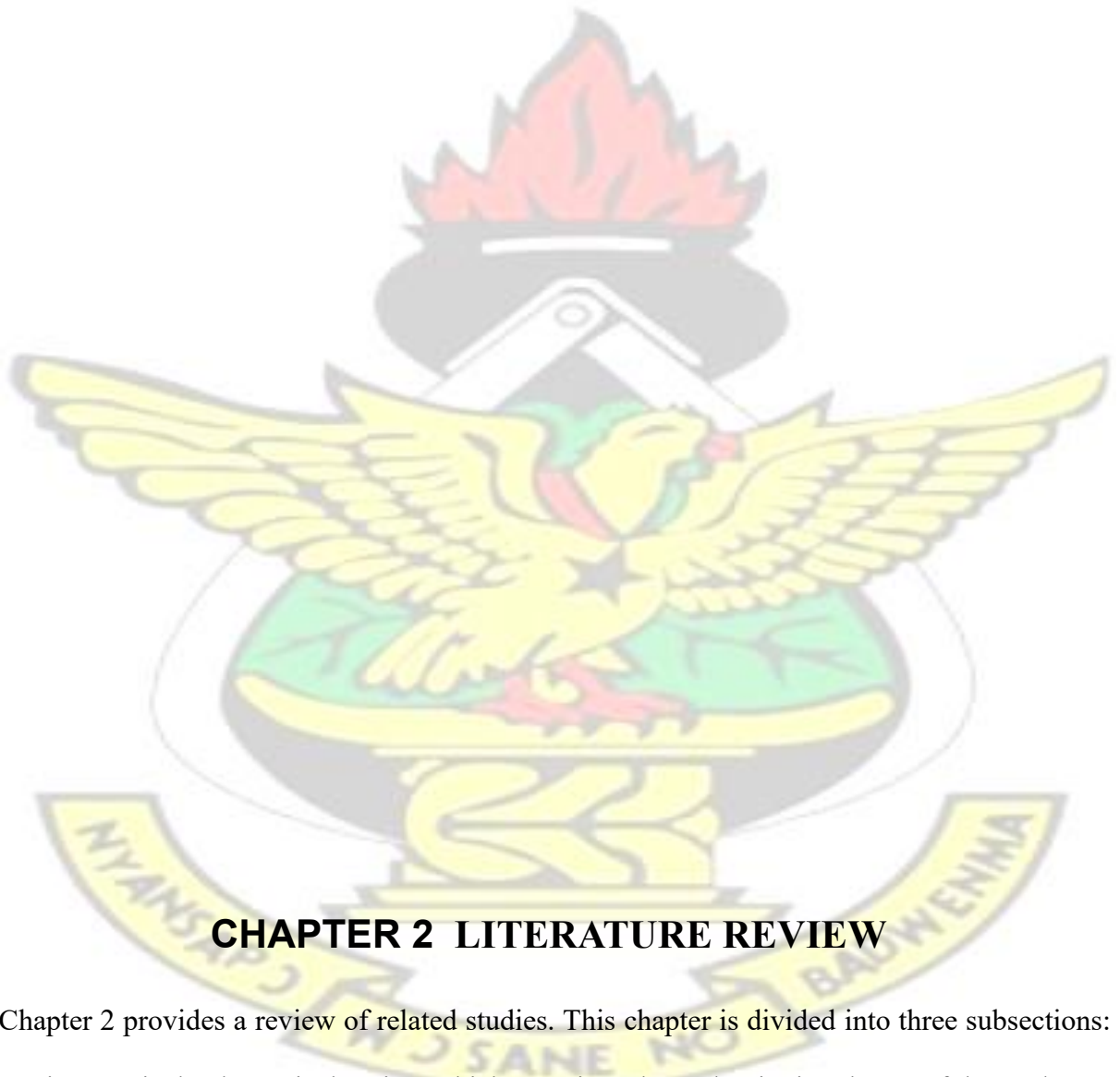
In Chapter 2, a review of literature related to the topic was discussed. An empirical review of the dimensions of entrepreneurial orientation studies was discussed. This chapter enables the assessment of research frameworks applied in similar studies and identifies key features and input data for the research. The review also led to the development of a theoretical framework and hypotheses for the study. This chapter provides the benchmark for comparison with other studies.

The method employed in conducting the research is described in Chapter 3. The chapter provides a description and justification of the research design and research philosophy. Chapter 3 also explains the data as well as the variables of the study and data analysis.

Chapter 4 reports the findings of the study. The chapter further discusses the empirical results with interpretations.

The final chapter presents a summary of the study and draws conclusions based on the research objectives. The chapter also points out the limitations of the study and suggestions for future research.

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## **CHAPTER 2 LITERATURE REVIEW**

Chapter 2 provides a review of related studies. This chapter is divided into three subsections: section one is the theoretical review which examines the underpinning theory of the study. An empirical review is presented in the second section which examines the terms, and variables

used in this study, while the final section provides a synthesis of the review leading to the development of the conceptual framework and hypothesis.

## **2.1 Theoretical Underpinning**

### **2.1.1 Theory of Planned Behaviour (TPB)**

Many models, such as those proposed by Bird (1988) and Shapero, Sokol (1982) have been used to explain entrepreneurial intentions. However, none has had the same impact as Ajzen's Theory of Planned Behaviour (TPB) (Krueger Jr et al. 2000, Liñán, Chen 2009). TPB represents a significant opportunity for better understanding and prediction of entrepreneurial actions (Krueger Jr et al. 2000). That is, it enables researchers to gain a better understanding and predict entrepreneurial intent by taking into account not only personal but also social factors. The TPB is now one of the most widely used psychological theories to describe and forecast human behaviour, including entrepreneurship (Fayolle, Liñán 2014, Carr, Sequeira 2007).

According to TPB theory, two factors influence human behaviour: internal and external (Purusottama 2019). Human attitude is an internal factor that stems from individuals' insights and experiences while external factors are individuals who are influenced by their surroundings. Additionally, Ajzen, I. (2002) and Ajzen, Icek (1991) stated that intentions are determined by three independent factors: attitude toward behaviour, perceived behaviour control, and subjective norm. These factors are thought to be the reasons for shaping an individual's intentions and behaviour.

Attitude towards behaviour is important because individual beliefs about carrying out behaviour are vital. An individual's attitude toward behaviour refers to the degree to which he



or she has a favourable or unfavourable predisposition towards a specific behaviour (Packham et al. 2010). According to the Theory of Planned Behaviour, intentions are shaped by the combined effect of two related factors: one's beliefs about the expected consequences (negative or positive) of engaging in a specific behaviour (entrepreneurship) and the practicality (likelihood or unlikelihood) of a specific action (Ajzen, Icek et al. 1982). If both beliefs and perceptions of practicality are viewed positively, an accepting attitude toward intended behaviour will result, and vice versa. Therefore, attitudes toward behaviour refer to an individual's personal desire to become an entrepreneur (Goje 2017).

Subjective norms can be defined as an individual's principle on the norms of others and one's motivation to follow the norms; this has previously been evaluated in three ways: belief in family role in business start-up, a belief of business support from an important person, and belief of business support from friends (Susetyo, Lestari 2014). Thus, subjective norm explains how social pressure influences people's decisions to engage in or refrain from engaging in a particular behaviour. As a result, the viewpoints of others in society, such as family, teachers, successful entrepreneurs, friends, or other close relatives are thought to be important in the formation of entrepreneurial intention (Kolvereid 1996). A social norm influences perceived behavioural control as well as the attitude towards becoming an entrepreneur and the intention to start a business (Hopp, Stephan 2012).

Perceived behaviour control (PBC) is defined by Ajzen, Icek, Sheikh (2016) as the perception of one's entrepreneurial abilities. That is an individual's perception of the ease or difficulty of starting and running a business (Walker et al. 2013). Ajzen, Icek (1991) further stated that perceived behaviour control (PBC) reflects an individual's perceived ability to successfully launch a new business. Mahmoud, Muharam (2014), also argued that perceived behavioural control can be defined as the ability to perceive, retain, recover, and react. Behaviour is derived



from the many aspects of human behaviour that are planned and thus indicated by intention towards that behaviour. Control beliefs about the accessibility of factors that can allow or delay the performance of the behaviour determine perceived behavioural control.

Previous studies used the TPB model to conduct research and demonstrated that this theory can be used by researchers to study various forms of behaviour (Aloulou 2016, Farooq et al. 2018). It is therefore possible to conclude that the more favourable the attitude and subjective norm, as well as the greater the perceived behavioural control, the stronger the person's intention to engage in entrepreneurship (Scholten et al. 2004). As a guiding framework for this study, the researcher used the Theory of Planned Behaviour. The Theory of Planned Behaviour was chosen because of its history of wider application and proven credibility across research fields (Lortie, Castogiovanni 2015).

### **2.1.2 Entrepreneurship**

Entrepreneurship is defined as "the condition of being an entrepreneur, or promoter of an industry venture (American Heritage Dictionary, 2016). This term refers to a person who takes a risk with his or her own money and starts a business with the intention of profiting. Similarly, Piperopoulos (2012) stated that entrepreneurship is about the ability of an individual to turn ideas into reality. Additionally, Ahmad (2010) advanced that entrepreneurship is a process of creating something distinct with value by devoting the necessary time and effort while assuming a variety of factors such as monetary, physical, and social risks in exchange for financial and personal fulfilment.

In recent decades, entrepreneurship has been one of the major research subjects due to the enormous contribution of entrepreneurial activities to the growth of nations worldwide. Shein

et al. (2010) stated that entrepreneurship shapes and builds the future through the creation of new ventures. Entrepreneurship has been recognized for creating jobs, reducing poverty, improving societal resilience, and overall economic growth (Urbano, Aparicio 2016, Audretsch, David 2012). Furthermore, Davey et al. (2016) explained that entrepreneurship involves new venture start-ups that create employment opportunities within society. There is a consensus among scholars that, entrepreneurship is "the way to go" to tackle the unemployment situations in both developed and developing countries (Sutter et al. 2019, Williams, Shepherd 2016, Zhao, Wry 2016). Given that, entrepreneurship has been acknowledged to be the newest driver in generating wealth and job opportunities to boost the development of a country (Gerba 2012, Matlay, Carey 2007). As a result, there has been a global interest in entrepreneurship (Galvão et al. 2018, Bell, Bell 2016). In a recent study, Swarupa, Goyal (2020) advanced that many developing countries are considering entrepreneurship as a possible solution to serious problems such as the high unemployment rate of many graduates, lack of economic improvement, and the inability of the public and private sectors to provide jobs for graduates.

### **2.1.3 Entrepreneurial Intention**

Entrepreneurship is a complex process that includes multiple stages; one of which is the formation of entrepreneurial intentions (Kearney et al. 2013). Simply put, the intent is to think, aim, or plan to do something. Krueger Jr et al. (2000) stated that entrepreneurship is an intentional and planned behaviour. The first step to becoming an entrepreneur is that one must demonstrate a certain degree of entrepreneurial intent (Fayolle, Liñán 2014). Therefore, entrepreneurial intention (EI) is an individual's cognitive state of mind that leads to a planned behaviour (Do, Dadvari 2017). Similarly, EI is defined as the planning and implementation of business ideas, which are guided by a psychological process (Bhawe et al. 2007, Boyd, Vozikis

1994). Abubakar et al. (2019) further purported that the intention is concerned with a person's preference to engage in an entrepreneurial venture one day. This means that EI is key in understanding the entrepreneurial process because it forms the foundation of new ventures (Van Gelderen et al. 2008). Given that, Bernoster et al. (2020) believed EI is an individual's enthusiasm and their first choice for starting a new business.

Some studies indicated that EI is a reliable predictor of planned behaviour that leads to entrepreneurship (Abubakar et al. 2019, Ajzen, Icek 1991, Koe 2016). This is because it is considered to play a vital role in the future creation of new ventures (Nguyen et al. 2019). Pulka (2018), further indicated that entrepreneurial intention has a positive impact on students' entrepreneurial attitudes and is one of the major reasons why a student may decide to be an entrepreneur. It was further argued that intentions are a necessary step before engaging in purposeful behaviour (Ajzen, 1987). This aligned with previous research (Ali et al. 2010, Yusof et al. 2007, Shapero, Sokol 1982). Given that, intentions aid in understanding connections, experiences, and behavioural consequences.

Research shows that the motivational factors that determine the intention to start up a new business are influenced by exogenous factors such as education, demographic factors, family background, environmental influence, and training (Oguntimehin et al. 2017, Liñán, Fayolle 2015). An individual's entrepreneurial intentions can also be influenced by perceptions of barriers to business start-up, cultural values, and the environment in which he or she is located (Pittaway, Cope 2007, Carayannis et al. 2003). Risk aversion, failure stigma, banks' reluctance to finance new projects, infrastructure and attitudes of friends and family may constitute barriers to EI (Franke, Lüthje 2004). In line with this, Gelard, Saleh (2011) highlighted that many students' entrepreneurial aspirations are hampered by a lack of training. Given that,



Pittaway, Cope (2007) suggested EI research should be related to the employability of SMEs to fully provide reasonable verification. As such, higher educational institutions are now seen as an important source of technological development for business activities (Abubakar et al. 2019). As a result, there is a clear link between entrepreneurial education, entrepreneurial behaviour, and entrepreneurial intentions (Denanyoh et al. 2015).

Thus, understanding the individual's intention with regards to entrepreneurship is important to develop a large number of entrepreneurs in the country. This is because entrepreneurs are nurtured, not born (Turner, Müller 2005). In this study, EI was operationalized as the intention to start a business as a student and was measured using a validated scale (Liñán, Chen 2009).

#### **2.1.4 Entrepreneurial Orientation**

The concept of entrepreneurial orientation (EO) has been viewed differently by scholars in terms of its definition, the interdependence of the dimensions, the antecedent, and the connection between the construct (George, Marino 2011, Knight 1997, Lumpkin, G. Tom, Dess 1996). The EO concept can be traced to the works of Covin, Slevin (1989) and Miller, (1983) which included three dimensions, namely: Risk-taking, Innovativeness, and Pro-activeness. However, Lumpkin, G. Tom, Dess (1996) later advanced the EO concept to a five-dimension model consisting of risk-taking, innovativeness, pro-activeness, autonomy, and competitive aggressiveness that lead to new venture creation.

Miller's EO concept concerns an enterprise organisation that engages in product and market innovation and undertakes some risky ventures. Miller was the first to come up with 'proactive' innovations, beating competitors to the punch" (Millar, 1983). Lumpkin, G. Tom, Dess (1996) on the other hand viewed the concept of EO as "the processes, practices, and decision-making activities that lead to new entry". Similarly, Pearce et al. (2010) defined the EO concept by

taking into consideration the behaviour the individual put up to be innovative and proactive to seize opportunities in the market, and engage in some risky activities to be competitively aggressive towards venture creation. Accordingly, the focus of this study will be based on the definition of EO by (Lumpkin, G. Tom, Dess 1996). This is because the individual is an integral part of the complex processes that go into the new venture creation.

Over the years, researchers have examined EO as a construct at the firm level to determine the performance of organisations (Gupta et al. 2015, Hafeez et al. 2011). Wei-Loon (2013) investigated the performance of Government Linked Companies using a five-dimensional model. The findings revealed that risk-taking, competitive aggressiveness, pro-activeness, autonomy, and innovativeness have a positive impact on the performance of organisations. In the past few years, Robinson, Stubberud (2014) and Bolton, Lane (2012) suggested that EO can also be applied at the individual level. Given that this study will be based on individual entrepreneurial orientation. The individual entrepreneurial orientation is concerned with the combination of skills, knowledge, and awareness that an individual acquires that leads to an entrepreneurial behaviour towards new venture creation (Abubakar et al. 2019). Moreover, EO is concerned with the general, or continuous direction of thought, propensity, or interest with regard to entrepreneurship (Covin, Lumpkin 2011). Thus it was revealed that it is the transition through which the individual passes to start a new business (Boso et al. 2013, Shook et al. 2003). Because of that, this study attempts to measure the EO of students based on the EO construct and dimensions presented by (Lumpkin, G. Tom, Dess 1996) which include: risktaking (RT), innovativeness (IN), pro-activeness (PA), competitive aggressiveness (CA), and autonomy (AU).



## **2.1.5 Dimensions of Entrepreneurial Orientation**

### **2.1.5.1 Risk-taking**

Entrepreneurship has historically been associated with risk-taking (Gürol, Atsan 2006).

Risk-taking involves the propensity to engage in brave instead of cautious activities (Wei-Loon 2013). Thus, venturing into uncertainty with committing capital, energy, and time to business creation in a questionable environment. Nishantha (2009) defined risk-taking as an individual's proclivity to make decisions in uncertain situations. Additionally, Wei-Loon (2013) argued that risk-taking is concerned with making a huge commitment to obtain high profits. Given that, Ogunsade (2017) and Tang, Tang (2007) contended that the risk-taking dimension is a vital feature associated with entrepreneurship. This is because an individual is not certain whether the outcome of a new product or service will meet consumers' tastes or even yield returns before they are presented. As a result, Nishantha (2009) indicated that the main difference between entrepreneurs and employed workers is the uncertainty and risk that the former takes. This means that entrepreneurs prefer to take moderate risks.

Even though a common conviction about entrepreneurs is that they are persistent chance takers, studies indicate that entrepreneurs do not see their activities as hazardous and most often engage in activities after planning and forecasting to decrease uncertainties (Simon et al. 2000). In the same vein, Viatonu et al. (2018) revealed that the objective of entrepreneurship is the motivation and ability to take risks, which is developed from the creation and realization of new ideas. It is, however, presumed that the extent of averseness to risk varies between the individual in their choice either to begin a venture and be their boss or to work for someone (Ogunsade 2017). That is, individuals are motivated to take risks because they want to achieve success (Sama-Ae 2009). Abubakar et al. (2019) and Robinson, Stubberud (2014) proposed that the risk-taking dimension has a significant and positive impact on entrepreneurial intention.

However, Koe (2016) and Altinay et al. (2012) discovered that the risk-taking dimension is not significant with entrepreneurial intention due to the effect of family background.

#### **2.1.5.2 Innovativeness**

Santandreu-Mascarell et al. (2013) put forward that, one way for entrepreneurs to contribute to economic development is through innovation, which means new products, new processes, new sources of supply, and the development of new markets. Innovativeness involves new idea engagement that might end in new processes, products, or services (Wei-Loon 2013). In a similar vein, Bell (2019) posits that innovativeness reflects the proclivity to engage in activities that result in a new product, service, or technical process. Hence, innovativeness refers to the ability to execute creative and original ideas and develop due diligence processes, such as the production of new products, new processes, and new development of suppliers and raw materials (Han et al. 2018). Additionally, Ibrahim, Mas'ud (2016) indicated that innovativeness plays an important role in improving skills to face the environment to create new products and services. The innovativeness dimension means seeking new, unusual, or creative solutions to meet the challenges faced by the company (Morris et al. 2002). This involves the development of new goods and services (Ireland et al. 2009) as well as new technologies, techniques, and management practices used in the company's operations (Knight 1997).

The capacity for innovation is defined according to individual creativity or tendency, they tend to innovate, carry out experiments, generate new ideas, and participate in the creation of new businesses (Ogunsade 2017). According to Block et al. (2017) innovation and entrepreneurship are inextricably linked, such that entrepreneurship not only influences innovation, but innovation also leads to access to resources and entrepreneurial outcomes. As a result, Koh (1996) acknowledges that entrepreneurs are more innovative than non-entrepreneurs on an

individual level. Therefore, Students who participate in innovative activities are expected to be entrepreneurial.

### **2.1.5.3 Pro-activeness**

Pro-activeness refers to the "individual's response to opportunities" (Lumpkin, G. Thomas, Dess 2001). This happens when individual entrepreneurs use opportunities in the market environment to create new business opportunities. Han et al. (2018) defined pro-activeness as the capacity to make strategic decisions regarding the gradual development of identifying and using market opportunities before other competitors control the market. Pro-activeness, which is the opposite of reactivity entails taking the necessary steps to make things happen (Bell, R. 2019). Wei-Loon (2013) revealed that pro-activeness is related to a future view of actively seeking business opportunities. As a result, Soininen et al. (2012) believe that companies with this quality can seek new business opportunities during the recession to improve their financial performance. In the same vein, Smith, Cao (2007) agreed that entrepreneurial orientation and other basic elements like pro-activeness help to discover and use the environment to develop opportunities and is better recognized than its competitors in the market. Given that, Casillas, Moreno (2010) pointed out that greater pro-activeness can promote sales growth, simply because the company is more active in finding and capturing business opportunities. In line with this belief, Bateman, Crant (1993) posited that students with a proactive character are best at scanning the environment to find opportunities, take initiative and act, endure, and persevere until the goal is achieved. Again, Prabhu et al. (2012) revealed that pro-activeness as a personality trait can distinguish between individuals who are likely to become entrepreneurs. This is because not all people recognize opportunities in the same environment, and even those who do see an opportunity may not take advantage of it (Prabhu et al. 2012). Therefore,



students with proactive personalities can show the necessary capacity to overcome limitations and pursue an entrepreneurial career (Prabhu et al. 2012, Bhawe et al. 2007).

#### **2.1.5.4 Competitive Aggressiveness**

Competitive aggressiveness refers to "the ability of the company to directly and fiercely challenge its competitors to gain entry or improve its position." In other words, outperforms industry competitors in the marketplace (Lumpkin, Tom, Dess 1996). Similarly, Shan et al. (2016) indicated that competitively aggressive firms regularly react to such challenges with head-to-head encounters. This means that competitive aggressiveness reflects the readiness of a firm to be distinct instead of depending on the conventional strategy of competing. The competitive aggressiveness concept is used to measure how start-ups respond to threats and the capacity of the companies to obtain a competitive advantage (Grande et al. 2011, Frese et al. 2002). Stambaugh et al. (2011) contended that for firms to be competitive aggressive; it requires being proactive or reactive to moves by competitors. For instance, when a firm cuts down its prices in retaliation to a competitor's price or vice versa. On the other hand, some students are extremely competitive and strive to be the best in class, whereas others are content to simply pass the class.

#### **2.1.5.5 Autonomy**

The autonomy dimension is related to the ability to work independently, carry out actions and make decisions (Lumpkin, Thomas et al. 2009, Tarabishy et al. 2005). This specifically means the freedom of individuals and teams to express an idea or concept and implement it to completion (Lumpkin, Tom, Dess 1996). Similarly, Hansemark (2003) believes that people who have a strong need for achievement are more likely to solve problems on their own, set challenges and goals, and strive to achieve them through their efforts. As such, individuals who have a strong desire to succeed will contribute more to entrepreneurial activity (Tong et al.



2011). Autonomy has been revealed by Lassen et al. (2006) as one of the key factors influencing business creation decisions and the establishment of new independent firms in the business orientation process. Furthermore, the autonomy dimension fosters innovation because innovation is a source of creativity and initiative. These initiatives are being transformed into entrepreneurial achievements (Lumpkin, Thomas et al. 2009, Lumpkin, G. Thomas, Dess 2001). Given that, these people are usually called champions (Walley, Taylor 2002). In line with this, Bolton, Lane (2012) advanced that at the individual level some students will also prefer to work alone (autonomously) than in a group.

#### **2.1.6 University Support**

Universities play a vital role in cultivating students' skills, beliefs, cognition, and confidence (Iglesias-Sánchez et al. 2016). They serve as a breeding ground for entrepreneurs (Geissler et al. 2011, Wang, Verzat 2011). Thus, Urbano, Guerrero (2013) and Edelman, Yli-Renko (2010) believe that universities are a fertile ground where support could be given to students to enable them to recognize entrepreneurial opportunities and act on them.

Given that it is a recent and dominant trend that educational institutions across countries have begun to play an important role in strengthening entrepreneurial activities (Sahoo, Panda 2019). This is done by providing a variety of supports in the form of guidance, training programme, and entrepreneurship courses in developing students to take up self-employment (Trivedi 2016). University support acts as an indirect motivator that affects other elements known to improve intention (Anjum et al. 2020). Additionally, university support highlights the implications that are critical in driving entrepreneurial activities in universities to impart the knowledge needed in the modern economy (Luca, Cazan 2011). These supports may help build their confidence to start their business ventures (Kraaijenbrink et al. 2010). Because of this, Jiménez et al. (2015) purported that the socioeconomic impact of these business ventures that

could be established by graduate students is critical to economic development. Hence university support in this research that may facilitate students' entrepreneurial intention considers Business plan activities, University business incubators, and Entrepreneurial role models.

#### **2.1.6.1 Business Plan Activities**

One of the roles universities play is to help reduce graduate unemployment by instilling the entrepreneurial spirit in students to encourage them to take self-employment as a career option. This could be done by engaging students in entrepreneurial activities like business planning activities that would enable them to implement their knowledge into practice. According to Fuhrman et al. (1991), knowledge becomes “usable when it is acquired in situations that entail applications to concrete problem-solving.” This component is critical in entrepreneurship because the primary goal of this entrepreneurial activity is to prepare students to put their business ideas into action. A business plan must be created to relate this to entrepreneurial activities. Writing a business plan is a highly recommended activity by entrepreneurship literature, universities, venture capital firms, and government support agencies (Hindle, Mainprize 2006, Honig 2004). Therefore, a business plan is a written description of the future of one's business venture or company. That is a document outlining what you want to do and how you intend to do it. Honig, Karlsson (2004) defined a business plan as a written document that describes an organization's current state and anticipated future. As such, Duval-Couetil et al. (2016) stated that one type of entrepreneurial learning is business planning activities. In line with this, Bell., Bell (2016) purported that business planning activities have a great impact on students' confidence and belief in their ability to start a business. The use of a business plan has been linked to faster business growth (Bell, Bell 2016).

The advantages of using business plans have been debated not only in the literature on entrepreneurship education but also in the general entrepreneurship literature (Jones, Penaluna 2013). Jillek (2016) argued that a business plan would help students in revealing the business concept, the targeted consumer group, and the market competition. Burns, P. (2016) also indicated that a business plan is essential because it is an excellent way to present to prospective investors the evidence of the strength of the preferred business venture and the professionalism of its advocates. Writing a business plan is an important part of gaining practical knowledge because it requires participants to consider all aspects of their desired business.

Universities can promote a business plan competition among students where students could participate to bring out business ideas and those with the best ideas could be rewarded in any form of support to execute their business plans. This may go a long way to promote and encourage other students to bring out the entrepreneurs in them. It could also boost their confidence in their potential venture; thus, it is an important tool that can influence their intentions in a variety of ways. Moreover, the possibility of them growing a positive mindset towards new start-ups would be very high. As a result, it will be interesting to consider this factor and see if it can influence entrepreneurial intent.

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

Globally, business incubators have been recognized as critical mechanisms to support the growth of new businesses (Nicholls-Nixon et al. 2020). Given that, universities' roles have shifted, and entrepreneurial universities are now required to channel new knowledge for economic development via business incubators (BI) (Hassan 2020).

A university business incubator is defined as a university-based institution that provides tangible and intangible services to young business start-ups (Hassan 2020). In a similar vein,



Xu (2010) stated that a university's business incubation is a system that provides physical space within the university to encourage the development of university spinoffs. Additionally, Good et al. (2019) and Ebbers (2014) purported that a university incubator provides access to valuable networks, resources, and knowledge/technology. These services are provided by business incubators through self-funding or external sponsorship from governments or corporations (Hausberg, Korreck 2018).

Recently, university incubators have become more supportive in terms of entrepreneurial activities than other types of support as far as creating an entrepreneurial culture in students is concerned (Al-Mubarak, Busler 2013). Al-Mubarak & Busler (2013) further advanced that, university incubators' role is not limited to providing services to start-ups; rather, they support leadership while reinforcing entrepreneurial culture. As a result, they are thought to reduce the risk of business failure and encourage entrepreneurial outcomes such as wealth creation, innovation, employment, and the development of entrepreneurial skills (Linneman, Klein 1979). Additionally, a university business incubator also extends support to its community (students, academics, alumni, and staff) in the identification, development, and commercialization of innovative and entrepreneurial initiatives (Guerrero, Urbano 2019, Grimaldi et al. 2011). Moreover, the university can link up with business communities by transferring technological advances and research results to the market via commercialization. As a result, students and graduates can benefit from a pool of resources that assist them in exploring business ideas and turning these ideas into business ventures (Souitaris et al. 2007).

Students can benefit from the university's business incubator in the sense that, such incubators with, well-trained human resources and well-equipped laboratories are breeding grounds where, students with peculiar skills could be identified through business plan competitions and could have the opportunity to apply their skills and knowledge to real-world business cases,



fostering entrepreneurship among them. As such, students would be exposed to new business requirements like equipment, space, networking access, and knowledge to sustain their operations. Hence, students at universities with more active entrepreneurship support activities are more likely to pursue entrepreneurial careers.

### **2.1.6.3 Entrepreneurial Role models**

The impact of real-life role models on the attractiveness and achievability beliefs of potential entrepreneurs has long been documented in academic literature. As such, universities fronting collaborations with successful entrepreneurs to serve as role models to students is another way of providing entrepreneurial support to aid students to take up self-employment as a career choice. This is because individual decisions to engage in a particular behaviour are frequently influenced by the behaviour and opinions of others, their demonstration of identity, and the examples they provide (Akerlof, Kranton 2000, Ajzen, Icek 1991).

A role model is defined as “a common reference to individuals who set examples to be emulated by others and who may stimulate or inspire other individuals to make certain (career) decisions and achieve certain goals” (Bosma et al. 2012). This means that role models are people who inspire and encourage others to pursue their life goals (Basow, Howe 1980). Given that, students with no prior entrepreneurial experience are more likely to have a role model than those with some start-up experience (Zovko et al. 2020). Hence, students would see these entrepreneurs as their entrepreneurial role models. In line with this, Carter et al. (2003) highlighted that the desire of an individual to follow in the footsteps of others can have an impact on one’s entrepreneurial intention. Additionally, Gibson (2004) holds that individuals are drawn to role models who can facilitate their development by way of learning new tasks and skills. Furthermore, the influence of role models does not only concerned with learning entrepreneurial behaviours and being motivated to behave similarly but also with developing

an entrepreneurial identity and translating imagined possibilities of "who could I become" and "what could I accomplish" into enacted reality. As a result, universities could liaise with seasoned entrepreneurs to hold workshop sessions for students to tell their stories to equip students with the necessary business knowledge through real business life experience. Entrepreneurial stories can serve as inspirational tales and encourage the process of emulation, even if the specific contents of these stories do not always have to be about "achievement" to elicit entrepreneurial intentions (Steyaert 1997). This could have a greater impact on students' entrepreneurial intentions because students may be motivated by the achievements of these role models. As a result, it may further lead to students having a better understanding and practical feeling of entrepreneurial outreach activities. Additionally, the knowledge gained through these seasoned entrepreneurs will facilitate students' business idea generation, aid in identifying business opportunities as well as help in venture financing processes.

There is evidence that the use of real-life and symbolic role models is critical for effective entrepreneurial learning (Dyer Jr 1995, Scott, Twomey 1988). This is because, several descriptive studies have found that direct role models- mentors and parents have a significant impact on the decision to start a business (Cooper, Dunkelberg 1987, Shapero, Sokol 1982). Therefore, exposure to entrepreneurial role models can provide invaluable information, instil confidence, and inspire students to create anticipatory scenarios for their future careers and identity.

## **2.2 Empirical Review**

Dakhan et al. (2021) examined the university support's role, instrumental readiness on students' entrepreneurial orientation, and students' intention. Data were collected from a total number of

226 students from different universities including Sukkur IBA University, SZABIST, and Central Punjab and were analyzed using SmartPLS 3.0. The results of the study revealed a significant relationship between University support, instrumental readiness, entrepreneurial orientation, and the intention of students.

Likewise, a study on the relevance of entrepreneurial orientation to students' entrepreneurial intention using Human Capital Theory (HCT) was conducted by Abubakar et al.(2019) to investigate the dimensions of entrepreneurial orientation and its relevance to student's entrepreneurial intention among 282 final year students from Federal University Dutse. The research design used was cross-sectional and the instrument used for data collection was a questionnaire. Data analysis was done using the Partial Least Squares Structural Equation Modelling (PLS-SEM). In conclusion, the research showed that pro-activeness, risk-taking and innovativeness, are significantly and positively related to student entrepreneurial intention. The study also recommended that more emphasis should be on instilling the entrepreneurial spirit in students for them to understand their competencies with respect to entrepreneurship intention. This, in turn, will result in the establishment of new business ventures across the country.

As indicated in Abubakar et al. (2019) that, instilling the entrepreneurial spirit in students will facilitate the understanding of their competencies towards entrepreneurship intention, Koe (2016) believed that understanding what determines young adults' intentions toward entrepreneurship is critical in the effort to develop entrepreneurship. As such research was undertaken to examine the relationship between individual entrepreneurial orientation and entrepreneurial intention. A questionnaire was administered to 176 undergraduate students at a public university designated as an "entrepreneurial university." The study concluded that the

quality of innovativeness and pro-activeness was found to have a positive effect on university students' entrepreneurial intention. However, risk-taking ability did not affect entrepreneurial intention.

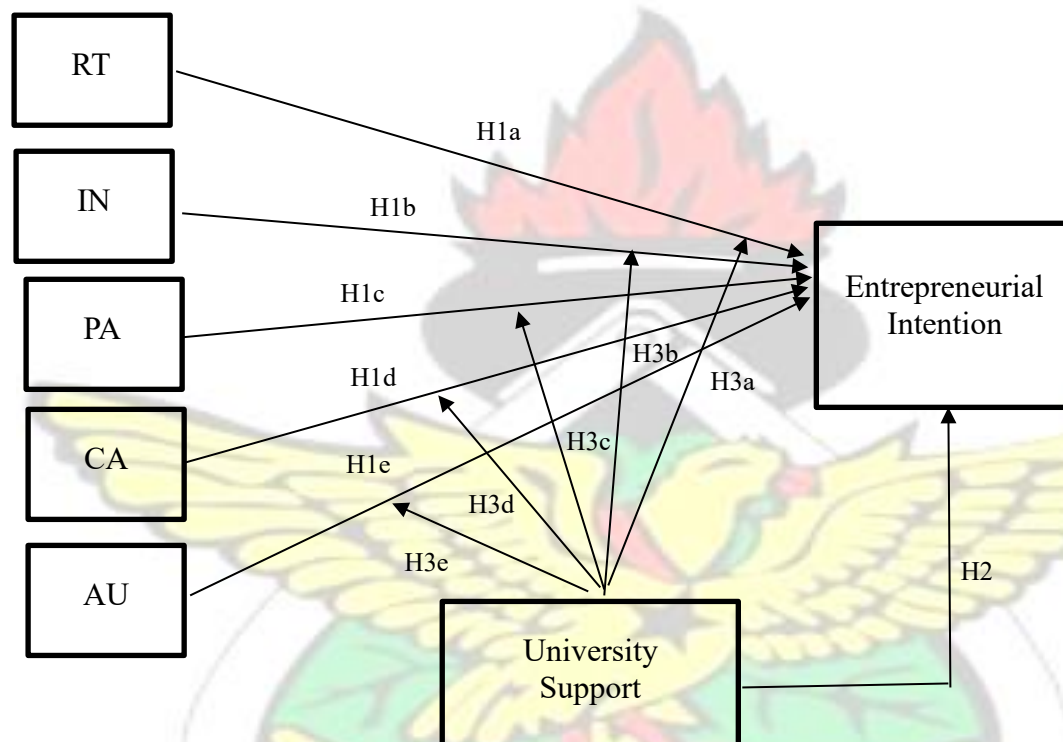
Sisilia, Sabiq (2019) assessed students' level of individual entrepreneurial orientation (IEO) and self-esteem towards entrepreneurial intention. That is to determine students' entrepreneurial intentions in finding and exploiting business opportunities by maximizing their potential. A questionnaire was used for data collection from students offering business programmes in 2015 and 2016 at Telkom University. They concluded that the 2016 class had higher entrepreneurial intentions than the 2015 class in dimensions such as innovation, risktaking, and pro-activity in the individual entrepreneurial orientation and dimensions of performance, appearance, and social dimensions in the self-esteem variable.

The university environment and support system can inspire students to pursue a career as an entrepreneur after graduation (Bazan et al. 2019). The main purpose of their research was to determine the impact of the university's environment and support system on the precursors of entrepreneurial intention among Memorial University students. To understand the precursors of intention to start a new business, their study employed a customized entrepreneurial intention model based on the Theory of Planned Behaviour. A methodology for studying the evolution of motivational factors related to the university's ecosystem that may facilitate students' entrepreneurial intentions was also developed. The findings revealed that the university's environment and support systems at Memorial University had a significant positive relationship with students' perceived behavioural control. The study concluded that the results will assist Memorial University in determining the effectiveness of its innovation and entrepreneurship initiatives in promoting entrepreneurial activities.



## 2.3 Conceptual Framework and Hypotheses Development

Based on the study's objectives, the proposed conceptual framework was developed using entrepreneurial orientation dimensions (Risk-Taking, Innovativeness, Pro-activeness, Competitive Aggressiveness, and Autonomy) as independent variables, university support as both the independent, the moderator variables as well as entrepreneurial intention as the dependent variable is shown in **Figure 2.1**.



**Figure 2.1 Conceptual framework**

### 2.3.1 Risk-taking and Entrepreneurial Intention.

Risk-taking denotes how far a person or an organisation is willing to go to succeed (Vogelsang 2015). That is how ready an individual or a company is in making huge commitments in terms of resources or a change in course of action. Taatila, Down (2012) conducted a study of Finnish university students and discovered that male students were more risk-taking and proactive than female students. Their findings also showed that students with prior work experience were more innovative and proactive than students without prior work experience. A similar study by

Robinson, Stubberud (2014) on elements of entrepreneurial orientation and their relationship to entrepreneurial intent at a university in the North-eastern United States, revealed an increased rating of the risk-taking dimension towards entrepreneurial intention. Discovery was also made on the positive relationship risk-taking had on the entrepreneurial intention of students in a study conducted by Abubakar et al. (2019) on the relevance of entrepreneurial orientation to students' entrepreneurial intention: evidence from Federal University Dutse (FUD). However, Koe (2016) found that the risk-taking dimension did not affect entrepreneurial intention. Based on the above claims, Hypothesis 2a (H2a) was developed.

H1a: Risk-taking positively affects entrepreneurial intention among students.

### **2.3.2 Innovativeness and Entrepreneurial Intention**

Innovativeness is the willingness to experiment and introduce newness and novelty creative processes aimed at creating new products and services, as well as new technological processes (Dess, Lumpkin 2005). In other words, individuals who can innovate are far more confident in the success of their ideas (Martins, Perez 2020). Research on Individual Entrepreneurial Orientation (IEO) of University Students, Koe (2016) concluded that overall students scored the highest for innovativeness." Individuals who are creative and innovative are always on the lookout for entrepreneurial opportunities and are more likely to pursue them (Galvão et al. 2018, Gurel et al. 2010). However, Kropp et al. (2008) found that the entrepreneurial orientation component of innovativeness is not a factor in the decision to start a business. Hence, the Hypothesis H1b was suggested.

H1b: Innovativeness positively affects entrepreneurial intention among students.

### **2.3.3 Pro-activeness and Entrepreneurial Intention**

Pro-activeness has been defined by Lumpkin, G. Tom, Dess (1996) as the act of anticipating future issues, needs, or changes. That is emphasizing taking initiative. Bolton & Lane (2012)

defined pro-activeness at the individual level as a forward-thinking, opportunity-seeking mindset characterized by new products and services that are ahead of the competition and act in anticipation of future demand. Koe (2016) assessed the level of entrepreneurial intention among university students and the impact of individual entrepreneurial orientation on entrepreneurial intention and concluded that the quality of pro-activeness was found to have a positive effect on university students' entrepreneurial intention. Similarly, Kropp et al. (2008) investigated the interrelationships between three elements of entrepreneurial orientation (innovation, pro-activeness, and risk-taking), the entrepreneur's age and education, and the international entrepreneurial business venture start-up decision and discovered that proactiveness is positively related to start-up business decision. Hence, Hypothesis 1c (H1c) was developed.

H1c: Pro-activeness positively affects entrepreneurial intention among students.

#### **2.3.4 Competitive Aggressiveness and Entrepreneurial Intention**

Competitive aggressiveness at the firm level is defined as the company's ability to directly and fiercely challenge its competitors to gain entry or improve its position (Lumpkin, G. Tom, Dess 1996). Individuals, such as students, can easily be identified as aggressive by the behaviour they exhibit. Bolton, Lane (2012) argued that some students are extremely competitive and strive to be the best in class, whereas others are content to simply pass the class. Lee et al. (2011) investigated university students from five countries consisting of India, Korea, Malaysia, Fiji, and the U.S using a four-dimensional entrepreneurial orientation model. They discovered that Indian students were found to have the highest level of “competitive aggressiveness”. However, the Korean group had a significantly lower mean score on this dimension than the other four groups. A study on individual entrepreneurial orientation by Vogelsang (2015) revealed that the competitive aggressiveness dimension did not hold up at the individual level, possibly because this trait is a learned behaviour that may develop more

as individuals mature or only applicable when they face a more competitive environment. The previous researchers' mixed results demonstrated the need to investigate the effect of competitive aggressiveness on the entrepreneurial intention of students. As a result, Hypothesis 1d (H1d) was proposed:

H1d: Competitive aggressiveness positively affects entrepreneurial intention among students.

### **2.3.5 Autonomy and Entrepreneurial Intention**

Autonomy is the ability of a group or individual to act independently to bring their vision or business idea to fruition without being hindered by other factors (Lumpkin, G. Tom, Dess 1996). This means that autonomy is used to assess an individual's or organization's level of self-direction in the pursuit of opportunities. The autonomy dimension has been linked to the ability to work independently, take actions, and make decisions, as well as delegation and empowerment (Lumpkin, G. Thomas et al. 2009, Tarabishy et al. 2005).

Bolton, Lane (2012) purported that some students prefer working alone while others prefer the group's comfort. Lee et al. (2011) examined university students from five countries using a four-dimensional entrepreneurial orientation model. They concluded that the groups from India and Malaysia have higher mean scores on the autonomy dimension than the groups from the United States, Korea, and Fiji. As such, the Hypothesis 1e (H1e) was constructed:

H1e: Autonomy positively affects entrepreneurial intention among students.

### **2.3.6 University support and Entrepreneurial Intention**

It has been discovered that the role universities play in fostering entrepreneurship could be one of the most prominent factors in encouraging the entrepreneurial intention of students (Trivedi 2016). This can be accomplished by offering a variety of supports in the form of guidance, training programmes, and entrepreneurship courses to encourage students to pursue selfemployment (Trivedi 2016). Anjum et al. (2020) defined university support in terms of



engaging role models in training, providing an entrepreneurial support network and encouraging student business plan competitions. Similarly, university support was found to have an indirect impact on academic entrepreneurial intentions (Feola et al. 2019). Bazan et al. (2019) researched to better understand the impact of the university's environment and support system on the precursors of entrepreneurial intention among Memorial University students. The findings showed that the support system at Memorial University had a significant positive relationship with students' perceived behavioural control. Additionally, a study by AzilaGbettor, Abiemo (2020) in a higher education setting, examined the relationships between academic self-efficacy, study engagement, and perceived lecturer support and concluded that academic self-efficacy and perceived lecturer support are both positive and significant predictors of study engagement. Furthermore, the relationship between the perception of university support and the entrepreneurial intention was found to be positive in a study by (Nasiru et al. 2015). Perceived university support was discovered to indirectly relate to students' intentions to start their businesses (Liu, Gorgievski, Qi & Paas 2022). As a result, Hypothesis

2 (H2) was developed.

H2: university support positively affects entrepreneurial intention among students.

### **2.3.7 Entrepreneurial Orientation, University support and Entrepreneurial Intention**

Anjum et al. (2020) in a study investigated the impact of perceived creativity disposition on entrepreneurial attitude and intentions using the theory of planned behaviour and the moderation mechanism of perception of university support on perceived creativity disposition and entrepreneurial intentions. The findings showed that the relationship between perceived creativity disposition and entrepreneurial intention is moderated by the perception of university support. Additionally, perceived university support was found to be significant in moderating

the impact of entrepreneurial literacy on entrepreneurial intention (Alfianti, Mulyono & Nurhidayati, 2021). The moderating role of perceived university support on the relationship between entrepreneurial passion and the entrepreneurial intention was further discovered in a study by (Anjum, Heidler, Amoozegar & Anees, 2021). Based on the above claims, Hypothesis 3 (H3) was developed.

H3: university support positively moderates the relationship between entrepreneurial orientation and entrepreneurial intention.

## **2.4 Conclusion**

The importance of entrepreneurship has been highlighted in this chapter, and it has been guided by a well-established theory. This chapter also provided a review of entrepreneurial orientation and its dimensions, university support, as well as entrepreneurial intention, which led to the development of a conceptual framework and hypothesis to guide the direction of the thesis.

## **CHAPTER 3 METHODOLOGY**

This chapter describes the research methods used in the study. The main goal of a research methodology is to achieve consistency between the underlying research philosophy and objectives of the research (Beattie et al. 2005). This chapter, therefore, provides a detailed description of how the research objectives were achieved, and the hypothesis tested. The chapter also covers the research approach, research philosophy, research design, populations, sampling techniques procedures, and sample size. The chapter further presented the data collection method, measurement of constructs, instrument validity and reliability, and data analysis. The logic behind the methods and justification for the adoption of the various techniques was also covered.

### 3.1 Research Approach

There are three types of research approaches: qualitative, quantitative, and mixed-method (Lewis 2015). A quantitative approach was employed in this study. The use of quantitative research in social science and entrepreneurship research is well established (Karimi et al. 2016, Sánchez 2013). Saunders et al. (2016) stated that quantitative research focuses on the measurable aspects of a problem to determine its prevalence by looking for generalizable results within a larger population and analysing data to test hypotheses. A quantitative approach entails analysing existing theories to assist the researcher in deciding what to test and what methods to employ in the research strategy. This procedure ensures that results can be replicated in different contexts (Bell, E. et al. 2018, Karimi et al. 2016).

### 3.2 Research Philosophy

Research philosophy is a set of beliefs and assumptions about the evolution of knowledge that, in the end, dictates how the study will be conducted (Burns, Burns 2008). The research philosophy describes how new information is generated in a specific subject. That is, it discusses the relationship between information and information-gathering strategies (Saunders et al. 2016). It also emphasizes a specific research technique for addressing the research problem. Burrell, Morgan (2017) stated that at every stage of the study, several types of philosophical assumptions are applied. These include assumptions about knowledge (epistemological assumptions), assumptions about the reality of encounters in research (ontological assumptions), and the researcher's values that are influential and valuable in the research (axiological assumptions).

Epistemology concerns knowledge assumptions that are, what constitutes acceptable, valid, and legitimate knowledge, and how we can communicate knowledge to others (Burrell,

Morgan 2017). This wide range of acceptable epistemologies provides you with a much broader range of methods than you would find in many other academic disciplines. For instance, the (positivist) assumption that objective facts provide the best scientific evidence will almost certainly lead to the use of quantitative research methods.

Ontology is concerned with assumptions about the nature of reality. Ontological assumptions influence how one sees and studies their research objects. Organizations, management, individual work lives, and organizational events and artefacts are examples of these objects. As a result, your decision on what to research for your research project is based on one's ontological assumption (Saunders et al. 2016).

Axiology concerns value judgments that direct the choice among numerous alternative stages in investigation procedures (Heron 1996). Similarly, Saunders et al. (2016) refer to axiology as the role of values and ethics in the research process. This includes questions about how we, as researchers, deal with our values as well as the values of our research participants. Heron (1996) argued that researchers demonstrate axiological skills by being able to articulate their values as a basis for making decisions about what research to conduct and how to conduct it.

Saunders et al. (2016) purported that there are five research paradigms, namely, positivism, interpretivism, realism, postmodernism, and pragmatism. Positivism, which is associated with quantitative methodology, is the most commonly used of these in business research (Panwar Seth 2020). As such this research adopts the Positivism philosophy.

### **3.2.1 Positivism**

The positivism philosophy was proposed and developed by Auguste Comte in the midnineteenth century. Positivism is a philosophical stance associated with natural scientists



that entail working with observable social reality to produce law-like generalizations (Saunders et al. 2016). According to positivism philosophy, only phenomena that can be observed and measured will result in the generation of credible and meaningful data (Pham 2018). Additionally, a positivist researcher might develop hypotheses based on existing theories. As a positivist, one would also strive to remain objective and detached from one's research and data to avoid biasing one's findings (Crotty 2020). A positivist's epistemology assumption deals with the scientific procedure and facts that can be seen and measured to make a law-like generation. The kind of contribution to knowledge that a researcher can make as a result of their research is determined by the epistemological assumptions one makes. Furthermore, the research objects and phenomena the researcher focuses on, as well as how they see and approach them, are determined by the ontological assumptions one makes. A researcher's axiological assumption concerns the value-free research the researcher undertakes. That is the researcher should be detached, independent, and maintain an objective stance.

Positivists typically employ methods such as structured interviews, questionnaires, and official statistics to generate reliable data that other researchers can replicate (Saunders et al. 2016). Additionally, Hasan (2016) stated that the main characteristic of positivism is that knowledge can only be obtained through the five senses. Given that, Blumberg et al. (2008) claimed that positivism has three characteristics: (1) that research is value-free, (2) that the social world exists externally and can be viewed objectively, and (3) that the researcher and the research are independent of one another. This study investigates the effect of entrepreneurial orientation and university support on students' entrepreneurial intention with the interaction effect of university support and adopts a positivist approach.

### 3.3 Study Design

A research design offers a thorough overview of how the investigation was carried out. According to Tripathy, Tripathy (2015) research design offers the master strategy for data collecting, measurement, and analysis. A good research design has all of its components related logically. A good study design ensures efficiency and dependability while reducing errors in the research process. Bell, et al. (2018) identified five important research designs: experimental, cross-sectional, longitudinal, case study, and comparative. This study used a survey design, which is the most common type of cross-sectional design (Bell, et al. 2018). A cross-sectional survey is a quantitative research approach in which data is gathered on a sample or population at a particular moment in time mostly using a questionnaire or structured interview (Bell, et al. 2018). The obtained quantitative or quantifiable data is then utilized to assess characteristics or identify patterns of association in large data. Additionally, data from a cross-sectional survey may be utilized to generate models and offer causes for the particular relationship between variables.

Because of the large size of the population and the potential for giving information on the entrepreneurial intention of students, a cross-sectional survey methodology was used in this study. Longitudinal survey design, which is an option, was not explored due to the time constraints of this thesis. A longitudinal survey is one in which data is collected from the same population or from the same cohort across time (Saunders et al. 2016). Longitudinal surveys are best used to track trends or changes in behaviour over time, and so are not appropriate for the goals of this study.

### **3.4 Population**

According to Blumberg et al. (2008), a population is the complete set of study items from which a sample can be drawn. Similarly, Saunders et al. (2016) claimed that a population is a group of people, variables, and objects gathered for a specific study. These variables and individuals under study share similar characteristics, and they represent the study's available population. The population for this research consists of all students in Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED). The reason is that they are given entrepreneurial training at the university to help develop skilled manpower for job creation and economic development. Given that, it is believed the students would have a high positive mindset to start their businesses instead of waiting to be employed

### **3.5 Sampling and Sampling Techniques**

Sampling is used to gather information about a population (Gay, Airasian 2000). There are two ways of sampling; probability sampling and non-probability sampling (Tyrer, Heyman 2016).

Shorten, Moorley (2014) stated that probability sampling methods include a random selection component, which ensures that each case in the population has an equal chance of being chosen. The common probability approaches include random sampling, systematic sampling, stratified sampling, and cluster sampling (Berndt 2020). Non-probability sampling techniques on the other hand adopt a strategy in which the sample is chosen based on the researcher's judgment rather than through random selection (Elfil, Negida 2017). Non-probability sampling methods commonly used include quota sampling, purposive sampling, self-selection sampling, and snowball sampling.

The probability sampling technique was used in this study. Berndt (2020) stated that probability sampling methods are most effective when the population of interest is large and variations.



Additionally, probability sampling is the most widely used method for reaching robust and reliable conclusions (Brick 2014). The stratified random sampling technique was used specifically to sample the respondents (Berndt 2020). This was used to embrace distinct categories of the population. The sample frame was organized into separate "strata" that is, the different courses in the Faculty of Business Education. Each stratum was then sampled as an independent sub-population, out of which individual students were randomly selected. This ensured proportionate representation from all the programmes in the faculty.

### 3.6 Sample Size

After deciding on a sampling technique, the sample size is an important consideration. A survey's sample size most commonly refers to the number of participants chosen from whom data was gathered (Creswell, 2009). The characteristics of the sample size can then be used to conclude the population (Arora 2016). Collis, Hussey (2013) purported that, larger sample size is preferable for answering the research question to better represent the population. Similarly, Saunders et al. (2016) argued that the possibility of mistakes when generalizing a sample's conclusions to a population is negligible when using a large sample. Furthermore, larger data sets will aid in improving the quality of the research outcome, which will have implications for generalizability and reliability (Truscott et al. 2010). Saunders et al. (2016) provided some recommendations for estimating sample size. These factors include the researcher's experience and confidence in the data obtained; the study's tolerance for error; the sort of analysis to be performed; and the size of the population.

Hence, the sample size of the study was determined using the procedure suggested in (Krejcie & Morgan, 1970). The total population of the Faculty of Business Education in AAMUSTED is 3,085. The minimum sample size for a population of 3,000 is 341 (Krejcie & Morgan, 1970).



Thus, data was successfully obtained from 728 respondents for this study.

### **3.7 Pilot Test**

The pilot test was conducted at the main university library with the help of library assistants. Fifteen (15) questionnaires were presented to students selected at random to pilot the data to ensure that the questions were clarified and that they addressed the study's aim and objectives. This method improves the construct validity and reliability (Saunders et al. 2016). The questionnaire had a few lines that allowed the respondents to state the questions that were not clear. It took three days to collect the questionnaires back. Out of the fifteen (15) questionnaires distributed, twelve (12) were received and completed. Additionally, there were no reports on the ambiguity of questions revealing a clear understanding of the questions.

### **3.8 Data Collection Method**

Following the research design, a questionnaire was the main instrument employed to collect data for the study (Bell et al. 2018, Saunders et al. 2016). Also, the literature review in Chapter two revealed that most similar studies made use of the questionnaire. Furthermore, the questionnaire was adopted for the study because it can reach a large number of respondents and can generate quantifiable and empirical data that will be valuable for this study (Saunders et al. 2016). Additionally, a questionnaire as a data collection instrument has the advantage of better data representation. Furthermore, questionnaires provide the benefits of statistical analysis in the form of tables, graphs, and charts for demographic data (Ogunsade 2017). A total of 950 self-administered questionnaires were distributed to randomly selected students from the Faculty of Business Education with the assistance of Faculty Officers. As a result, every student who was at the Faculty of Business Education had an equal chance to be chosen as a member of the final sample. Data was collected four weeks after the questionnaire was

distributed. A total of 810 responses representing an 85.2 % response rate were received, with 728 of them being used.

The design of the questionnaire was based on the context of the study with guidelines from already validated scales from related studies (Anjum et al. 2020, Saeed et al. 2015, Molaei et al. 2014, Keat et al. 2011, Liñán, Chen 2009, Lumpkin, G. Tom, Dess 1996).

The questionnaire was divided into four (4) sections (A to D) and consisted of 60 items. All the items were on a scale measurement. The items were largely on a seven-point Likert-type scale (strongly disagree=1, slightly disagree= 2, disagree=3, neutral=4, agree=5, slightly agree=6 and strongly agree=7). The Likert-type scale is also important to show the degree of responses per the purpose of the research. The seven-point scale was chosen because such a scale with a middle (neutral response) ensures that respondents who are not sure of their satisfaction are not forced to make a definite choice that does not represent what they feel. The Likert scale is also easily understood and has been extensively employed in social science research.

A copy of the study's questionnaire is provided in Appendix 1. Section A of the questionnaire sort to examines the entrepreneurial orientation of the students. Section A, therefore, contains items on risk-taking (RT), innovativeness (IN), pro-activeness (PA), competitive aggressiveness (CA), and autonomy (AU), while section B focused on university support (US), section C on the entrepreneurial intention (EI) of the students and the final section D is on the demographic information about the respondents.

### 3.9 Measurement of the Constructs

In this study, entrepreneurial orientation is the independent variable which includes Risktaking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy. University support serves as both the independent variable and the moderator variable whiles entrepreneurial intention is the dependent variable.

A questionnaire containing a combination of the five entrepreneurial orientation dimensions, Risk Taking, Innovativeness, Pro-activeness, Competitive Aggressiveness & Autonomy, was used for the research with a total of 38 questions to measure entrepreneurial orientation.

Measurement of the construct was adapted from (Lumpkin, Tom, Dess 1996, Bolton, Lane 2012). The entrepreneurial intention was measured using a validated scale (Liñán, Chen 2009). In all, ten questions were used to measure entrepreneurial intention. University support was also measured using ten items adapted from (Keat et al. 2011, Autio et al. 1997). **Table 3.1** displays the variables of the study, their measurement items and sources.

**Table 3.1 Variables, measurement items and sources**

| Variable                   | Number of items | Source                                    |
|----------------------------|-----------------|-------------------------------------------|
| Risk-taking                | 7               | Lumpkin & Dess (1996) Bolton, Lane (2012) |
| Innovativeness             | 8               | Lumpkin & Dess (1996) Bolton, Lane (2012) |
| Pro-activeness             | 8               | Lumpkin & Dess (1996) Bolton, Lane (2012) |
| Competitive Aggressiveness | 7               | Lumpkin & Dess (1996)                     |
| Autonomy                   | 8               | Lumpkin & Dess (1996)                     |
| University support         | 10              | Keat et al. (2011), Autio et al. (1997).  |
| Entrepreneurial intention  | 10              | Liñán & Chen, (2009)                      |

### 3.10 Data Analysis

According to Derry et al. (2010), data analysis entails editing, coding, classification, tabulation, and graphically presenting data. This is further advanced by Bergh et al. (2010) who indicated that data analysis is concerned with planning and gathering data to make testing easier. Saunders et al. (2016) purported that, collected data should be analyzed to test theory-driven hypotheses in a quantitative study.

In this study data analysis was done using Structural Equation Modelling (SEM) with the help of Statistical Package for the Social Sciences (SPSS) and Analysis of Moments Structures (AMOS) software version 21 to determine the relationship between the entrepreneurial orientations, university support on students' entrepreneurial intention.

The data analysis was done in two parts, using descriptive and inferential statistics. The mean, standard deviation, maximum and minimum values of each variable are calculated using descriptive statistics. The descriptive statistics also show the data's skewness and kurtosis. This provides summaries of the data collected and serves as the foundation for further analysis.

Confirmatory Factor Analysis (CFA), Pearson Product-Moment Correlation, and SEM all fall under inferential statistics. The CFA was used for measuring item validation, while the Pearson product-moment correlation was used to determine the direction and strength of the relationship between students' entrepreneurial orientation, university support and entrepreneurial intention. Pearson product-moment was also used to assess the possibility of multicollinearity. The SEM was used to test the hypothesis.

### **3.10.1 Structural Equation Modelling**

Structural Equation Modelling is a statistical method that examines the relationships between multiple variables at the same time (Collier 2020). SEM, often referred to as a Second Generation Method, can incorporate latent constructs with multiple indicators as well as the observed variables into the model at the same time, and more importantly, the inter-relationship between them is analysed concurrently (Awang 2012). SEM is very similar to multiple regression, but it is much more robust and flexible in its analysis (Collier 2020). This is because: (1) It allows you to examine the impact of predictor variables on multiple dependent



variables at the same time; (2) It allows you to account for measurement error and even addresses prediction error; and (3) It is capable of testing an entire model rather than just individual relationships. This is in contrast to similar techniques such as regression, which can only test one dependent variable at a time, does not account for measurement error, and focuses on individual relationships rather than the collective whole (Collier 2020).

Additionally, Saga, Kunitomo (2016) stated that SEM allows a researcher to build a conceptual model of the relationships between variables using path models. This means that it enables the user to examine the relationships between many latent and observed variables. Furthermore, SEM is based on the concept of drawing a model that represents relationships between variables. Given that, symbols are used to represent variables and their relationships including errors (Collier 2020).

There are two steps in the SEM procedure. In the first stage, the measurement model is evaluated for unidimensionality, validity, and reliability. The structural model is examined in stage two in order to validate the proposed model's hypothesized relationships (Cheung 2005).

### **3.10.2 Evaluating the Fit of the Model**

The model fit test is used to determine how well the model's overall structure fits the data. That is, how well the sample data fit the theoretical model (Collier 2020). Byrne (2013) stated that the goodness-of-fit indices and coefficient parameter estimations define how well the SEM model fits. Additionally, Hair et al. (2010) indicated that there are three types of fit measure indices in structural equation modelling: absolute fit indices, incremental fit indices, and parsimonious fit indices. As a result, Collier (2020) further advanced that, the most used model fit indices include the chi-square to the degree of freedom ( $X^2/df$ ), Comparative Fit Index

(CFI), Tucker Lewis Index (also called the Non-Normed Fit Index) (TLI), Incremental Fit Index (IFI) and Root Mean Square Error of Approximation (RMSEA). **Table 3.2** shows the Goodness of Fit Statistics in SEM for each category.

**Table 3.2 Goodness of Fit Statistics in SEM for each category**

|   | Name of category | Name of Index | Level of acceptance |
|---|------------------|---------------|---------------------|
| 1 | Absolute fit     | Chisq         | P> 0.05             |
|   |                  | RMSEA         | < 0.08              |
|   |                  | GFI           | > 0.90              |
| 2 | Incremental fit  | CFI           | > 0.90              |
|   |                  | NFI           | > 0.90              |
|   |                  | TLI           | >0.90               |
|   |                  | NFI           | >0.90               |
| 3 | Parsimonious fit | Chisq/df      | <3.0                |

Source: Hair et al. (1995, 2010)

### 3.10.3 Measurement Model (Confirmatory Factor Analysis)

Confirmatory Factor Analysis (CFA) is a statistical technique that examines how well your indicators measure your unobserved constructs and whether your unobserved constructs differ from one another in any way (Collier 2020). The CFA was performed with AMOS version 21 to identify problematic construct measures. To avoid violating the minimum sample size to parameter ratio, the scales were initially tested on subjects (Boso et al. 2013). The subjects included entrepreneurial orientation dimensions. That is risk-taking (seven items), innovativeness (eight items), pro-activeness (eight items), competitive aggressiveness (seven items), and autonomy (eight items). University support (ten items) and entrepreneurial intention (ten items).

The CFA must be performed for all latent constructs in a model by the researcher to ensure unidimensionality. The researcher could run the CFA for each measurement model separately or as part of a pooled CFA. When the measurement items have adequate factor loadings for the

relevant latent construct, unidimensionality is attained. To ensure a measurement model's unidimensionality, any item with a low factor loading ( $\leq 0.5$ ) should be removed. The factor loading for a newly developed item should be 0.5 or higher, and the factor loading for an established item should be 0.6 or higher (Collier 2020).

In this study, the deletion was done one item at a time, with the item with the lowest factor loading being deleted first. After removing an item, the model was run again. This iteration process was repeated until the unidimensionality requirement was achieved. **Table 3.3** displays the items that did not pass the CFA test.

**Table 3.3 Variable items that did not pass the CFA test**

| Variable                   | Item that did not pass the CFA test |
|----------------------------|-------------------------------------|
| Risk-taking                | RT 2                                |
|                            | RT 3                                |
| Innovativeness             | IN 1                                |
| Competitive Aggressiveness | CA 4                                |
|                            | CA 5                                |
|                            | CA 6                                |
| Autonomy                   | AU 1                                |
|                            | AU 7                                |
| University support         | US 2                                |
|                            | US 3                                |
|                            | US 5                                |
| Entrepreneurial Intention  | EI 1                                |
|                            | EI 9                                |
|                            | EI 10                               |

The exact model fit was then assessed. Figure 3.1 represent the measurement model whiles **Table 3.4** displays the final measurement model fit indices.



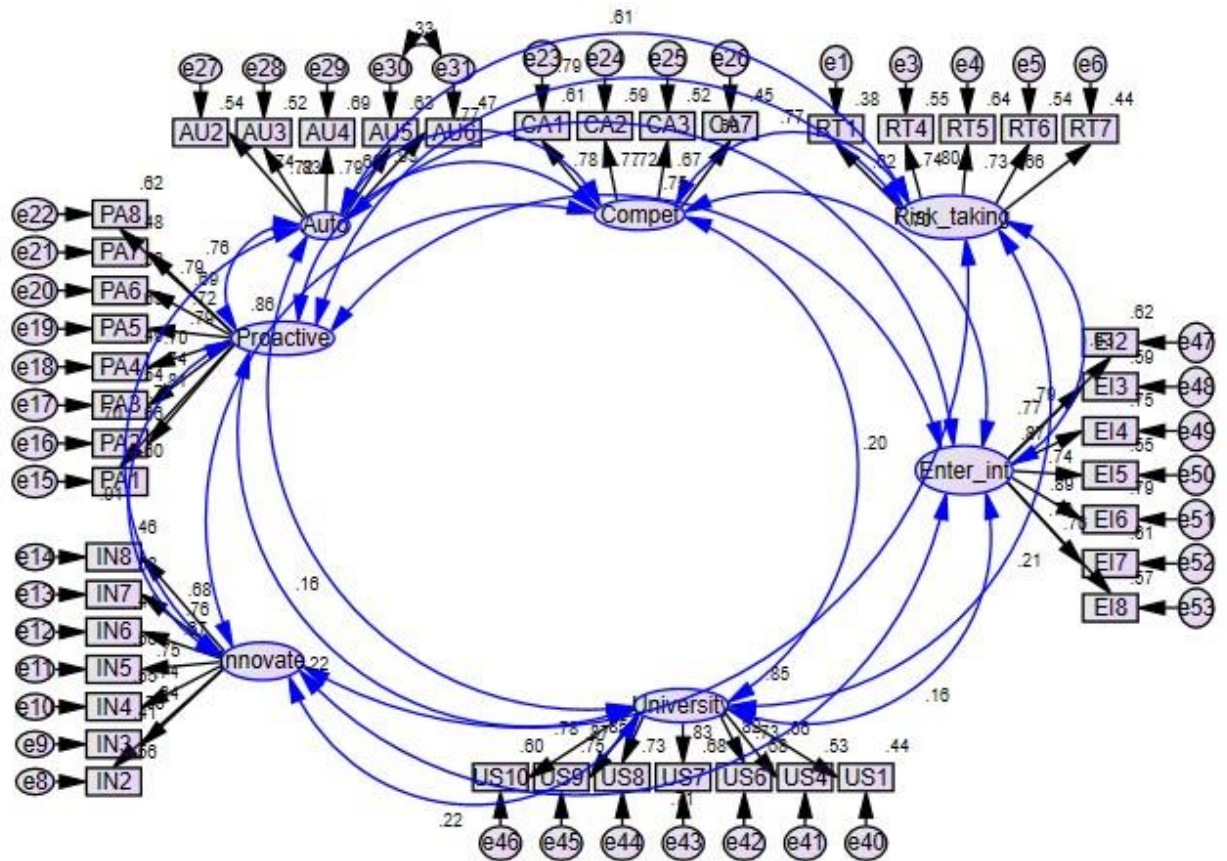


Figure 3.1 Measurement Model

Table 3.4 Fit indices for the measurement model

| Name of index | Level of acceptance | Results                                    |
|---------------|---------------------|--------------------------------------------|
| Chisq/df      | < 3.0               | $X^2=1864.42$ , $d/f=838$ $X^2 / d/f=2.22$ |
| CFI           | > 0.90              | 0.95                                       |
| TLI           | > 0.90              | 0.95                                       |
| IFI           | > 0.90              | 0.95                                       |
| RMSEA         | < 0.08              | .041                                       |

The models' chi-square to the degree of freedom ( $X^2/df$ ) is 2.22 indicating a good fit. Malhotra et al. (2014) and Byrne (2013) purported that a value of  $X^2 /df$  less than 3.00 indicates a good fit. Furthermore, the Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Incremental Fit Index (IFI) and the Root Mean Square Error of Approximation (RMSEA) were greater than the recommended value of  $\geq 0.90$  (Collier 2020).



### 3.10.4 Validity and Reliability

Validity refers to the extent to which an instrument precisely measures the characteristics of a concept (Awang 2012). There are three types of validity namely Construct validity, Convergent validity and Discriminate validity.

Construct validity is also known as content validity or face validity (Collier 2020). The extent to which the measures adequately measure the concept is referred to as content validity (Bougie, Sekaran 2019). This validity is obtained when the Fitness Indexes for a construct attain their required level (Awang 2012). Construct validity further ensures that the indicators asked in a survey appear to measure the specified construct.

Convergent validity refers to the relationship of the scale to other variables and measures of the same construct. The validity of convergence can also be verified by calculating the Average Variance Extracted (AVE) for each configuration. Fornell, Larker (1981) stated that the Average Variance Extracted (AVE) for each construct must be calculated to assess convergent validity. An AVE is calculated by adding the  $R^2$  values of each indicator in a construct and dividing by the total number of indicators. The value of the AVE must be 0.5 or higher for the effectiveness of convergence to be achieved (Awang 2012). This kind of validity determines whether all the indicators in a particular construct measure "the same thing".

Discriminate validity determines whether different construct measurements are unrelated. These are a set of indicators that are supposed to measure one construct and are different from the other constructs. Discriminant validity examines if your construct is unique and different from other potential constructs of interest (Collier 2020).

Reliability on the other hand refers to the ability of an instrument to consistently measure the attributes of a construct or variable (LoBiondo-Wood, Haber 2014). Heale, Twycross (2015) advanced that the consistency of measurement is referred to as reliability. This means that the measurement model should measure the intended latent construct (Awang 2012). Examining the reliability of a measurement model could be done through internal reliability and composite reliability. Internal reliability is achieved when Cronbach's Alpha coefficient is greater than 0.7 (Awang 2012). Composite reliability is also used to assess the reliability of a measurement model. A value of composite reliability ( $CR > 0.7$ ) is required in order to attain composite reliability for a construct. Composite reliability is calculated using factor loadings from a confirmatory factor analysis (Collier 2020).

The study's instrument was developed based on a thorough review of the literature and pilot tested. This was done to ensure the content's validity (Cao et al. 2015). In determining the reliability of the measures used to measure the relevant construct, Cronbach Alpha was used. The results of the reliability test as well as the Composite Reliability (CR) and Average Variance Extracted (AVE) are presented in **Table 3.5**.

The results indicate that alpha values ranging from 0.82 to 0.94 are all satisfactorily above the minimum cut-off limit of 0.70 (Bagozzi, Yi 2012). This demonstrates that the measures used to assess the respective constructs had high internal consistency (Field 2009). The results from **Table 3.5** further indicate that convergent validity was achieved in the model. Significant factor loadings achieve convergent validity. Positive (+) values for factor loadings ranged from 0.618 to 0.886.

**Table 3.5 Confirmatory Factor Analysis (CFA) summary for all constructs**

| code                                                                         | Measures/Constructs                                 | Loading (t-value) |
|------------------------------------------------------------------------------|-----------------------------------------------------|-------------------|
| <b>Risk taking (<math>\alpha = 0.86</math>; CR = ;0.838, AVE= 0.510)</b>     |                                                     |                   |
| RT1                                                                          | I take risks in exchange for benefits               | 0.618(***)        |
| RT4                                                                          | No matter what I believe I will make it             | 0.740(15.97)      |
| RT5                                                                          | I like to venture into new business                 | 0.801(16.84)      |
| RT6                                                                          | I take a great deal of tolerance in new venture     | 0.735(15.90)      |
| RT7                                                                          | I act “boldly” where risk is involved               | 0.666(14.78)      |
| <b>Innovativeness (<math>\alpha = 0.89</math> ; CR = 0.877; AVE = 0.507)</b> |                                                     |                   |
| IN2                                                                          | I like new ideas when the opportunity is given      | 0.744(***)        |
| IN3                                                                          | I try new ideas that are often unusual              | 0.641(17.22)      |
| IN4                                                                          | I can identify creative ideas                       | 0.741(20.15)      |
| IN5                                                                          | I have innovative insight                           | 0.746(20.30)      |
| IN6                                                                          | I favour experimentation and original approach      | 0.666(17.94)      |
| IN7                                                                          | I like to try new methods of doing things           | 0.760(20.71)      |
| IN8                                                                          | I prefer unique things instead of the masses        | 0.680(18.35)      |
| <b>Pro-activeness (<math>\alpha = 0.91</math>; CR = 0.912; AVE = 0.567)</b>  |                                                     |                   |
| PA1                                                                          | I like to face future changes                       | 0.774(***)        |
| PA2                                                                          | I prefer to “step up” rather than someone else.     | 0.813(23.99)      |
| PA3                                                                          | I am ever ready to undertake any opportunity        | 0.735(21.18)      |
| PA4                                                                          | I act in anticipation of future problems            | 0.698(19.90)      |
| PA 5                                                                         | I lookout for new ways to improve my life           | 0.792(23.22)      |
| PA6                                                                          | I act ahead in predicting future needs              | 0.720(20.67)      |
| PA7                                                                          | I take any business opportunity that comes my way   | 0.694(19.78)      |
| PA8                                                                          | I take up initiatives when the opportunity is given | 0.789(23.10)      |
| <b>Comp. Aggre (<math>\alpha = 0.84</math> ; CR = 0.825; AVE =0.541)</b>     |                                                     |                   |
| CA1                                                                          | I take a bold approach when competing               | 0.780(***)        |
| CA2                                                                          | I have an adequate level of capabilities to compete | 0.767(21.79)      |
| CA3                                                                          | I find ways to differentiate myself from others     | 0.719(20.17)      |



|                                                                                       |                                                     |              |
|---------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|
| CA7                                                                                   | I can strategically compete well with competitors   | 0.674(18.70) |
| <b>Autonomy (<math>\alpha = 0.86</math>; CR = 0.868; AVE = 0.570)</b>                 |                                                     |              |
| AU2                                                                                   | I take up any business opportunity                  | 0.739(***)   |
| AU3                                                                                   | I can effect changes in my decisions at any time    | 0.721(18.77) |
| AU4                                                                                   | I have the liberty to get things done my way.       | 0.831(21.63) |
| AU5                                                                                   | I have the freedom to decide on my own              | 0.792(20.57) |
| AU6                                                                                   | I have the authority to act in my best interest     | 0.684(17.58) |
| <b>University Support (<math>\alpha = 0.93</math>; CR = 0.921; AVE = 0.629)</b>       |                                                     |              |
| US1                                                                                   | My university organizes business idea competitions  | 0.661(***)   |
| US4                                                                                   | My University helps develop ideas for new start-ups | 0.728(17.56) |
| US6                                                                                   | My Uni. arranges entrepreneurs experience-sharing   | 0.820(19.40) |
| US7                                                                                   | My university helps build a network for start-ups   | 0.825(19.48) |
| US8                                                                                   | My University mentors and advices                   | 0.852(20.00) |
| US9                                                                                   | My University source ideas from professional groups | 0.868(20.29) |
| US10                                                                                  | My university rewards innovative ideas              | 0.779(18.58) |
| <b>Entrepreneurial Intention <math>\alpha = 0.94</math>; CR = 0.925; AVE = 0.639)</b> |                                                     |              |
| EI2                                                                                   | My greatest achievement is to have my business      | 0.786(***)   |
| EI3                                                                                   | I will start my business after graduation           | 0.768(22.60) |
| EI4                                                                                   | I have a strong desire to own my own business       | 0.866(26.43) |
| EI5                                                                                   | I am prepared to own a small business               | 0.743(21.70) |
| EI6                                                                                   | To own a business is an attractive idea to me       | 0.886(27.28) |
| EI7                                                                                   | I intend to start a business in the coming years    | 0.781(23.11) |
| EI8                                                                                   | I desire to be self-employed                        | 0.758(22.23) |

The discriminant validity was determined using the procedure described by (Fornell, Larker 1981). This entails comparing the Average Variance Extracted (AVE) to the shared variances (squared correlation). The correlations, shared variances and AVE of the constructs are shown in **Table 3.6**. The AVEs are the bolded values in the major diagonal and the shared variances are on top of the major diagonal

**Table 3.6 Correlations, Inter-construct AVE and Shared variance**

|    | RT          | IN          | PA          | CA          | AU          | US          | EI          |
|----|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| RT | <b>.510</b> | .392        | .481        | .417        | .289        | .034        | .313        |
| IN | .626**      | <b>.507</b> | .462        | .449        | .376        | .042        | .404        |
| PA | .694**      | .68**       | <b>.567</b> | .476        | .472        | .044        | .471        |
| CA | .646**      | .67**       | .69**       | <b>.541</b> | .436        | .033        | .382        |
| AU | .538**      | .613**      | .687**      | .660**      | <b>.570</b> | .023        | .288        |
| US | .186**      | .205**      | .209**      | .182**      | .152**      | <b>.629</b> | .023        |
| EI | .560**      | .636**      | .686**      | .618**      | .537**      | .150**      | <b>.639</b> |

If the AVE for each construct is greater than the shared variance, discriminant validity is achieved (Fornell, Larker 1981). The findings demonstrated that discriminant validity was achieved. This is because all AVE of each construct is greater than their shared variances.



### 3.10.5 Correlation Analysis

The relationship between the measures was determined using Pearson's moment correlation. The results of the correlation analysis are also presented in Table 3.6. The results show a significant positive correlation between all measures and entrepreneurial intention. The correlation results also demonstrated that multicollinearity was minimized. According to Pallant (2011), correlation coefficients greater than 0.8 between independent variables indicate the presence of multicollinearity. The correlation coefficients between the variables in this study ranged from 0.186 to 0.694, which are all below the threshold suggested in (Pallant 2011).

### 3.11 Ethical Consideration

Various stages of business and management research raise ethical concerns (Bell, E. et al. 2018). Ethical issues are critical in research and must not be overlooked (Sarantakos 2012, Bell, E. et al. 2018). As a result, the researcher owed it to the respondents to respect their desires and rights.

To protect the respondents' rights, the following steps were taken. The respondents' consent was obtained so that they could participate fully and voluntarily in the study. Participants were encouraged to participate in the study, however, by explaining the benefits of the study, such as adding to the limited literature and implications for entrepreneurial orientation on students' entrepreneurial intention. The purpose of the study was stated explicitly in the cover letter. Furthermore, the questionnaire was created in such a way that it would not offend any of the participants (Roulston 2010). Because no personal information such as names, addresses, or phone numbers were not requested, the questionnaire items were not intrusive.

## CHAPTER 4 RESULTS AND DISCUSSION

This chapter discusses the study's findings. The chapter is broken down into four sections: Section 1 presents the demographic characteristics of the respondents and the normality results while Section 2 presents the dimensions of entrepreneurial orientation, university support, and entrepreneurial intention. Finally, Sections 3 and 4 present SEM analysis and moderation results respectively.

### 4.1 Demographic characteristics

The gender distribution of respondents is shown in Table 4.1. It was discovered that 67.2 per cent of the respondents were males, while 32.8 per cent were females. This means that the vast majority of respondents were males.

**Table 4.1 Demographic characteristics**

| Variable    | Category      | n   | %    |
|-------------|---------------|-----|------|
| Gender      | Male          | 489 | 67.2 |
|             | Female        | 239 | 32.8 |
| Age (years) | 20 or younger | 95  | 13.0 |
|             | 21 to 30      | 311 | 42.7 |
|             | 31 to 40      | 278 | 38.2 |
|             | 41 to 50      | 44  | 6.1  |

Table 4.1 showed that 13.0% of the respondents were in the age group between 20 and younger. Respondents between the ages of 21 to 30 showed 42.7%. The ages of respondents ranging from 31 to 40 years displayed 38.2%. Respondents with ages 41 years to 50 years revealed

6.1%. This implies that respondents with ages 21 to 30 years dominated the study.

## 4.2 Descriptive Statistics of Risk-taking, Innovativeness, Pro-activeness, Comp Agrees, and Autonomy.

**Table 4.2** describes the descriptive statistics of Entrepreneurial orientation (risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy).

**Table 4.2 Descriptive Statistics of entrepreneurial orientation**

| Items                                                       | Mean        | SD           |
|-------------------------------------------------------------|-------------|--------------|
| RT 1 I take risks in exchange for benefits                  | 5.35        | 1.711        |
| RT 4 No matter what I believe I will make it                | 5.68        | 1.554        |
| RT 5 I like to venture into new business                    | 5.54        | 1.492        |
| RT 6 I take a great deal of tolerance in new venture        | 5.32        | 1.517        |
| RT 7 I act “boldly” where risk is involved                  | 5.19        | 1.478        |
| IN 2 I like new ideas when the opportunity is given         | 5.79        | 1.462        |
| IN 3 I try new ideas that are often unusual                 | 5.19        | 1.521        |
| IN 4 I can identify creative ideas                          | 5.47        | 1.407        |
| IN 5 I have innovative insight                              | 5.42        | 1.478        |
| IN 6 I favour experimentation and original approach         | 5.39        | 1.459        |
| IN 7 I like to try new methods of doing things              | 5.86        | 1.303        |
| IN 8 I prefer unique things instead of the masses           | 5.75        | 1.429        |
| PA 1 I like to face future changes                          | 5.88        | 1.340        |
| PA 2 I prefer to “step up” rather than someone else         | 5.97        | 1.381        |
| PA 3 I am ever ready to undertake any opportunity.          | 5.86        | 1.460        |
| PA 4 I act in anticipation of future problems               | 5.59        | 1.442        |
| PA 5 I look out for new ways to improve my life             | 5.93        | 1.371        |
| PA 6 I act ahead in predicting future needs                 | 5.68        | 1.361        |
| PA 7 I take any business opportunity that comes my way      | 5.76        | 1.445        |
| PA 8 I take up initiatives when the opportunity is given    | 5.86        | 1.349        |
| CA 1 I take a bold approach when competing                  | 5.63        | 1.431        |
| CA 2 I have an adequate level of capabilities to compete    | 5.52        | 1.359        |
| CA 3 I find ways to differentiate myself from others        | 5.65        | 1.429        |
| CA 7 I can strategically compete well with competitors      | 5.45        | 1.422        |
| AU 2 I have the freedom to take up any business opportunity | 5.47        | 1.515        |
| AU 3 I can effect changes in my decisions at any time       | 5.48        | 1.499        |
| AU 4 I have the liberty to get things done my way           | 5.36        | 1.530        |
| AU 5 I have the freedom to decide on my own                 | 5.60        | 1.480        |
| <u>AU 6 I have the authority to act in my best interest</u> | <u>5.50</u> | <u>1.573</u> |

Note:., SD = standard deviation

The mean scores for risk-taking ranged from 5.16 to 5.68. The “No matter what, I believe I will make it” had the highest score while the “I believe in higher risk creates great impact” displayed the least score for the risk-taking dimension. This indicates that respondents have the inner drive to take up risks in their daily operations.

Furthermore, Table 4.2 shows that the innovativeness dimension was inculcated in respondents' activities. The mean score ranged from 5.19 to 5.86 with "I like to try new methods of doing things" being dominating. Similarly, Pro-activeness revealed a mean score that ranged from 5.59 to 5.97. "I prefer to "step up" rather than someone else" showed the highest score among the pro-activeness dimension. This implies that it was ingrained in the respondents' behaviour. Additionally, competitive aggressiveness was also inculcated in the respondents' behaviour as it had a score ranging from 4.90 to 5.65 indicating an inner motivator of competitive aggressiveness. Besides the above dimensions, the autonomy dimension could also be traced in the respondents as it had scores ranging from 4.35 to 5.60.

### 4.3 Descriptive statistics of university support

University support was examined by soliciting views on the kind of support the university provides to students as far as entrepreneurship is concerned. **Table 4.3** presents the descriptive statistics of university support.

**Table 4.3 Descriptive statistics of university support**

| Items                                                         | Mean | SD    |
|---------------------------------------------------------------|------|-------|
| US 1 My University organizes business idea competitions       | 4.14 | 2.054 |
| US 4 My University helps develop ideas for new start-ups      | 4.36 | 1.987 |
|                                                               | 4.25 | 1.976 |
| US 6 My University arranges entrepreneurs' experience-sharing | 4.33 | 1.966 |
| US 7 My University helps build a network for start-ups        | 4.51 | 1.932 |
| US 8 My University arranges mentoring and advisory services   | 4.51 | 1.932 |
|                                                               | 4.45 | 1.999 |
| US 9 My University sources ideas from professional groups     |      |       |
| US 10 My University rewards innovative ideas                  |      |       |

Note:., SD = standard deviation

The results of the University Support showed that the respondents had some form of support from their university as far as inculcating the entrepreneurial spirit in students is concerned.



The mean scores ranged from 3.47 to 4.85 with “My University creates awareness of entrepreneurship” dominating. However, “My University provides financial means for startups” scored the least.

#### 4.4 Descriptive Statistics of Entrepreneurial Intention

Entrepreneurial Intention was studied by soliciting opinions on individuals' perceptions of their entrepreneurial intention. The descriptive statistics of entrepreneurial intention are presented in Table 4.4.

**Table 4.4 Descriptive Statistics of Entrepreneurial Intention**

|                                                       | Mean        | SD           |
|-------------------------------------------------------|-------------|--------------|
| EI 2 My greatest achievement is to have my business   | 6.00        | 1.507        |
| EI 3 I will start my business after graduation        | 5.82        | 1.440        |
| EI 4 I have a strong desire to own my own business    | 6.16        | 1.313        |
| EI 5 I am prepared to own a small business            | 5.91        | 1.489        |
| EI 6 To own a business is an attractive idea to me    | 6.13        | 1.315        |
| EI 7 I intend to start a business in the coming years | 6.02        | 1.384        |
| <u>EI 8 I desire to be self-employed</u>              | <u>6.05</u> | <u>1.400</u> |

The results showed that the entrepreneurial intention indicator that displayed high was “I aspire to be my boss” with a mean score of 6.25 and “I am ready to be an entrepreneur” with a mean score of 5.58. This implies that “I aspire to be my boss” was seen as the best entrepreneurial intention indicator.

#### 4.5 Normality Test

Hair et al. (2010) defined normality as the “shape of the data distribution or an individual metric variable and its correspondence to the normal distribution, which is the benchmark for statistical methods”. One crucial assumption in SEM is that variables must be normally distributed (Tabachnick, Fidell 2001). Skewness and kurtosis are two components of normality.

The skewness represents the distribution's symmetry, whereas the kurtosis is a measure of the heaviness of the tails in distribution when compared to the normal distribution (Chandio 2011). Collier (2020) indicated that data that has skew values between -2 and +2 and Kurtosis between 10 and +10 is considered normally distributed.

After the measurement model's fitness indices were attained, a normality assessment of the data was conducted. **Table 4.5** displays the normality test results.

**Table 4.5 Results of the normality test**

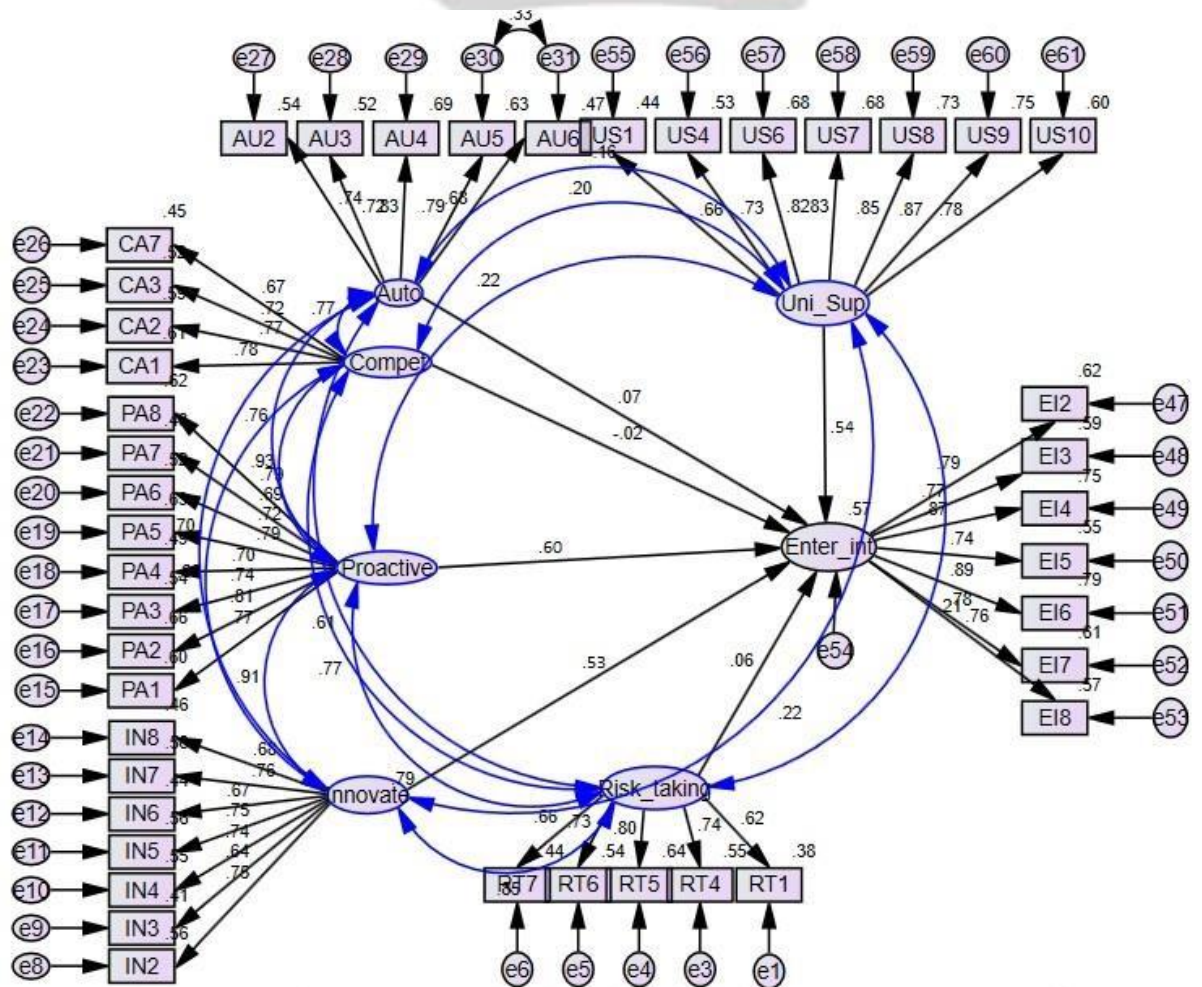
| Items                                                         | skewness | kurtosis |
|---------------------------------------------------------------|----------|----------|
| RT 1 I take risks in exchange for benefits                    | -1.060   | .474     |
| RT 4 No matter what I believe I will make it                  | -1.263   | 1.203    |
| RT 5 I like to venture into new business                      | -1.018   | .704     |
| RT 6 I take a great deal of tolerance in new venture          | -.887    | .495     |
| RT 7 I act "boldly" where risk is involved                    | -.637    | .017     |
| IN 2 I like new ideas when the opportunity is given           | -1.392   | 1.727    |
| IN 3 I try new ideas that are often unusual                   | -.798    | .280     |
| IN 4 I can identify creative ideas                            | -.954    | .833     |
| IN 5 I have innovative insight                                | -.982    | .777     |
| IN 6 I favour experimentation and original approach           | -.908    | .614     |
| IN 7 I like to try new methods of doing things                | -1.356   | 2.082    |
| IN 8 I prefer unique things instead of the masses             | -1.293   | 1.584    |
| PA 1 I like to face future changes                            | -1.447   | 2.189    |
| PA 2 I prefer to "step up" rather than someone else           | -1.680   | 2.907    |
| PA 3 I am ever ready to undertake any opportunity.            | -1.511   | 2.099    |
| PA 4 I act in anticipation of future problems                 | -1.176   | 1.269    |
| PA 5 I look out for new ways to improve my life               | -1.627   | 2.841    |
| PA 6 I act ahead in predicting future needs                   | -1.194   | 1.593    |
| PA 7 I take any business opportunity that comes my way        | -1.193   | .954     |
| PA 8 I take up initiatives when the opportunity is given      | -1.323   | 1.677    |
| CA 1 I take a bold approach when competing                    | -1.145   | 1.150    |
| CA 2 I have an adequate level of capabilities to compete      | -1.047   | 1.173    |
| CA 3 I find ways to differentiate myself from others          | -1.137   | 1.059    |
| CA 7 I can strategically compete well with competitors        | -.938    | .651     |
| AU 2 I have the freedom to take up any business opportunity   | -1.087   | .916     |
| AU 3 I can effect changes in my decisions at any time         | -1.019   | .677     |
| AU 4 I have the liberty to get things done my way             | -.897    | .356     |
| AU 5 I have the freedom to decide on my own                   | -1.171   | 1.186    |
| AU 6 I have the authority to act in my best interest          | -1.171   | 1.186    |
| US 1 My University organizes business idea competitions       | -.138    | -1.178   |
| US 4 My University helps develop ideas for new start-ups      | -.237    | -1.090   |
| US 6 My University arranges entrepreneurs' experience-sharing | -.324    | -1.066   |
| US 7 My University helps build a network for start-ups        | -.167    | -1.111   |
| US 8 My University arranges mentoring and advisory services   | -.250    | -1.058   |
| US 9 My University sources ideas from professional groups     | -.340    | -.968    |
| US 10 My University rewards innovative ideas                  | -.323    | -1.068   |
| EI 2 My greatest achievement is to have my business           | -1.695   | 2.325    |
| EI 3 I will start my business after graduation                | -1.246   | 1.106    |
| EI 4 I have a strong desire to own my own business            | -1.865   | 3.500    |

|                                                       |               |              |
|-------------------------------------------------------|---------------|--------------|
| EI 5 I am prepared to own a small business            | -1.565        | 2.067        |
| EI 6 To own a business is an attractive idea to me    | -1.854        | 3.631        |
| EI 7 I intend to start a business in the coming years | -1.750        | 2.984        |
| <u>EI 8 I desire to be self-employed</u>              | <u>-1.808</u> | <u>3.165</u> |

#### 4.6 Structural model

The full structural model was tested after achieving a good fit for the measurement model.

A full structural model will allow you to account for measurement errors in a construct indicator while also assessing construct relationships (Collier 2020). **Figure 4.1** illustrates the full structural model.



Model Fit Statistics: ( $\chi^2=1864.42$ ,  $df=838$ ,  $\chi^2/df= 2.22$ , CFI=.949, TLI=.945, RMSEA=.041,

**Figure 4.1 Structural model**



**Figure 4.1** depicts the connection between risk-taking, innovativeness, pro-activeness, competitive aggressiveness, autonomy, university support and entrepreneurial intention. From Figure 4.1, it was observed that the model fits the data. This is because the model fit indices are all within the recommended thresholds (Collier 2020).

The direct effect (Hypothesis 1 and 2) was examined using the standardized estimates and t values (C.R) and P-value.

#### 4.7 The effect of Risk-taking, Innovativeness, Pro-activeness, Competitive aggressiveness and Autonomy on Entrepreneurial Intention

Hypothesis 1 (H1) of the study was to examine the effect of risk-taking, innovativeness, proactiveness, competitive aggressiveness and autonomy on students' entrepreneurial intention. **Table 4.6** displays the direct effects of risk-taking, innovativeness, pro-activeness, competitive aggressiveness and autonomy on entrepreneurial intention.

**Table 4.6 Structural Model Test results**

| Hypothesized Relationships                     | Estimates | T value | P-Value | Results       |
|------------------------------------------------|-----------|---------|---------|---------------|
| H1a: Risk-taking → Ent.Intention               | 0.06      | 0.812   | 0.417   | Not supported |
| H1b: Innovative → Ent. Intention               | 0.53      | 2.886   | 0.002   | Supported     |
| H1c: Pro-act →Ent. Intention                   | 0.60      | 3.387   | 0.000   | Supported     |
| H1d: Com. Agre → Ent.Intention                 | -0.02     | -0.175  | 0.861   | Not supported |
| H1e: Auto →Ent. Intention                      | 0.07      | 1.264   | 0.206   | Not supported |
| H2: Uni Support →Ent. Intention                | 0.54      | 2.884   | 0.002   | Supported     |
| Squared Multiple Correlation (R <sup>2</sup> ) | .570      |         |         |               |

**Table 4.6** shows that the hypothesized impact of risk-taking on students' entrepreneurial intention ( $\beta = 0.06$ ; t- value = 0.812; P = 0.417) is not significant. Thus, hypothesis 1a (H1a) was not supported.

The findings further revealed a positive and significant relationship between innovativeness ( $\beta$



= 0.53; t value = 2.886; P = 0.002) and students' entrepreneurial intentions. Thus, Hypothesis 1b (H1b) which proposed that innovativeness influences students' entrepreneurial intentions were accepted.

The study also discovered a positive and significant relationship between pro-activeness ( $\beta = 0.60$ ; t value = 3.387; P = 0.000) and students' entrepreneurial intentions. Thus, Hypothesis 1c (H1c) which proposes a positive impact of pro-activeness on students' entrepreneurial intention was supported. It was also discovered that pro-activeness was the most powerful predictor of students' entrepreneurial intention.

Additionally, the results showed that competitive aggressiveness ( $\beta = -0.024$ ; t- value = -0.175; P = 0.861) is not a predictor of entrepreneurial intention. Therefore, Hypothesis 1d (H1d) which postulates that competitive aggressiveness positively affects entrepreneurial intention among students was rejected.

The study's findings also revealed that the element of autonomy ( $\beta=0.07$ ; t- value = 1.26; P= 0.206) is unrelated to entrepreneurial intention. As a result, Hypothesis 1e (H1e) which indicates that autonomy positively affects entrepreneurial intention among students was dismissed.

Furthermore, the structural model explains a 57% variance in entrepreneurial intention.

#### **4.8 The effect of University Support on Entrepreneurial Intention**

Hypothesis 2 (H2) asserted that there is a positive impact of university support on students' entrepreneurial intention. The results found a positive and significant relationship between university support ( $\beta = 0.54$ ; t value = 2.884; P = 0.002) and students' entrepreneurial intentions. As a result, Hypothesis 2 (H2) was supported.

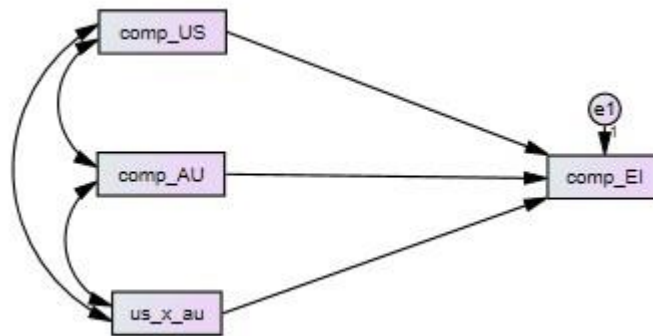
#### 4.9 Moderation Effect

The direct influence of an independent variable on a dependent variable is altered or changed as a result of a third variable (Collier 2020). This third variable, known as the "moderator," can influence the strength of the relationship between the independent and dependent variables. Collier (2020) argued that to determine the influence on the dependent variable, a moderator "interacts" with the independent variable.

Moderation can be tested in different methods including the "interaction term" method, the mixed model method, the full indicator interaction method, and the matched-pairs method (Collier 2020). In this study, the "interaction term" method was employed to test moderation (Collier 2020). An interaction term is formed by combining the independent variable and the moderator. That is a product of the moderator and independent variable. This interaction term will then indicate whether the presence of the moderator has a significant impact on the relationship between the independent variable and the dependent variable (Collier 2020).

The study specifically followed Collier (2020) recommendations to analyse each variable involved in the "interaction term" method. To assess this interaction, a product term of the independent variable (e.g Autonomy) and the (moderator-university support) was then formed. Following that, in the AMOS graphic window, a moderation model was created to test for moderation. The data was then imported into AMOS in order to establish a relationship between the independent variable, moderator, and mean-centered interaction and the specified dependent variable. The interaction term was then examined in the analysis to see if the "interaction" between the moderator and the independent variable influences the strength of the independent variable's relationship to the dependent variable. The moderation model in

AMOS is presented in **Figure 4.2**.



**Figure 4.2 Moderation model in AMOS**

The results of the moderation were then obtained from the “Estimates” link in the output. **Table 4.7** to **Table 4.11**. present the moderation results.

#### **4.10 The moderating effect of university support in the relationship between risk-taking, innovativeness, pro-activeness, competitive aggressiveness and autonomy and entrepreneurial intention.**

##### **4.10.1 The effect of university support in the association between risk-taking and entrepreneurial intention**

Hypothesis 3a (H3a) proposed that university support positively moderates the relationship between risk-taking and entrepreneurial intention. **Table 4.7** to **Table 4.11** display the findings.

**Table 4.7 Moderating effect of US in the relationship between RT and EI**

| <b>Hypothesized Relationship</b>    | <b>Estimates</b> | <b>t value</b> | <b>P- Value</b> | <b>Results</b> |
|-------------------------------------|------------------|----------------|-----------------|----------------|
| Risk-taking-➔Ent. Intention         | .493             | 16.393         | ***             |                |
| Uni. Support-➔ Ent. Intention       | .048             | 2.223          | .026            |                |
| Uni Support X Risk-➔ Ent. Intention | -.105            | -6.355         | ***             | Not Supported  |

The results in **Table 4.7** shows that the interaction term (Uni Support x Risk:  $\beta = -.105$  t- value

=-6.355;  $P = 0.000$ ) is significant but negative. This indicates that in the presence of the moderator (University support), the relationship from risk-taking to entrepreneurial intention is weakened. Therefore, H3a was not supported.

#### 4.10.2 The effect of university support in the association between innovativeness and entrepreneurial intention.

Hypothesis 3b (H3) asserted that university support positively moderates the relationship between innovativeness and entrepreneurial intention.

**Table 4.8** displays the effect of university support in the association between innovativeness and entrepreneurial intention.

**Table 4.8 Moderating effect of US in the relationship between IN and EI**

| Hypothesized Relationship             | Estimates | t value    | P- Value | Results   |
|---------------------------------------|-----------|------------|----------|-----------|
| Innovativeness-Ent. Intention         | .613      | 18.679 *** |          |           |
| Uni. Support--Ent. Intention          | .028      | 1.364      | ***      |           |
| Uni Support X Innovat--Ent. Intention | .092      | 5.210      | ***      | Supported |

The findings revealed that the interaction term (Uni Support X Innovate:  $\beta = .092$ , t- value =5.210;  $P = 0.000$ ) is significant and positive. This indicates that the relationship between innovativeness and entrepreneurial intention is being positively strengthened by university support. Therefore, (H3b) was supported.

#### 4.10.3 The effect of university support in the association between pro-activeness and entrepreneurial intention

The study further discovered that university support had a positive effect on the relationship between pro-activeness and entrepreneurial intention as shown in **Table 4.9**.

**Table 4.9 Moderating effect of US in the relationship between PA and EI**



| Hypothesized Relationship               | Estimates | T-value) | P- Value | Results   |
|-----------------------------------------|-----------|----------|----------|-----------|
| Pro-activeness → Ent. Intention         | .674      | 20.585   | ***      |           |
| Uni. Support-→ Ent. Intention           | .016      | .819     | .413     |           |
| Uni Support X Pro-act--→ Ent. Intention | .060      | 3.498    | ***      | Supported |

The findings revealed that the interaction term (Uni Support X Pro-act:  $\beta = .060$ , t- value = 3.498;  $P = 0.000$ ) is positive and significant. This indicates that in the presence of the moderator (University support), the relationship from pro-activeness to entrepreneurial intention is being strengthened. Therefore, Hypothesis 3c (H3c) which states that university support positively moderates the association between pro-activeness and entrepreneurial intention was supported.

#### 4.10.4 The effect of university support in the association between competitive aggressive and entrepreneurial intention.

The study's third hypothesis (H3d) proposed that university support positively moderates the relationship between competitive aggressiveness and entrepreneurial intention. **Table 4.10** shows the study's results.

**Table 4.10 Moderating effect of US in the relationship between CA and EI**

| Hypothesized Relationship                    | Estimates | T-values | P- Value | Results       |
|----------------------------------------------|-----------|----------|----------|---------------|
| Comp. Aggress→Ent. Intention                 | .555      | 17.64    | ***      |               |
| Uni. Support----→ Ent. Intention             | .047      | 2.28     | 0.23     |               |
| Uni Support X Comp Aggress--→ Ent. Intention | -.108     | -6.39    | ***      | Not Supported |

The results in **Table 4.10** indicates that the interaction term (Uni Support X Comp Aggress:  $\beta = -.108$ , t- value = -6.39;  $P = 0.000$ ) is significant but negative. This means that in the presence of the moderator (University support), the relationship from competitive aggressiveness to entrepreneurial intention is weakened. Therefore, Hypothesis 3d (H3d) which states that university support positively moderates the association between competitive aggressiveness and entrepreneurial intention was not supported.

#### 4.10.5 The effect of university support in the association between autonomy and entrepreneurial intention.

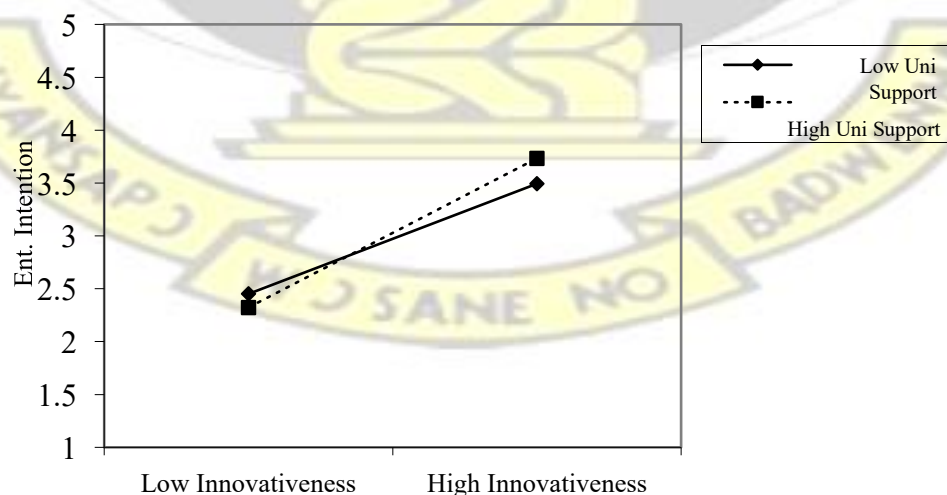
Table 4.11 presents the findings of Hypothesis 3e (H3e) which states that university support positively moderates the relationship between autonomy and entrepreneurial intention.

Table 4.11 Moderating effect of US in the relationship between AU and EI

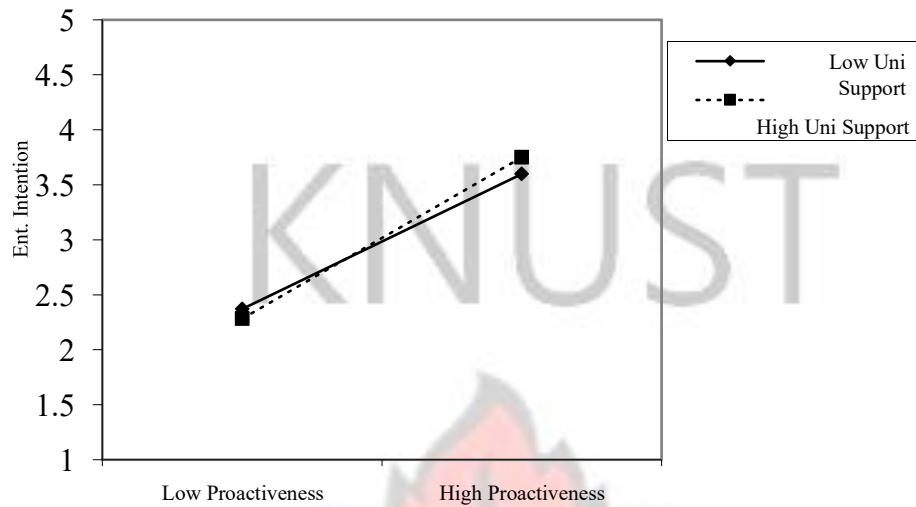
| Hypothesized Relationship               | Estimates | P- Value    | Results           |
|-----------------------------------------|-----------|-------------|-------------------|
|                                         |           | CR (Tvalue) |                   |
| Autonomy → Ent. Intention               | .455      | 15.52       | ***               |
| Uni. Support → Ent. Intention           | .066      | 3.02        | 0.03              |
| Uni Support X Autonomy → Ent. Intention | -.114     | -7.08       | *** Not Supported |

The results showed that the interaction term (Uni Support X Autonomy:  $\beta = -.114$ ,  $t$ -value = -7.08;  $P = 0.000$ ) is significant but negative. This means that the relationship between autonomy and entrepreneurial intention is weakened in the presence of the moderator (University support). As a result, Hypothesis 3e (H3e) was not supported.

To determine the nature of the interaction, a graphical representation of the interaction is plotted. The plot was created using the procedure outlined in (Dawson 2014).



**Figure 4.3 Interaction of US in the relationship between IN and EI**



**Figure 4.4 Interaction of US in the relationship between PA and EI**

Figure 4.3 show the nature of the interaction of university support in the relationship between innovativeness and entrepreneurial intention while the interaction of university support in the relationship between pro-activeness and entrepreneurial intention is presented in Figure 4.4.

#### 4.11 Discussion

Prior research has shown that the dimensions of entrepreneurial orientation like risk-taking, innovativeness, pro-activeness, competitive aggressiveness and autonomy lead to entrepreneurial intention (Abubakar et al. 2019, Koe 2016, Kropp et al. 2008). There is also ample empirical evidence from the literature to support the Theory of Planned Behaviour (TPB) which states that the combined effect of two related factors shapes intentions: one's beliefs about the expected consequences (negative or positive) of engaging in a specific behaviour

(entrepreneurship) and the practicality (likelihood or unlikelihood) of a specific action (Ajzen, Icek et al. 1982).

This study investigated the impact of entrepreneurial orientation (risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy) on students' entrepreneurial intention in Ghana. The research also assessed the impact of university support on students' entrepreneurial intention. Additionally, the study further examined the moderating effect of university support on the relationship between risk-taking, innovativeness, pro-activeness, competitive aggressiveness, autonomy and students' entrepreneurial intention. The data used for the study was from students from the Faculty of Business Education in AAMUSTED, Kumasi-Ghana.

The study revealed mixed support for the individual entrepreneurial orientation dimensions. The findings showed that IEO dimensions can vary independently from one another (Lumpkin, G. Tom, Dess 1996). The research findings in this study showed that risk-taking ( $\beta = 0.06$ ;  $t$ -value = 0.812;  $P = 0.417$ ) is not significant to entrepreneurial intention. This indicates that when risk-taking increases by 1 unit, entrepreneurial intention decreases by 0.06. Thus, hypothesis 1 (H1a) which proposes that risk-taking positively affects entrepreneurial intention among students was rejected. The findings agreed with (Robinson, Stubberud 2014, Koe 2016, Ekpe, Mat 2012). However, the findings contradict previous research such as Bolton, Lane (2012) and Yurtkoru et al. (2014) who found risk-taking as a predictor of entrepreneurial intention. This could be attributed to the fact that most students may not have the risk-taking propensity when it comes to starting a business. Starting a business is a risky decision and action for most students. This is because becoming an entrepreneur entails both financial and non-financial risks which students may not be prepared for. Furthermore, it could be how students are being



oriented regarding entrepreneurship in their universities. Given this, students are most likely to agree that becoming an entrepreneur is a risky decision and action.

The findings further revealed a positive and significant relationship between innovativeness ( $\beta = 0.53$ ;  $t$ -value = 2.886;  $P = 0.002$ ) and students' entrepreneurial intentions. This means that for each unit increase in innovativeness, entrepreneurial intention increases by 0.53. Thus, Hypothesis 1b (H1b) which proposed that innovativeness influences students' entrepreneurial intentions was accepted. The study's findings are in line with Twum et al. (2021), Uysal et al. (2021) and Koe (2016) who discovered that innovativeness is key in entrepreneurial intention. However, the findings are in conflict with Al-Mamary et al. (2020) and Kropp et al. (2008) whose study revealed that the innovativeness component of entrepreneurial orientation is not a factor in the decision to start a business.

Being innovative is regarded as an important characteristic of becoming a successful entrepreneur. As a result, entrepreneurs who are creative enough will be able to make changes to products, services, or processes. It is therefore not surprising that innovativeness had a positive and significant impact on students' entrepreneurial intention. This is because individuals' ability to develop new and unique ways of doing things will influence their entrepreneurial intentions.

The study also discovered a positive and significant relationship between pro-activeness ( $\beta = 0.60$ ;  $t$ -value = 3.386;  $P = 0.000$ ) and students' entrepreneurial intentions. This indicates that when pro-activeness increases by 1 unit, entrepreneurial intention increases by 0.60. Thus, hypothesis 1c (H1c) which stated that pro-activeness positively affects entrepreneurial intention among students was supported. The study backs up empirical findings indicating that

pro-activeness, influences entrepreneurial intentions (Sidratulmunthah, Malik 2018, Wei-Loon 2013, Bolton, Lane 2012). This is because people who can recognize and capitalize on business opportunities are thought to have a higher chance of becoming entrepreneurs. Therefore, students who have the pro-activeness element in them are more likely to develop skills in seeking and securing valuable business opportunities.

In this present study, the research findings have shown that competitive aggressiveness ( $\beta = 0.02$ ;  $t$ -value = -0.175;  $P = 0.861$ ) is not a predictor of entrepreneurial intention, therefore, hypothesis 1d (H1d) which postulates competitive aggressiveness positively affects entrepreneurial intention among students was rejected. However, the study's findings contradict Al-Mamary et al. (2020), Wathanakom et al. (2020) and Lee et al. (2011) who discovered that competitive aggressiveness has an effect on entrepreneurial intention. This could be because students in these fields lack the skills necessary to compete in the real world. As a result, more focus should be made on developing this dimension so that people may compete in the labour market by taking a bold or aggressive attitude to their work.

The study's findings also revealed that the element of autonomy ( $\beta = -0.07$ ;  $t$ -value = 1.264;  $P = 0.206$ ) is unrelated to entrepreneurial intention. This indicates that when autonomy increases by 1 unit, entrepreneurial intention decreases by 0.07. As a result, hypothesis 1e (H1e) which states that autonomy positively affects entrepreneurial intention among students was dismissed. This finding contradicts previous research (Al-Mamary et al. 2020, Arora 2016). The outcomes of the study reveal that most students in the Faculty of Business Education are unable to make independent business startup decisions. As a result, activities that encourage independent decision-making and the ability to seize chances are encouraged.

The study further discovered a positive and significant relationship between university support ( $\beta = 0.54$ ;  $t$ -value = 2.884;  $P = 0.002$ ) and students' entrepreneurial intentions. This means that for each unit increase in university support, entrepreneurial intention increases by 0.54. Therefore, Hypothesis 2 (H2) which states that university support positively affects entrepreneurial intention among students was supported. Thus, this finding is in line with past studies (Azila-Gbetteor, Abiemo 2020, Bazan et al. 2019, Fayolle, Liñán 2014). However, in contrast, Gurel et al. (2010) and Schwarz et al. (2009) concluded that university support is not a predictor of entrepreneurial intention. This result implies that university support plays a key role in students' entrepreneurial intention. This outcome is not surprising because, universities that provide a variety of supports in the form of guidance, training programmes, and entrepreneurship courses would encourage students to pursue self-employment as a career option.

University support was hypothesized to moderate the relationship between risk-taking, innovativeness, pro-activeness competitive aggressiveness, autonomy and students' entrepreneurial intention. The study's findings revealed both positive and negative influences of university support on the relationship between the entrepreneurial orientation dimensions.

The interaction of university support on the relationship between innovativeness, ( $\beta = 0.092$ ,  $t$ -value = 5.21;  $P = 0.000$ ) and pro-activeness ( $\beta = 0.060$ ,  $t$ -value = 3.50;  $P = 0.000$ ) had a positive significant influence on entrepreneurial intention. This means that in the presence of university support, the relationship between innovativeness, pro-activeness, and entrepreneurial intention increases leading to a high entrepreneurial intention among students. These results agree with Alfianti, Mulyono & Nurhidayati, (2021) and Anjum et al. (2020) who discovered that university support enhances the relationship between entrepreneurship education, perceived

creativity disposition and entrepreneurial intention. The results indicate that the higher the support from the university, the more it increases students' entrepreneurial intention. As a result, this research suggests that there is a clear need for universities to implement entrepreneurial activities that would encourage and instil confidence in students to increase their entrepreneurial intention.

The interaction of university support in the relationship between risk-taking ( $\beta = -0.105$ ,  $t$ -value = -6.36;  $P = 0.000$ ), competitive aggressiveness, ( $\beta = -0.108$ ,  $t$ -value = -6.39;  $P = 0.000$ ) and autonomy ( $\beta = -0.114$ ,  $t$ -value = -7.08,  $P = 0.000$ ) further discovered a weak influence on entrepreneurial intention. This means that, when students are given some form of university support, it would rather not lead to any entrepreneurial intention. These findings could have arisen as a result of students not having the risk-taking, competitive aggressiveness and autonomy abilities and so may not see the benefits of the support being provided by the university.

## **CHAPTER 5 SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS**

The study investigated the effect of entrepreneurial orientation (risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy) on students' entrepreneurial intention in Ghana. The study further examined the effect of university support on students' entrepreneurial intention. Additionally, the moderating impact of university support on the relationship between entrepreneurial orientation variables mentioned above, and students' entrepreneurial intention in Ghana was also examined. The study's summary and conclusions



are presented in this chapter. Following that, theoretical and managerial/practical contributions for universities and policy makers and further research were recommended.

### **5.1 Recapitulation of the Study Findings**

The first objective of the study was to investigate the effect of risk-taking, innovativeness, proactiveness, competitive aggressiveness, and autonomy on the entrepreneurial intention of students. The findings revealed mixed support for risk-taking, innovativeness, pro-activeness, competitive aggressiveness, and autonomy. Innovativeness and pro-activeness were found to be predictors of entrepreneurial intention. However, risk-taking, competitive aggressiveness and autonomy were discovered not to have an effect on the entrepreneurial intention of students.

Research Objective two examined the effect of university support on the entrepreneurial intention of students. The study discovered that university support had a positive and significant impact on the entrepreneurial intention of students.

The interaction effect of university support on the relationship between risk-taking, innovativeness, pro-activeness, competitive aggressiveness, autonomy and the entrepreneurial intention of students was examined in objective three. The findings showed that university support positively enhanced the relationship between innovativeness, pro-activeness and the entrepreneurial intention of students. Additionally, the presence of university support weakened the relationship between risk-taking, competitive aggressiveness, autonomy and the entrepreneurial intention of students.

**5.2 Contribution of the study** The study examined the entrepreneurial orientation, university support and entrepreneurial

intention of students. Thus, the study's findings would be beneficial to policy makers, university management and researchers.

### **5.2.1 Theoretical Contribution**

The findings of this study show that the five dimensions of the EO (risk-taking, innovativeness, pro-activeness, competitive aggressiveness, autonomy) appear to play a distinct role in forming the entrepreneurship intentions generation with innovativeness and pro-activeness proving to be significant in the process of intention formation. As such, it backed up the notion that EO can be studied and measured on an individual level. Another key theoretical implication is that the study's findings prove the existing study's focus on entrepreneurial orientation as a predictor of entrepreneurial intention to a university support system.

Additionally, based on this study, limited research has used university support as an exogenous and moderating variable in conjunction with individual entrepreneurial orientation to predict entrepreneurial intention. As a result, this study makes an important theoretical contribution in this regard. This new insight implies that university students' entrepreneurial intentions do not solely rely on entrepreneurial orientation but also on the university support offered to the students.

The study provides a conceptual framework that serves as a tool for predicting the relationship between entrepreneurial orientation and students' entrepreneurial intention at the individual level. The study also contributes to the Theory of Planned Behaviour by confirming its assumptions that human attitudes are shaped by the individual's intentions and behaviour and are also influenced by their surroundings.

### **5.2.2 Managerial/Practical Contribution**

The current study's findings have a substantial impact on practice. This study discovered that university students' entrepreneurial knowledge, skills, and competencies still need to be refined.

This study's findings could be a tool for the management of universities to use to encourage students to participate in business plans competitions and innovation challenges to share ideas, gain new ideas, to enable them to participate in actual business. This is very important in the sense that students will eventually learn how to turn business ideas into viable future products and services. It would further aid in the development of their risk-taking, competitive aggressiveness, and autonomy abilities as well as boost their innovativeness and pro-activeness talents.

Additionally, given Ghana's ever-increasing graduate unemployment rate, the study suggests that institutions should devote more attention to developing entrepreneurial programmes that educate and encourage graduates with an entrepreneurial attitude. With this, students will not only be encouraged to start new businesses as a result of developing their entrepreneurial orientation but they will also be encouraged to find and exploit opportunities in existing businesses.

Furthermore, the study's findings could be useful to policymakers and university administrators as a tool for planning and prioritizing resources in order to provide the necessary support, as this support would reinforce university students' entrepreneurial intention to consider entrepreneurship as a career option. This would help in planting the seeds of entrepreneurship in students at an early age.

### **5.3 Limitation of the Study /Direction for future research**

This research has some limitations. Because the research was conducted in AAMUSTED

Kumasi, Ghana, the findings and conclusions are generalizable to the targeted population. However, the other higher education institutions that were not included may have distinct background characteristics that could provide additional insights and theory development in students' entrepreneurial orientation and entrepreneurial intention. As a result, future research should be conducted in other Ghanaian public, private, and technical universities in order to generalize the study's findings.

Furthermore, this research is a cross-sectional study with data collected over a single period. Future research could conduct a longitudinal study in which students' intentions are assessed over a longer period, allowing for consistent monitoring of student behaviour and possibly the discovery of how likely students are to change their minds after completion.

The study also considered the multidimensional form of individual entrepreneurial orientation in predicting students' entrepreneurial intentions. Therefore, future research may consider examining the unidimensional form of the individual entrepreneurial orientation.

Finally, this research only looked at one moderating variable. As a result, more research is needed on additional potential moderating and mediating components like social network ties that may influence the entrepreneurial intention of university students.

#### **5.4 Conclusion**

The purpose of this study was to investigate the effect of entrepreneurial orientation and university support on university students' entrepreneurial intention. The findings revealed that university students' pro-activeness and innovativeness had an impact on their entrepreneurial intentions. University support was also discovered as a predictor of entrepreneurial intention. However, risk-taking, competitive aggressiveness and autonomy were found not to have an effect on entrepreneurial intention. Additionally, university support was found to positively



strengthen the relationship between innovativeness, pro-activeness and students' entrepreneurial intention while the relationship between risk-taking, competitive aggressiveness, autonomy and students' entrepreneurial intention was weakened in the presence of university support. The study concluded that there is a need for universities to implement entrepreneurial supporting activities that would encourage the development of entrepreneurial action characteristics among university students. This is critical in ensuring that students gain more entrepreneurial knowledge, build confidence to enable them to identify opportunities, and have positive mindsets to start a business successfully. This would further aid in the development of their risk-taking, competitive aggressiveness, and autonomy abilities as well as boost their innovativeness and pro-activeness talents.

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# KNUST

## APPENDIX

KNUST SCHOOL OF BUSINESS

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI

UNIVERSITY POST OFFICE, KUMASI-GHANA WEST AFRICA

### ENTREPRENEURIAL INTENTION SURVEY

*Dear Valued Survey Participant,*

Thank you for considering participating in this research which seeks to understand the effect of Entrepreneurial Orientation on Students' Entrepreneurial Intention in Ghana. The purpose of this study is to collect information on the entrepreneurial intention of students and to identify how best they are willing to undertake entrepreneurship as a career. Your co-operation in completing this questionnaire is central to the success of this research project. Please make each question a separate and independent judgment. It is your first impression and immediate feelings about the questions that matter to us. Please do take care to answer the questions as

fully and accurately as you can and remember that there is **no right or wrong answer** to the questions asked. Please indicate how things are rather than how you wish they were. The researcher assures you that all your answers remain confidential.

# KNUST

## **SECTION A: ENTREPRENEURIAL ORIENTATION**

**To what extent do you agree or disagree with the following statements?**

Answer by marking an “X” in the appropriate category that best fits your opinion. The categories are:

| Strongly disagree, | Slightly disagree | Disagree | Neutral | Agree | Slightly agree | Strongly agree |
|--------------------|-------------------|----------|---------|-------|----------------|----------------|
| 1                  | 2                 | 3        | 4       | 5     | 6              | 7              |

|      |                                                                                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|--------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|
| RT1  | I admit to taking risks in exchange for possible benefits                                        |   |   |   |   |   |   |   |
| RT2  | My decisions always factor risk into consideration                                               |   |   |   |   |   |   |   |
| RT3  | I believe that getting involved in situations of higher risk will create results of great impact |   |   |   |   |   |   |   |
| RT4  | No matter what the odds, if I believe in something I will make it happen s                       |   |   |   |   |   |   |   |
| RT5  | I like to take chances in venturing into new business                                            |   |   |   |   |   |   |   |
|      |                                                                                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| RT6  | I take a great deal of tolerance in investing in new venture                                     |   |   |   |   |   |   |   |
| RT 7 | I tend to act “boldly” in situations where risk is involved                                      |   |   |   |   |   |   |   |
| IN1  | I like undertaking new tasks whenever possible                                                   |   |   |   |   |   |   |   |
| IN2  | I like working with new ideas when the opportunity is given                                      |   |   |   |   |   |   |   |

|     |                                                                                               |  |  |  |  |  |  |  |  |
|-----|-----------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| IN3 | I often like to try new ideas that are often unusual                                          |  |  |  |  |  |  |  |  |
| IN4 | I am more capable of identifying creative ideas                                               |  |  |  |  |  |  |  |  |
| IN5 | I have innovative insight                                                                     |  |  |  |  |  |  |  |  |
| IN6 | I favour experimentation and original approach                                                |  |  |  |  |  |  |  |  |
| IN7 | I like to try new methods of doing things                                                     |  |  |  |  |  |  |  |  |
| IN8 | I prefer uniquely doing things instead of following the masses                                |  |  |  |  |  |  |  |  |
| PA1 | I like to take measures to face future changes                                                |  |  |  |  |  |  |  |  |
| PA2 | I prefer to “step up” and get things done rather than sit and wait for someone else to do it. |  |  |  |  |  |  |  |  |
| PA3 | I am ever ready to undertake any opportunity that comes my way                                |  |  |  |  |  |  |  |  |
| PA4 | I usually act in anticipation of future problems                                              |  |  |  |  |  |  |  |  |
| PA5 | I am constantly on the lookout for new ways to improve my life                                |  |  |  |  |  |  |  |  |
| PA6 | I often act ahead in predicting future needs                                                  |  |  |  |  |  |  |  |  |
| PA7 | I am prepared to take any business opportunity that comes my way                              |  |  |  |  |  |  |  |  |
| PA8 | I am always ready to take up initiatives when the opportunity is given                        |  |  |  |  |  |  |  |  |
| CA1 | In general, I take a bold approach when competing                                             |  |  |  |  |  |  |  |  |
| CA2 | Generally, I have an adequate level of capabilities to compete                                |  |  |  |  |  |  |  |  |
| CA3 | I find ways to differentiate myself from others                                               |  |  |  |  |  |  |  |  |
| CA4 | Generally, I like to take aggressive methods when competing                                   |  |  |  |  |  |  |  |  |
| CA5 | I emphasize more on competitive actions                                                       |  |  |  |  |  |  |  |  |
| CA6 | I take delight in aggressive achievements                                                     |  |  |  |  |  |  |  |  |
| CA7 | Generally, I can strategically compete well with competitors                                  |  |  |  |  |  |  |  |  |
| A1  | I can make independent decisions so far as business decisions are consent                     |  |  |  |  |  |  |  |  |
| A2  | I have the freedom to take up any business opportunity                                        |  |  |  |  |  |  |  |  |
| A3  | I can effect changes in my decisions at any time                                              |  |  |  |  |  |  |  |  |
| A4  | I have the liberty to get things done my way.                                                 |  |  |  |  |  |  |  |  |
| A5  | I have the freedom to decide on my own                                                        |  |  |  |  |  |  |  |  |
| A6  | I have the authority to act in my best interest                                               |  |  |  |  |  |  |  |  |
| A7  | I do not have to take consent from anyone before making my decisions                          |  |  |  |  |  |  |  |  |
| A8  | I can take decisions without consultation.                                                    |  |  |  |  |  |  |  |  |

## SECTION B: UNIVERSITY SUPPORT

Please read the following questions and mark "X" at the most appropriate category from 1 to 7 where “1 = strongly disagree” and “7 = strongly agree”.



|      |                                                                                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|
| US1  | My University organizes business idea competitions                                       |   |   |   |   |   |   |   |
| US2  | My University creates awareness of entrepreneurship as a possible career choice          |   |   |   |   |   |   |   |
| US3  | My University provides students with the financial means needed to start a new business  |   |   |   |   |   |   |   |
| US4  | My University provides a creative atmosphere to develop ideas for new business start-ups |   |   |   |   |   |   |   |
| US5  | The University provides students with the knowledge needed to start a new business       |   |   |   |   |   |   |   |
| US6  | The University arranges meetings with successful entrepreneurs for experience-sharing    |   |   |   |   |   |   |   |
| US7  | The University helps students to build the required network for starting a business.     |   |   |   |   |   |   |   |
| US8  | My University arranges for mentoring and advisory services for would-be entrepreneurs    |   |   |   |   |   |   |   |
| US9  | My University is open to sourcing ideas from shared forums and professional groups       |   |   |   |   |   |   |   |
| US10 | My University actively seeks and rewards innovative ideas                                |   |   |   |   |   |   |   |

### SECTION C: ENTREPRENEURIAL INTENTION

Please read the following statements carefully and mark "X" in the appropriate category.

|                    |                   |          |         |       |                |                |
|--------------------|-------------------|----------|---------|-------|----------------|----------------|
| Strongly disagree, | Slightly disagree | Disagree | Neutral | Agree | Slightly Agree | Strongly Agree |
| 1                  | 2                 | 3        | 4       | 5     | 6              | 7              |

|     |                                                          | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|----------------------------------------------------------|---|---|---|---|---|---|---|
| EI1 | I am ready to do whatever it takes to be an entrepreneur |   |   |   |   |   |   |   |
| EI2 | My greatest achievement will be to have my own business  |   |   |   |   |   |   |   |
| EI3 | I plan to start my own business after graduation         |   |   |   |   |   |   |   |
| EI4 | I have a strong desire to own my own business            |   |   |   |   |   |   |   |
| EI5 | I am prepared to own a small business                    |   |   |   |   |   |   |   |

|      |                                                                |  |  |  |  |  |  |  |  |
|------|----------------------------------------------------------------|--|--|--|--|--|--|--|--|
| EI6  | Starting my own business is an attractive idea to me           |  |  |  |  |  |  |  |  |
| EI7  | I intend to start a business in the coming years               |  |  |  |  |  |  |  |  |
| EI8  | I desire to be self-employed                                   |  |  |  |  |  |  |  |  |
| EI9  | I will make every effort to create and maintain my own company |  |  |  |  |  |  |  |  |
| EI10 | I aspire to be my boss                                         |  |  |  |  |  |  |  |  |

#### SECTION D: RESPONDENT'S INFORMATION

Please mark "X:" in the appropriate box. Note: only one tick for each item.

- Please specify your gender: Male ☐ Female ☐
- Please indicate your age. 20 or younger ☐ 21 – 30 ☐  
31 – 40 ☐ 41 – 50 ☐ Above 51 ☐

