



Research Article

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The Impact of Entrepreneurial Education on Entrepreneurial Zeal of Undergraduate Students: A Case of Final Year Students at The National University of Science and Technology in Bulawayo, Zimbabwe

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Abstract: The study aims to explore the effects of entrepreneurial education and support systems in a different contextual setting in Zimbabwe. This study sought to complement prior studies that looked at the entrepreneurial intention of final students from a general perspective or the study area of the students without looking at other external antecedents like the presence of University incubation centres. Given the forgoing assertion this study will determine the effect of the study domain on the level the relationship between student's cognitive disposition and entrepreneurial zeal. Mixed methods approach was used that is quantitative and qualitative research design. The study employed stratified random sampling to give a sample of 60% of the population. The research established that students knew about the existence of Education 5.0 thrust and the supporting programme on campus and have a positive attitude towards entrepreneurial education. However, there is lack of perceived feasibility of entrepreneurship education to steer innovation and entrepreneurship zeal resulting in the lack of confidence in the Education 5.0 and the resultant programmes. The study recommends that University should ramp up its interventions and motivate students to be more efficacious and try to use the innovation support services while continuing to enrich their curricula to be innovation friendly, institute face-to-face interactions with students and get their input on how best both parties can benefit from the worthwhile investments by government and make efforts to link potential entrepreneurs with angel investors, non-governmental institutions or come up with other methods.

Keywords: Entrepreneurial zeal, Productive entrepreneurship, Perceived entrepreneurial capabilities, Social support, Entrepreneurial education, Study domain/discipline, university, Education 5.0.

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INTRODUCTION AND BACKGROUND

The study sought to determine the impact of Entrepreneurial education on Entrepreneurial zeal of undergraduate students in a state university in Zimbabwe (National University of Science and Technology). Entrepreneurship is viewed as an essential activity that creates wealth to the entrepreneur, contributes to new job creation, new products, services and ideas into the market and an engine for economic growth (Afolabi, 2015). Given the significance of entrepreneurship many governments as well as development partners across the world have introduced a number of policies and programmes to develop entrepreneurship activities across different economic sectors. These interventions have produced notable positive results in developed countries unlike the developing ones (Sautet, 2013). A lot of entrepreneurship activities in developing countries have largely been informal and subsistence. The reason for this development is that entrepreneurial activities have not caused the creation of formal enterprises that allow the exploitation of opportunities beyond the initial local level (Jones & Lockyer, 2019). Countries in Africa like Zimbabwe will benefit more if productive entrepreneurship is nurtured at family, school or

university levels for students to create sustainable and formal businesses in future. Universities as institutions of learning, research and innovation are purposefully placed to develop productive entrepreneurs. Like other studies done elsewhere, this research sought to determine if entrepreneurial education results in productive entrepreneurship intention. Productive entrepreneurship is aimed at creating 'large, vibrant businesses that grow much beyond the scope of an individual's subsistence needs and provide jobs and income for others' (Olafsen and Cook, 2016). On the other hand, subsistence or necessity driven entrepreneurs are primarily driven by the need to provide subsistence income to themselves and not aspire to grow their ventures beyond creating employment prospects for employees outside of their immediate family (Acs, Parsons and Tracy, 2008). It is envisioned that entrepreneurial zeal among students will lead to transformative ventures in future. In Africa, entrepreneurial exploits by small to medium enterprises (SMEs) accounts for more than 90% of businesses contributing in excess of 50% and Gross Domestic Product (GDP) (Musabayana, Mutambara & Ngwenya, 2022). Examples of SMEs contribution to GDP are that of Kenya with a contribution of 40%, Nigeria more than 70%, Ghana 60% while Zimbabwe contributes more than 65%. These entrepreneurial efforts have a significant

multiplier effect through job creation with an average of 70% contribution to employment (Musabayana *et al.*, 2022). The undisputed effect of entrepreneurship in economic development, job creation and poverty alleviation in developed and developing countries have motivated researchers to explore how entrepreneurship can be fostered (Maas *et al.*, 2019). Individual cognitive processes have been identified as one of the topical areas around the antecedents of entrepreneurial exploits by individuals has been a result of their predictive nature (Linan & Fayolle, 2015). The recognition and empirical evaluation of these cognitive antecedents in literature have been supported by process oriented models for example Shapero and Sokol's (1982) model of entrepreneurship event and the Ajzen's (1991) Theory of Planned Behaviour (for example Linan and Chen, 2009; Malebana, 2014; Ndofirepi, 2020). These models are important in explaining and predicting individuals' inclination towards entrepreneurship exploits. It has been proved that for individuals to develop interest in entrepreneurship, there must be push factors and requisite conditions necessary to promote venture creation. Exposure to entrepreneurship education has been identified as a key antecedent in promoting entrepreneurial intentions (Patricia & Silangen, 2016). This is because education can serve as a preparatory function as it is supposed to improve learners' skills, knowledge and their self-confidence (Nani, 2019). Previous studies on the effect of education on entrepreneurship have converged on the acknowledgement that education is positively associated with EI and self-efficacy (Malebana & Swanepoel, 2014). Given this background, it is envisaged that students from higher educational institutions should have high entrepreneurial zeal. These entrepreneurial intentions or zeal are considered key elements in understanding new venture creation process (Linan & Chen, 2009). This explains the considerable growth and interest in entrepreneurial intention studies across the world (Lee-Ross, 2017; Ndofirepi, 2020). This study is relevant to the Zimbabwean context because the country has been experiencing serious economic problems characterised by unemployment and low productive entrepreneurship activities (Josephon & Shively, 2019). To improve the situation, the government and other development partners have initiated a number of interventions to promote entrepreneurship activities such as cooperatives (Mhembwe & Dube, 2017), youth targeted programs (Nhapi & Mangwende, 2020) and university education (Mujeyi & Sadomba, 2019). To promote entrepreneurship at Universities and by students the government through the Ministry of Higher and Tertiary Education has revised the higher education curriculum by introducing entrepreneurship education in most programmes (Ndofirepi, 2016). Despite this effort

some programmes do not have entrepreneurship modules. The government continues to push universities to ensure entrepreneurship is formally taught across all disciplines. In addition, the government has encouraged universities to set up innovation hubs that will also act as business incubators and conduits to operationalise ideas. Previous research has found that in developing countries individuals are pulled into entrepreneurship due to necessity and unemployment (Dencker, Bacq, Gruber & Haas, 2021). This explains why Zimbabwe for instance despite registering more than 2.8million SMEs in 2012 (Finscope, 2013) has not benefited formally from such ventures (Mujeyi & Sadomba, 2019).

RESEARCH QUESTIONS

- What is the overview of the entrepreneurial ecosystem in Zimbabwe given the University Education 5.0 system?
- To what extent does Education 5.0 in Zimbabwe cognitively influence students' entrepreneurial zeal?
- What is the students' preparedness to venture into entrepreneurship after graduation?
- Does study domain have a moderating effect on University education and students' entrepreneurial zeal?
- What is the final year undergraduate students' entrepreneurial zeal towards productive entrepreneurship?

LITERATURE REVIEW

Entrepreneurship Ecosystem

Entrepreneurship is commonly considered as the engine and catalyst for economic growth and development in any country due to its value creation process (Volery, 2000). To stimulate systemic entrepreneurship development in a city or country there is need to develop policies, programs and strategies that promote the proliferation of high growth firms (Sauset, 2013). Stimulating all the elements of an entrepreneurship ecosystem can help encourage productive entrepreneurial activity in a given context. An entrepreneurship ecosystem is a, '*set of interconnected entrepreneurial actors, institutions and entrepreneurial processes which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment*' (Mason & Brown, 2014). Tangible evidence on entrepreneurial success in countries like China and India has been attributed to the development of a robust and effective entrepreneurial ecosystem. Guided by Isenberg's (2011) Entrepreneurial Ecosystem Model, it is important to explore the key domains that need to be managed to stimulate an entrepreneurship revolution in Zimbabwe.

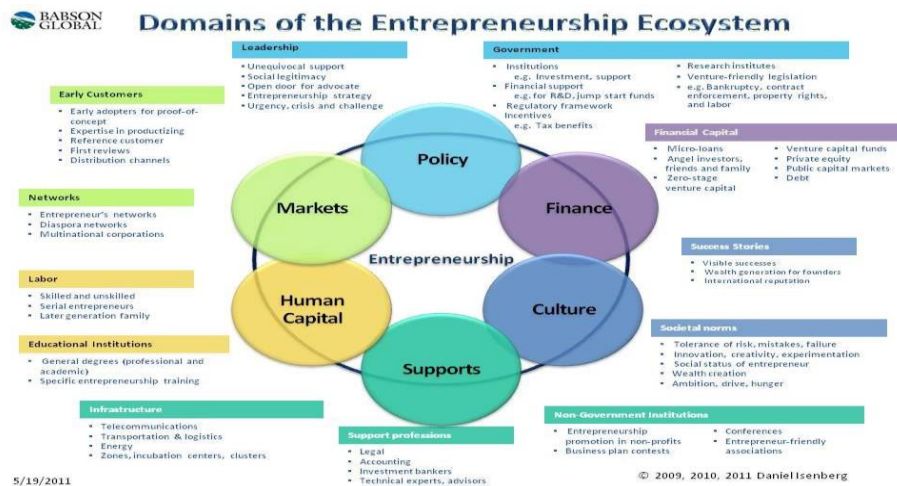


Figure 1: Domains of An Entrepreneurship Ecosystem.

Source: Isenberg, 2010

As shown in Figure 1, the entrepreneurial ecosystem model consists of six main elements. These elements are not discreet but rather integrated to create a total system that can ‘turbocharge the venture creation and growth’ (Isenberg, 2010) in a particular country.

Zimbabwe entrepreneurship ecosystem Policy intervention

Deliberate policies by the government of Zimbabwe to promote black owned businesses through the Indigenisation and Economic Empowerment Act (Chapter 14) and by redistributing land to previously disadvantaged blacks through the Land Reform programme in 2002 has resulted in the sprouting of black owned businesses in various sectors. Notwithstanding the challenges faced, a number of Zimbabwean entrepreneurs now consider mining, agriculture and construction as the major avenues to get into business given the access to land. Institutions such as the Agricultural and Rural Development Authority, the creation of Command Agriculture, the Presidential Input Fund and of late the Pfumvudza scheme has resulted in considerable interest in farming even by young people. Despite this, there is no real or productive entrepreneurial activity going on the aforementioned sectors owing to lack of adequate finance and latest technologies (Shumba, 2014). While the Zimbabwean government might be credited for coming up with excellent and well-crafted policies, its major weakness has been on the implementation and lack of funding (Nyamwanza, Paketh, Makaza & Moyo, 2016).

Finance

The access to financial resources and services is one of the essential components of a vibrant entrepreneurship ecosystem. Entrepreneurs will need funds to finance their ideas and innovations and operationalize them. Funds can come in the form of loans from friends and family, banks, angel investors, venture capitalists and public capital funds. According to the Finscope Survey of 2022 more than 84% of MSMEs in

Zimbabwe are informal with some even financially excluded. In an effort to alleviate this problem the government has tried to avail targeted funding for youths and other groups through disbursing funds managed by various local financial institutions like CABS, CBZ, Stanbic just to mention a few (Chigumira, Dube, Matsika & Nyemba 2017). Additionally, the recent creation of the Women Bank and Empower Bank is meant to help SMEs finance their businesses. In August 2020 the government of Zimbabwe agreed to reform Agribank into a Land Bank whose primary focus will be to provide funding to the agricultural sector (The Independent, August 2020). Given the legacy of non-performing loans from development institutions like the Agriculture Finance Corporation, SEDCO, Reserve Bank and others there are no guarantees that the latest intervention will yield differing results.

Despite efforts to avail funding to SMEs, corruption, nepotism and lack of collateral has frustrated efforts to steer meaningful entrepreneurship (Matsongoni & Mutambara, 2021). A recent study on 113 SMEs in Zimbabwe revealed that the dollarization and multicurrency system and lately currency crisis has affected “SMEs financing specifically debt capital and as such SMEs have been surviving based on their ability to mobilize internal savings and new equity injections” (Mudamburi, 2019).

Culture

Culture is one of the major elements of Isenberg’s entrepreneurship ecosystem model. Culture can be defined as, “a system of shared meanings, models, values, symbols, myths and practices that have evolved over time (Botezat, 2012). Some cultural dimensions that have an impact on entrepreneurship in a given context include risk tolerance, innovation, creativity, ambition, passion and hunger (Isenberg, 2010). Due to the challenge in the operating environment and lack of a vibrant culture that supports entrepreneurship most startup firms, die in their embryonic stage (Nyoni, 2018).

Supports

The enabling infrastructure and the support offered by developmental partners is a crucial element of the entrepreneurship ecosystem. High literacy levels of up to 98% has seen large mobile network operators like Econet Wireless making significant strides by introducing innovative products such as Ecocash, Sasai, Onwai and Chikwama (Econet Zimbabwe Website). The increased use and access to mobile computer gadgets like cellular phones has allowed businesses to do direct advertising and send out bulk messages to their clients. With a mobile penetration of around 95% Zimbabwe offers businesses vast opportunities to leverage on mobile technology (Siwela & Njaya, 2021). The support by Non-Governmental bodies like UNESCO and the ILO have also helped to promote SMEs (Finscope Survey, 2022).

Human Capital Development

Most researchers on the entrepreneurial ecosystem and policy analysts are at consensus that entrepreneurship education is an important instrument in promoting entrepreneurship. In Zimbabwe most Universities and Polytechnics offer specialised, general as well as entrepreneurship training (Bomani, Fields & Derera, 2019). Zimbabwe has been credited for a high quality education system but this achievement has been dampened by gross underfunding of research institutions and severe brain drain. This limits human capital development. However, efforts by the government through the introduction of Education 5.0 can help increase entrepreneurship zeal by students (Ndofirepi, 2020).

Markets

Efforts have been made by the government of Zimbabwe and other development partners to cluster SMEs so that they access competitive markets for their products. Despite some notable achievements some SMEs struggle to make a niche into the market and end up using ‘middlemen’ to market their products (Zindiye *et al.*, 2012). The government owned Zimtrade strives to educate Zimbabwean entrepreneurs on the export market opportunities and in some cases markets the country products. However, Zimbabwean exports have fallen drastically in the last two decades (Karedza & Govender, 2017).

Overview of University Education

While there are more than six domains that need to be developed, this study focused on University education. The global admission that entrepreneurship is an engine of economic growth has compelled governments, development partners, suppliers of capital and other players to work towards stimulating it. Entrepreneurship education has been defined as “any pedagogical (programme) or process of education for entrepreneurial attitudes and skills” (Fayolle, Gailly, & Lassas-Clerc, 2006). There are different kinds of entrepreneurial education targeted at various stages of

development. For example, awareness education meant for students with no experience in starting a business, university-level programmes that are intended to improve entrepreneurial awareness and to prepare potential entrepreneurs (Weber, 2011). This study focusses on entrepreneurship education producing greater awareness for undergraduate students who in the majority of cases would not have decided on the career to undertake.

Business Education

It is important to note that entrepreneurship education is different from business education. The latter is meant to assist students to work at established companies (Slavtchev, Laspita & Patzelt, 2012), by usually providing technical knowledge for business administration and does not emphasize the creation process of an organisation (Bae, Shanshan, Chao & Fiet, 2014). Given the de-industrialisation of Zimbabwe after the land reform programme and the resultant sanctions, business education seems irrelevant to solve the unemployment question. In this regard, the Zimbabwean government has focused on promoting indigenous people to venture into entrepreneurship.

Nurturing Entrepreneurship in Universities

Changes in the societal expectation from universities, demographics, globalisation, external demands for national competitiveness expressed through external demands (Mejia, Hincapie & Giraldo, 2019) necessitate universities to re-evaluate themselves against the need for transformation from the former models where they were seen as just isolated producers of knowledge (Siebert *et al.*, 2018) to an integrated model where they are part of global innovation ecosystem (Dedehayir *et al.*, 2017). Given the forgoing economic situation, it is instructive for universities to embrace models that allow innovation to thrive. The proposed models must envision the university as a “enabler” of a relationship of trust with community players like government industry and foster the formation of an entrepreneurial base through the active participation of the university community and leverage on the existing potential. This focus should have a “bottom-up” focus where university community members with support from the university hubs and other support systems, generate innovations that offer solutions to emerging challenges (Siebert *et al.*, 2018).

Other than conventional lectures, simulations and practical assignments, universities have created innovation hubs on their Campuses to stimulate innovation. Some of the examples are the University of Magdalena in Colombia (Mejia *et al.*, 2019), Massachusetts Institute of Technology (MIT) and Stanford universities in USA popularly linked to developments at Silicon Valley. In Europe, Sophia Antipolis high-tech park in France, and the Leuven region in Belgium are supported by Universities (Mejia *et al.*, 2019). Expectedly, a number of African

Universities through their sponsors or management have deliberately introduced university hubs to allow innovation driven spin offs. Examples are the University of Nairobi in Kenya, American University in Egypt, South African universities like Stellenbosch University, the University of Cape Town and the University of the Witwatersrand. A number of notable achievements have been recorded for example at the Stellenbosch University run LaunchLab (University hub) a number of student-run tech startups have emerged such as Custos Media Technologies which is a bitcoin-based anti-piracy software application (Forbes Africa, 2022).

Zimbabwe is a low-income country that is endowed with natural resources. There are concerted efforts by the government through the Ministry of Higher and Tertiary Education Innovation, Science and Technology Development to re-configure and re-orient the country's higher education system towards equipping students with entrepreneurial skills and attitude as a panacea to arrest unemployment and boost economic activity through new product development and industrialisation (Ndofirepi, 2020). To achieve this, universities are expected to integrate the mandatory inclusion of entrepreneurship education in their various programmes of study and also offer conduits for business innovation through the opening and operationalisation of University hubs.

Theoretical Framework

The study will be informed by mainly four theories that are: Bandura's Social Cognitive Theory Entrepreneurial Event Model (Shapero & Sokol, 1982), Entrepreneurial Intention Model (Bird, 1988) and Theory of Planned Behaviour (Ajzen, 1991). The use of these models in this study is due to the fact that intentions have been seen as a single greatest predictor of any planned behavior, including future entrepreneurship exploits (Abbasianchavari & Moritz, 2021). Understanding and appreciating the antecedents of intentions increases the understanding of the intended (future) behaviour. Given the current educational emphasis in Zimbabwe that focusses on innovation and creating the necessary support structures at universities it is instructive to predict the effect of these efforts on innovation and industrialization (Ndofirepi, 2020) and on entrepreneurial zeal. It is plausible for the conceptual delimitations of this study be informed by intention models. Additionally, intention models have been found to be more superior in predicting behaviour than individual and situational factors (Alender & Honig, 2016). This is so because intention-based models effectively explain how exogenous influences (for example, perceptions on capacity of university undergraduate curriculum to nurture entrepreneurship) modify intentions and eventually lead to venture creation. Justifiably intention models have been judged to be versatile and robust, comprehensive and testable process models in entrepreneurship research (Krueger,

2017). Given the foregoing, a review of the intention models informing this study is outlined below.

Social Cognitive Theory (Bandura, 1982)

The Social Cognitive Theory (SCT) was popularised in the 1960s by Albert Bandura and it developed from the Social Learning Theory (SLT). This theory places emphasis on the critical role of self-belief, motivation and behaviour in shaping human beings' thoughts and perceptions. The theoretical proposition behind SCT is that learning occurs in a social context with a tripartite but dynamic and reciprocal interaction between a person, the environment, and behavior. The theory is distinct from others because it emphasises on how social influence shapes a person's cognition and is an intertwine between external and internal social reinforcement (Cui, 2021). In this regard, SCT considers the unique way in which individuals gain and preserve behaviour, while also considering the social environment in which individuals accomplish the behavior. A person's past experiences are taken into account in the theory and these become antecedents of future behaviours. It is these past experiences that influence reinforcements, expectations, and expectancies, together these shape whether a person will engage in a specific behavior and the motives thereof. This theory can help determine final year students' entrepreneurial zeal. The purpose of SCT is to explain how people regulate their behavior through control and reinforcement to achieve goal-directed behavior that can be maintained over time (Kabonga and Zvokuomba, 2021). The first five constructs were developed as part of the SLT; the sixth construct of self-efficacy explained later was added when the theory evolved into SCT.

Reciprocal Determinism

This is the central concept of SCT. This refers to the dynamic and reciprocal interaction of person, environment, and behavior of that person (Cui, 2021). Despite that students' entrepreneurial zeal might have been shaped by influences outside the university campus this study will seek to contextualize the environment as largely being the university.

Behavioral Capability

This refers to a person's actual ability to perform a behavior through essential knowledge and skills. To successfully perform a behavior, an individual must know what to do and how to do it.

Observational Learning

This asserts that people can witness and observe a behavior conducted by others, and then reproduce those actions. This is often exhibited through "modeling" of behaviors. If individuals see successful demonstration of a behavior, they can also complete the behavior successfully. University initiated innovation hubs, practical assignments, student's peers and even academic staff can be a source of the observational learning for students (Ndofirepi, 2020).

Reinforcements

This refers to the internal or external responses to a person's behavior that affect the likelihood of continuing or discontinuing the behavior. Reinforcements can be self-initiated or in the environment, and reinforcements can be positive or negative. This is the construct of SCT that most closely ties to the reciprocal relationship between behavior and environment. The University' support system and feedback given to students can be a part to the reinforcements (Kabonga and Zvokuomba, 2021).

Expectations

This refers to the anticipated consequences of a person's behavior. Individuals anticipate the effects or consequences of their actions before engaging in the behavior, and these anticipated consequences can influence successful completion of the behavior. Expectations derive largely from previous experience. In this study students' perceptions of their entrepreneurial exploits in future can be equated to SCT's expectations.

Self-efficacy

This refers to the level of a person's confidence in his or her ability to successfully perform a behavior. It explains the conviction or the amount of faith in oneself. Self-efficacy is unique to SCT although other theories have added this construct at later dates, such as the Theory of Planned Behavior (Ajzen, 1991). Self-efficacy is influenced by a person's specific capabilities and other individual factors, as well as by environmental factors (barriers and facilitators). Entrepreneurial zeal expected to be amplified by having self-efficacy.

This SCT theory is relevant in this study as universities are expected to nurture students to be valuable social beings who may contribute a lot to the wider society through such initiatives as entrepreneurship.

The Theory of Planned Behavior (TPB)

The theory of planned behaviour was developed from the theory of reasoned action proposed by Ajzen and Fishbein in 1980 and later on developed into the TPB in 1991 (Ajzen, 1991). It was improved to give room for more psychologically predictive by including perceived behavioral control. Perceived behavioural control was not a component of TRA. The theory has been empirically tested and approved in many studies across various disciplines like Marketing (Wach & Wojciechowski, 2016), Health (Cooke et al., 2016), Tourism (Zhao & An, 2021), Sports management (Song *et al.*, 2018) and Entrepreneurship (Malebana & Swanepoel, 2014). These studies have focused on individual intentions as precursors to planned behaviours in purchasing, motivation and entrepreneurial intentions. Given the unquestionable acceptance of the theory on behavioural intention studies, it is plausible to adopt it on this particular study. According to this theory, entrepreneurial zeal is determined by attitude towards

behavior, perceived behavioural control and subjective norms. The TPB upholds that three core components are antecedents to future behaviours referred to as an individual's behavioral intentions. These components are attitude towards something, subjective norms, and perceived behavioral control (Krueger, 2017). The premise of this proposition is that behavioral intention is the most consequential determinant of human social behavior. In this regard this theory is of particular pertinence to this study as it posits some antecedents of individual behaviours and intentions. In particular students' appreciation of the supporting systems and infrastructure at University might result in them using it to horn their future entrepreneurial exploits and develop entrepreneurial zeal.

As already highlighted, the TPB is disaggregated into a person's attitude, subjective norms of society and their perceived behavioral control. These three collectively influence a person's intention and ultimately the behaviour towards a certain action.

Behavioral Intention

The perceived likelihood of a person carrying out this behaviour. The stronger the behavioural intention to perform the behaviour, the more likely the behaviour will be performed in future (Ajzen, 2011). In the current study, behavior towards venturing into entrepreneurial exploits are posited to be influenced by the perceived ability of university education and support structures to be conduits for business venturing and impacting on the entrepreneurial zeal of students.

Attitude

This refers to the degree to which a person has a favourable or unfavourable evaluation of the behaviour of interest (Ajzen, 1991). In the context of this study the subjective norms, attitude and perceived behavioural control will influence the way in which students will evaluate the usefulness of university education and support structures in developing and promoting entrepreneurship.

Perceived Behavioral Control

This refers to a person's perception of the ease or difficulty of performing the behavior of interest. This depends on the specific situation that a person finds himself or herself in. This perception is most compatible with the concept of self- efficacy which is 'concerned with judgments of how well one can execute courses of action required to deal with prospective situations (Ajzen, 1991). In this study this construct is particularly useful in developing the measuring instrument and can be an indicator of the trust that students have in themselves given the university education and support structures for entrepreneurship.

Subjective Norm

This refers to the belief about whether most people of importance (peers, friends, family) making the

decision or planning a behaviour approve or disapprove of the behavior (Song *et al.*, 2018). The construct will be used in formulating the conceptual framework and ultimately the research instrument and check on the influence of significant others to the decision and perceptions that students have on university education and support structures.

Entrepreneurial Event Model

The Entrepreneurial event model (SEE) was popularized by Shapero and Sokol (1982). The model identified that education and training are major determinants of entrepreneurial behavior development. The model recognise the vital role played by enabling ecosystems for the promotion of entrepreneurship through education and training. This theory assumes that two components are consequential to start any new business or new venture. These, two components are very important, the first one is that a person planning to do the business must have entrepreneurial intentions, (originally termed as credibility) and second one that the new business or venture requires some 'event'. Specifically, this entails some degree of feasibility, desirability and propensity to act that business opportunity (Ranga *et al.*, 2019). According to the theory, major factors affecting an individual's intention to start a new business are desirability, feasibility and propensity to act. The model recognise the changeable factors in this relationship are entrepreneurial intentions (independent) being influenced by Perceived Desirability, Feasibility and Propensity to act.

Perceived Desirability

In relation to entrepreneurship, Perceived Desirability is the degree to which persons view venturing into business as being an attractive choice given an array of choices at their disposal. This is depicted by their willingness to perform the behaviours to achieve the goal (Krueger, 2017). Perceived desirability acts as a 'motivator transforms attitude into entrepreneurial intention' (Ranga *et al.*, 2019). Positive attitude validates favourable perceptions about specific behaviours needed to become an entrepreneur. In this case, the presence of innovation hubs, university education support structures can influence student's attitude and their perceived desirability to embark on entrepreneurship, improving their zeal.

Perceived Feasibility

Perceived Feasibility refers to the attitude an individual has towards the feasibility (probability) of the 'specific behaviour required to become an entrepreneur' (Ranga *et al.*, 2019). This attitude is also influenced by a person's potential to do business given the competence and self-efficacy they have. This construct is of particular significant in this study because the way students view future entrepreneurial behaviour as being feasible is dependent on their perceptions on the contextual factors needed to perform such behaviours.

Propensity to Act

The propensity to act is a personal disposition to perform on a chosen individual's decisions reflective of willingness and intentions to act (Krueger, 2019). Individual propensity to act is individual's conviction to act and indicate the desire to perform requisite behaviours needed to start an enterprise (Malebana & Swanepoel, 2014).

Entrepreneurial Zeal from the SEM

The ultimate goal of the entrepreneurial event model is the intention to venture into entrepreneurship. As explained before, the entrepreneurial intention is the deliberate plan of action that an individual makes given the propensity to act, perceived desirability and perceived feasibility (Nabi & Holden, 2008). Researchers have recommended pre-requisites the entrepreneurial process to start, these include presence of a business opportunity, the recognition of that opportunity by the entrepreneur, and most significantly the deliberate choice to exploit the given opportunity and is referred to as the entrepreneurial zeal.

Entrepreneurial Intention Model

Bird's (1988) model suggest that's the entrepreneurial intention depends on two factors that are rational/analytic thinking and intuitive holistic thinking. These types of thinking are the resultant of contextual (political, social and economic contexts) and personal factors (personal history, personality and abilities. According to Bird (1988), the genesis on an organisation is hinged on entrepreneurial intentions of founders. This is because even though inspiration and creation of new products and services are crucial at inception, the sustainability of such ventures is dependent on attention and intentions of the entrepreneur. This theory is of pertinence it looks at individual characteristics and the context. As has already been highlighted in the background, the Zimbabwean context is particularly unique and warrants a study of this nature.

Suggestion on Extending Bird's Theory

A refinement of Bird's entrepreneurial intention theory was made by Boyd and Vozikis in 1994. In their quest to refine the model, an integration of the concept of self-efficacy in the model was done. The term self-efficacy had been coined by Bandura in his SCT which is defined as the amount of faith that an individual has in their own capabilities. This has been explained earlier. Notwithstanding the perceived impact of university education and support structures, the effect of self-efficacy will in some way affect students' entrepreneurial zeal and future intentions to venture into entrepreneurship. To limit the effect of self-efficacy, the research instrument will cover those issues that are related to university education and support systems to predict entrepreneurial zeal.

Conceptual Framework

A conceptual framework is a written or graphical representation of an expected relationship between variables (Saunders, Lewis & Thornhill, 2019). These variables define the independent variable and how it relates with the dependent variable. The conceptualisation of key research variables is informed by the theories already reviewed.

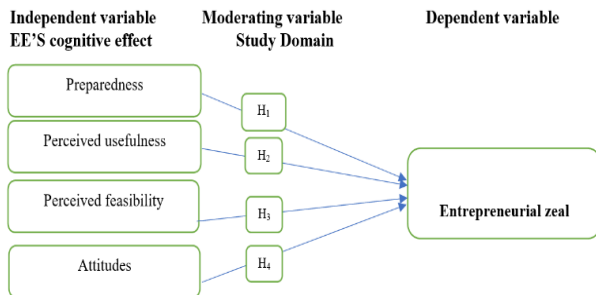


Figure 2: Proposed Conceptual Model
 Source: Survey data, 2024

H₁: Preparedness is a cognitive state and is hypothesized to have a significant positive influence on entrepreneurial zeal of final year students. This hypothesis is derived from not only the confidence that students have in the entrepreneurial education but also their attitude (TPB) and their perceived readiness with an ability to influence their zeal towards entrepreneurship.

H₂: Perceived usefulness of the entrepreneurial education has received a significant positive influence on entrepreneurial zeal of final year students. It was posited given that its usefulness is a measure of the degree to which students perceive the helpful to nature the education they receive in assisting them to start businesses and increase their zeal. This construct has been informed mainly by Bandura’s SCT observational learning variable.

H₃: Perceived Feasibility refers to the attitude an individual towards the feasibility (probability) of the ‘specific behaviour required to become an entrepreneur’ (Ranga *et al.*, 2019). This is important as it measures the degree to which entrepreneurial education and university support systems that can actualise and turn the ideas into practicable business solutions for final year students thus amplifying their zeal.

Perceived feasibility of entrepreneurial ventures has a significant positive influence on entrepreneurial

zeal of final year students. The feasibility construct is informed by Entrepreneurial Event Model (Shapero & Sakol, 1988).

H₄: Attitudes toward(s) entrepreneurial exploits have a significant positive influence on entrepreneurial zeal of final year students. Attitudes are influenced by perceived behavioural control as explained under TPB (Ajzen, 2011), self-efficacy (Bandura, 1988) and the perceived propensity (SEM) to act by students to venture into entrepreneurship given the education and support offered to them. Some of the attitude might be affected by perceived or real barriers to entrepreneurship. These can include challenges in getting institutional support for intending entrepreneurs from family financiers or lenders and getting a solid market (Shinnar *et al.*, 2012).

H₅ Given that participants in the study were taken from various study domain, the study will check the moderating effect of these domains on the relationship between the predicting and the outcome variables.

RESEARCH METHODOLOGY

The framework of the methodology used in the study was informed by the research onion proposed by Saunders *et al.*, (2019). The abductive approach will be upheld as the overarching research paradigm in this study. Abductive research approach explores known theory or phenomenon and tests if that theory is valid given the study circumstances (Snieder and Larner, 2009). The study therefore employs a combination of quantitative and qualitative research approach. The research approach used was a descripto-explanatory study (sequential explanatory design) which makes use of descriptions as a precursor to explanations. The survey method was used in this study. The method is usually associated with deductive and abductive approaches and answers questions of where, what, how much and who. To this end a structured questionnaire with mainly close ended question followed by structured interviews was done.

The main sampling technique was stratified random sampling. This involved the placing of potential study participants into different stratus before randomly selecting participants. The stratus were represented by the seven Faculties that were highlighted on the table below.

Table 1: Stratified Sample Sizes

NUST (Faculty)	Sample per stratum
Applied Science (18%)	50
Commerce (32%)	90
Engineering (23%)	63
Built Environment (9%)	25
Medicine (7%)	20
Communication and Information Science (11%)	30
Total sample	278

Source: Survey data, 2024.

Data was collected using structured questionnaires with closed ended questions. Questionnaire Participants responded to online questionnaires and links shared on various social media groups.

Questionnaires were mainly administered electronically using the various social media platforms accessible to students. Few questionnaires were shared manually and the drop and pick method was used which seemed convenient for students staying on Bulawayo NUST main Campus. For interviews students from various faculties were randomly picked and face to face interviews. In this regard departmental Chairpersons and class representatives were of great assistance, since the research had qualitative elements, data were also collected using interviews.

FINDINGS AND DISCUSSIONS

The qualitative analysis of data was based on interviews from randomly selected specified Faculties, with class representatives and Departmental chairpersons being of great assistance. Students in different stratus (Faculties) responded to questionnaires. Analysis of the quantitative data was done using descriptive and inferential statistics, with the use of Statistical Package for Social Sciences (SPSS) version 2.1 for computations. Content and thematic analysis were used for qualitative data. Results from interviews and questions revealed that students are aware of Entrepreneurial Education and universities are playing a major role in fostering it through Education 5.0.

GENERAL QUESTION (S)

Table 2: Awareness of The Existence of Hub

Awareness of education 5.0 initiatives	1	2	3	4	5	Mean	Std Dev
B1 I am aware that the University is deliberately offering entrepreneurial education	0%	0%	2%	15%	83%	4.89	0.89
B2 I have received some form of entrepreneurial education in my undergraduate studies	10%	6%	10%	19%	65%	4.021	1.13
B3 I intend to use the entrepreneurial education I received to create my own business in future	5%	10%	15%	34%	36%	4.01	1.06
B4 I believe the university has offered many undergraduate students entrepreneurial education	5%	4%	9%	22%	60%	4.28	1.06
Awareness average score						3.82	

Source: Survey data, 2024.

What Do You Think Was the Purpose of Exposing You to Entrepreneurship Education 5.0?

Given that 83% of respondents confirmed that there was a deliberate emphasis on entrepreneurship education at NUST, this follow up qualitative question was posed.

Distribution of Respondents by Gender

Of the 160 respondents, 95 of them representing 59% were male and 65 of them representing 41% were female depicting a fair representation of male and female respondents. To get more meaning from the data gathered, a cross tabulation of gender and entrepreneurial zeal was done. The results of this analysis show that a greater percentage of male respondents' view entrepreneurship as being a more desirable career path than conventional employment. To get more insight into the results, from the four female students interviewed, all of them said they needed more support from not only the University but even from family and government.

RESEARCH QUESTIONS

Awareness of the existence of Education 5.0 initiatives and Entrepreneurial Education

Deducing from interview results, students were aware of the existence of the education 5.0 thrust and the subsequent initiatives. A satisfactory 98% of the respondents indicated that they were very much aware of the education 5.0. This is important as it means that almost everyone covered in the study was able to comment about their perception of this entrepreneurship education initiative. At least 83% of the respondents indicated that they had received some form of entrepreneurship education. The results are consistent with an affirmation on B.4 at 82% that the University had offered many undergraduate students entrepreneurial education. This result shows a deliberate bias towards entrepreneurship in most of studies at the National University of Science and Technology. Standard deviations for all the responses was low indicating little disparities between the responses.

Most students interviewed pointed that the introduction of Education 5.0 was because of a number of reasons that included politics, the need to marry theory and practice, an attempt to steer entrepreneurship and create jobs, attend to a recognisable need to reduce brain drain among other reasons. In particular, students said

entrepreneurship modules introduced in their curricular was meant to achieve the following:

“I am doing Electrical Engineering and I think, they introduced Entrepreneurship in our curricular to expose me more to the world of business, venture creation, sourcing funds, business planning and the power of innovation to prepare me for the future”

In contrast a Bachelor of Commerce Honours Degree in Marketing student said:-

“I think the government is realising that there are no jobs and wants to talk about Education 5.0 to try

and cause students to create their own companies. It is also a political strategy I think”

EXTENT OF PREPAREDNESS

Before the H₁ was tested, an analysis of the of the results on the overall preparedness level was done. There is moderate to high belief among research participant’s that the University management has the interest of them at heart. This is shown by a mean score of 4.72% and a there are significant variances as shown by a standard deviation of 1.01. This shows that students believe in the management at NUST and by extension the Education 5.0. The lowest mean score is on the technical knowledge received.

Table 3: Preparedness And Trust

	Preparedness	1	2	3	4	5	Mean	Std Dev
C1	I have been adequately prepared to start a business	2%	5%	4%	9%	80%	4.72	1.01
C2	I am more than ready to start my own business in future	10%	20%	10%	35%	25%	3.65	1.25
C3	I have received the technical knowledge needed to start a business	45%	24%	16%	15%	10%	2.4	1.23
C4	I have been given the financial knowledge needed to start a business	2%	3%	10%	25%	55%	4.3	1.08
Preparedness average score							3.8	

Source: Survey data, 2024.

Do You Believe the Education 5.0 Will Enhance Your Entrepreneurship Skills?

Respondents were not sure of how the entrepreneurship education will improve their skills but they showed eagerness to learn about the recently introduced innovation hubs and how they may leverage on them. Students from Commerce, Built Environment and Communications had reservations on the usefulness of the education acquired to help them start businesses and one student uttered the following statement:-

A Bachelor of Commerce Honours Degree in Management student had to say this about the question: *“I have been challenged to be innovative but I think we need to be capacitated with the relevant skills needed in the fields that we want to venture into. I am thinking of going for renewable energy products but I have no skills in that field.”*

This is qualitative result corroborates well the quantitative one where a low mean score of 2.4 was recorded on the skills imparted. This reflects the cognitive preparedness of students which is further tested by the ensuing hypothesis.

H₁: Students’ cognitive state of preparedness to venture into business has a significant positive influence on entrepreneurial zeal of final year students.

To test the above hypothesis, there is need to check the relationship between preparedness and entrepreneurial zeal. The model summary below shows that there is a 77% positive correlation between these variables. Additionally, preparedness account for 59% on changes in students’ entrepreneurial zeal. The posited hypothesis accepted and it can be concluded that perceived trust positively affects entrepreneurial zeal.

Table 4: Model Summary

Model Summary			
Model	R Square	Adjusted R Square	Std. Error of the Estimate
770 ^a	.592	.620	.321
a.	Predictors: (Constant), Preparedness		
b.	Outcome: Entrepreneurial Zeal		

Perceived Usefulness

Despite the trust and confidence that students have on entrepreneurship education, it is quite surprising that they very much doubt their usefulness. Respondents perceptions on the ability to improve entrepreneurship zeal and innovation capabilities (2.9 mean score),

enhancing skills needed to develop unique products and services needed to start a business (2.4), stimulation to try out business ideas (2.31) and the promotion and development of new business ideas that solve market problems (2.8).

Table 5: Perceived Usefulness of Entrepreneurship Education

	Perceived usefulness	1	2	3	4	5	Mean	Std Dev
D1	Access to the entrepreneurial education can improves my entrepreneurial zeal and innovation capabilities	40%	10%	30%	15%	5%	2.9	1.2
D2	Entrepreneurial education enhances my skills needed to develop unique products and services to start my business	40%	25%	10%	18%	7%	2.4	1.15
D3	The entrepreneurial education helped me to simulate and try out business ideas	48%	20%	18%	10%	4%	2.31	1.2
D4	I find the entrepreneurial education I received useful in promoting the development of new business ideas that solve market problems	45%	12%	20%	13%	10%	2.8	1.1
	Perceived usefulness						2.61	

Source: Survey data, 2024.

H2: Perceived usefulness of the entrepreneurial education received has a significant positive influence on entrepreneurial zeal of final year students.

Table 6: Model Summary

Model summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.52 ^a	.270	.0283	.341
a. Predictors: (Constant), Perceived usefulness				
b. Outcome: Entrepreneurial zeal				

As shown on the regression output on 4.8 the correlation coefficient of 0.52 indicates a positive relationship between perceived usefulness and entrepreneurial zeal. The strength of this relationship is moderate as shown by the r^2 of 27% that is attributed to the predictor variable on the outcome variable. This is because of the doubts that students have on the efficacy of entrepreneurship program initiated by the University steer innovation. The posited hypothesis is however accepted.

Perceived Feasibility

Notwithstanding the fact that the University entrepreneurship education (under the auspices of Education 5.0) programs were hailed as a good initiative by respondents, the majority of them doubted if these deliberate efforts to steer entrepreneurship were adequate to prepare students for innovation. The results indicated that only 20% felt that the entrepreneurship education offers specific training for young entrepreneurs while 30% were not sure and the remaining 50% disapproved. More than 65% doubt that the entrepreneurship

education support facilities like the innovation hubs were technically capacitated to aid innovation and start-ups as indicated by an average mean score of 2.89. Further 68% of respondents felt that the consulting services offered were not favourable as lecturers were not available for consultation outside conventional lecture times. Relatedly, there is a negative perception on opportunities offered to start businesses perhaps because of the lack of access to seed capital and sector specific training.

H3: Perceived feasibility of entrepreneurial education has a significant positive influence on entrepreneurial zeal of final year students.

The model summary below shows that there is a low positive relationship between perceived feasibility and entrepreneurial zeal. This is further corroborated by a low r^2 of 6.5%. The hypothesis is thus rejected as the p value is above 0.05. This could be explained by low perceptions on the adequacy of entrepreneurial education to steer innovation.

Table 7: Model Summary

Model summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.25 ^a	.065	.007	.313
a. Predictors: (Constant), Perceived feasibility				
b. Outcome: Entrepreneurial zeal				

Attitude

There is generally a positive attitude towards the entrepreneurship education. The respondents felt that more advantages could be drawn from being an entrepreneur going into the future (75%), considered the investments by the University on Education 5.0 are indeed worthwhile (70%), peer support (65%) and their establishment brought a sense of pride to them (85%). The overall attitude score is 4.1.

H4: Attitudes toward(s) entrepreneurial exploits have a significant positive influence on entrepreneurial zeal of final year students.

The output on Table 3.8 shows that there is strong positive relationship between attitude and entrepreneurial zeal (78%) and that attitude account for (70%) variability on entrepreneurial zeal. Accordingly, the hypothesis is thus accepted.

Table 8: Model Summary

Model summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.78 ^a	.608	.0701	.253	
a. Predictors: (Constant), Attitude					
b. Outcome: Entrepreneurial Zeal					

Entrepreneurial Zeal

The majority of respondents indicated that they viewed entrepreneurship as a favourable career choice as evidenced by the entrepreneurial zeal score of 4.33.

Table 9: Entrepreneurial Zeal

	Intention to be an entrepreneur	1	2	3	4	5	Mean	Std Dev
G1	I am very interested in setting up my own business	0%	12%	13%	15%	60%	4.15	1.14
G2	I strongly consider setting up my own business	0%	5%	5%	20%	70%	4.45	1.0
G3	I have a firm conviction that I will start a business one day	12%	8%	8%	12%	60%	4.32	1.2
G4	Among various options, I'd rather be an entrepreneur	3%	5%	8%	14%	70%	4.40	1.2
Entrepreneurial zeal score							4.33	

Source: Survey data, 2024.

Insight Into Some Qualitative Results Presentation

Other than the interview questions already presented together with quantitative data, two or more questions were asked to get more insights into the researched phenomenon.

What Are the Shortcomings of The Entrepreneurship Education 5.0 You Received in Preparing You to Become an Entrepreneur?

The shortcomings of the entrepreneurship focused educations highlighted lack of financial and technical support to practised ideas, lack of practical learning and exposure like what is happening in developed countries like Silicon Valley and the need to capacitate lecturers with current technological innovations.

In What Way Do You Think the University Entrepreneurship Education May Be of Great Assistance to Those Who Have a Desire to Innovate?

Most of the students interviewed highlighted that for the Education 5.0 to achieve the intended results there is need to capacitate students more with support services especially at the innovation hubs by adding

more equipment like high performance computers, 5G technology.

One commerce student interviewed stated that:- *'There is need for the University to rethink how the innovation hub can best suit our expectations'. He went on to say, 'The current emphasis on sciences and technology is not very clear for students from commerce. I think there is need to include technology driven solutions to commerce and trade challenges'. This means that there is need to increase the scope of the entrepreneurship education and innovation hubs to include unique solution to business like Big Data and employee analytics.*

A student studying Medicine said the innovation could be more useful if the University considers partnerships with other Universities in Zimbabwe and abroad. This can be done through knowledge sharing, exchange problems or through international bodies such as the WHO and others to promote global partnerships among universities.

In What Way Do You Think Entrepreneurship Education Could Be of Great Assistance to Improve Entrepreneurial Zeal Among Students?

Almost all interviewed participants concurred that entrepreneurship education must continue as this increases the entrepreneurial zeal of students. These could then translate into real entrepreneurship behaviour.

SUMMARY OF RESULTS

Respondents showed that they are aware of the existence of Education 5.0 thrust and the supporting program on campus but it is regrettable that despite this admission less than 30% of them indicated that they had used such supporting services such as University Innovation hub and 55% intended to use those services in future. The results of this study show that preparedness account for 59.29% (R^2) of variability on students Entrepreneurial zeal. This means that the higher the trust the more likely students will embrace and use the hub services. However, the lack of resources has been a cause of concern among students. The lack of perceived feasibility of entrepreneurship education to steer innovation and entrepreneurship zeal is indicative of the lack of confidence in the Education 5.0 and the resultant programs. By lacking specific behaviour and apparatus required to steer systemic entrepreneurship, University support services need retooling and change of strategy. The positive attitude that students have on the entrepreneurship education is commendable and pleasing. Improvements on the resources and thrust of the Education 5.0 programme is likely to bring significant results.

RECOMMENDATIONS

Deducing from the analysis, findings derived and conclusions drawn, the following were recommendations were given:

- The University should ramp up its interventions and motivate students to be more efficacious and try to use the innovation the support services while continuing to enrich their curricula to be innovation friendly.
- NUST should offer incentives to students and staff for spinoff that should emerge from exposure to entrepreneurship at University. The University should institute face-to-face interactions with students and get their input on how best both parties can benefit from the worthwhile investments by government.
- The University should make efforts to link potential entrepreneurs with angel investors, non-governmental institutions or come up with methods to find startup funding to enable students to operationalise and commercialise their innovations.
- The institution need to continually seek enriching partnerships with other Universities for purposes of capacitation. There is need to monitor and evaluate milestones achieved through looking at such outputs as the volume of patents produced, number of spin-

offs or patent licensing agreements with private companies, number of private public partnerships in support of Education 5.0.

CONCLUSION

The significant findings of the study unveiled that students have positive perceptions on the impact of the entrepreneurial education on their entrepreneurial zeal, with male students have more entrepreneurial zeal than their female counterparts. It is good to note that the majority of students are aware of the existence of the Education 5.0 initiatives and entrepreneurship is considered as a good career option by most students, with Engineering students having more positive perceptions of the entrepreneurship education than their counterparts. However, respondents expressed concerns on the adequacy of resources (funding, latest equipment) and the failure by the University support system to adequately empower them on how they can leverage the support infrastructure and innovate productively. Additionally, there is need for a holistic approach in developing the entire entrepreneurship ecosystem in Zimbabwe by focusing on all major domains and not only education. Conclusively though notable efforts to change the education curricula in Universities such as NUST will to some extent yield positive outcomes.

REFERENCES

1. Abbasianchavari, A., & Moritz, A. (2021). The impact of role models on entrepreneurial intentions and behavior: a review of the literature. *Management Review Quarterly*, 71, 1-40.
2. Acs, Z., Parsons, W., and S. Tracy. 2008. "High-Impact Firms: Gazelles Revisited". Small Business Rese arch Summary. SBA Office of Advocacy. *Small Business Research Summary*. No. 328.
3. Afolabi, A. (2015) The effect of Entrepreneurship on economic growth and development in Nigeria. *International Journal of Development and Economic Sustainability*, Vol 3(2): ISSN: 2053-2199.
4. Ajzen, I., 1991, 'The theory of planned behavior', *Organizational Behavior and Human Decision Processes* 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-Tm](https://doi.org/10.1016/0749-5978(91)90020-Tm)
5. Ajzen, I. (2011) The theory of planned behaviour: reactions and reflections. *Psychology Health* 26, 1113-1127. <https://doi.org/10.1080/08870446.2011.613995>
6. Alexander, I. K., & Honig, B. (2016). Entrepreneurial intentions: A cultural perspective. *Africa Journal of Management*, 2(3), 235-257.
7. Bae, T.J., Shanshan, Q., Chao Miao James O. Fiet (2014). The Relationship Between Entrepreneurship Education and Entrepreneurial Intentions: A Meta-Analytic Review
8. Bird, B. (1988) Implementing Entrepreneurial Ideas: The Case for Intentions. *Academy of Management Review*, 13, 442-454.

- <https://doi.org/10.5465/amr.1988.4306970>.
9. Bomani, M., Fields, Z., & Derera, E. (2019). The role of higher education institutions in the development of SMEs in Zimbabwe. *International Journal of Business and Management Studies*, 11(2), 1-15.
 10. Botezat, E. (2012). Creative entrepreneurial culture: an empirical study. *International Journal of e-Education, e-Business, e-Management and e-Learning*, 2(4), 327.
 11. Chigumira, G., Dube, M. C., Matsika, M. W., Nyemba, M. L. E. N., & Nyemba, M. L. E. (2017). Youth Empowerment and Entrepreneurship through Technology Transfers. Zeparu
 12. Cooke, R., Dahdah, M., Norman, P., & French, D. P. (2016). How well does the theory of planned behaviour predict alcohol consumption? A systematic review and meta-analysis. *Health psychology review*, 10(2), 148-167.
 13. Cui, J. (2021). The impact of entrepreneurship curriculum with teaching models on sustainable development of entrepreneurial mindset among higher education students in China: the moderating role of the entrepreneurial climate at the institution. *Sustainability*, 13(14), 7950.
 14. Dedehayir, O., Saku, J., Makinen, S.J. & Ortt, R. (2018) Roles during innovation ecosystem genesis: A literature review, *Technological Forecasting and Social Change*, Volume 136, pp.18-29. ISSN 0040-1625, <https://doi.org/10.1016/j.techfore.2016.11.028>
 15. Dencker, J. C., Bacq, S., Gruber, M., & Haas, M. (2021). Reconceptualizing necessity entrepreneurship: A contextualized framework of entrepreneurial processes under the condition of basic needs. *Academy of Management Review*, 46(1), 60-79.
 16. Fayolle, A., Gailly, B., & Lassas-Clerc, N. (2006b). Assessing the impact of entrepreneurship education
 17. FinScope MSME Survey Zimbabwe (2013# Fin mark Trust, viewed 02 September 2017, <https://finmark.org.za/finscope-msme-survey-zimbabwe-2012>
 18. Isenberg, D. (2011). How to foment an entrepreneurial revolution. *The Babson Entrepreneurship Ecosystem Project*, 781(7).
 19. Isenberg, D. J. (2010). How to start an entrepreneurial revolution. *Harvard business review*, 88(6), 40-50.
 20. Jones, P. & Maas, G. (2019) Conclusions on transformational entrepreneurship, in Maas, G. & Jones, P. [eds.]: *Transformational Entrepreneurship Practice: Global Case Studies*, Springer, Switzerland.
 21. Josephon, A., & Shively, G. (2019). Household Labor Allocation and Unanticipated Events in Zimbabwe.
 22. Kabonga, I., & Zvokuomba, K. (2021). Entrepreneurship among university students in Bindura, Zimbabwe. *Cogent Social Sciences*, 7(1), 2004674.
 23. Karedza, G., & Govender, K. K. (2017). Enhancing the export performance of the SMEs in the manufacturing sector in Zimbabwe. *Academy of Marketing Studies Journal*, 21(2), 1-19.
 24. Krueger, N. F. (2017). Entrepreneurial intentions are dead: Long live entrepreneurial intentions. In *Revisiting the entrepreneurial mind* (pp. 13-34). Springer, Cham.
 25. Lee-Ross, D. (2017). An examination of the entrepreneurial intent of MBA students in Australia using the entrepreneurial intention questionnaire. *Journal of Management Development*.
 26. Linan, F., & Chen, Y. W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship theory and practice*, 33(3), 593-617.
 27. Linan, F. & Fayolle, A. (2015) A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda, *International Entrepreneurship Journal*, Vol.11, pp.907-933. <https://doi.org/10.1007/s11365-015-0356-5>
 28. Maas, G., Jones, P., & Lockyer, J. (2019). The Journey to Transformational Entrepreneurship. *Transformational Entrepreneurship Practices*, 1-14. doi:10.1007/978-3-030-11524-1_1
 29. Malebana, M. J., & Swanepoel, E. (2014). The relationship between exposure to entrepreneurship education and entrepreneurial self-efficacy. *Southern African Business Review*, 18(1), 1-26.
 30. Malebana, M. J., & Swanepoel, E. (2015). Graduate entrepreneurial intentions in the rural provinces of South Africa. *Southern African Business Review*, 19(1), 89-111.
 31. Matsongoni, H., & Mutambara, E. (2021). Challenges Faced By The Informal Small to Medium Enterprises-A Case study of the Manufacturing sector in Zimbabwe. *International Journal of Entrepreneurship*, 25, 1-17.
 32. Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. *Final Report to OECD*, Paris, 30(1), 77-102.
 33. Mejia, P. S., Hincapie, M., Juan, M., Giraldo, T. & Alexander, J. (2019) A Hub-based University Innovation Model. *Journal of Technology Management and Innovation* [online] Vol. 14 (1) pp.11-17. ISSN 0718-2724. <https://dx.doi.org/10.4067/S0718-27242019000100011>
 34. Mhembwe, S., & Dube, E. (2017). The role of cooperatives in sustaining the livelihoods of rural communities: The case of rural cooperatives in Shurugwi District, Zimbabwe. *Jambá: Journal of Disaster Risk Studies*, 9(1), 1-9.
 35. Mudamburi, T. (2019) SME financing in a dollarized multi-currency system: Zimbabwe case study.

36. Mujeyi, K., & Sadomba, W. Z. (2019). Unemployment and Informal Entrepreneurship in Zimbabwe: Implications for Regional Integration. In *Innovation, Regional Integration, and Development in Africa* (pp. 251-266). Springer, Cham.
37. Musabayana, G. T., Mutambara, E., & Ngwenya, T. (2022). An empirical assessment of how the government policies influenced the performance of the SMEs in Zimbabwe. *Journal of Innovation and Entrepreneurship*, 11(1), pp.1-21.
38. Nabi, G. & Holden, R. (2008) Graduate entrepreneurship: Intentions, educations, education and training. *Education and Training*, 50(7), pp.545-551.
39. Nani, G. V. (2019). Entrepreneurship Intervention: Towards Transforming Education in Institutions of Higher Learning: A Case of One Public University in Zimbabwe.
40. Ndofirepi, T. M. (2020). Relationship between entrepreneurship education and entrepreneurial goal intentions: psychological traits as mediators. *Journal of Innovation and Entrepreneurship*, 9(1), 1-20.
41. Nyamwanza, L., Paketh, L., Mhaka, C., Makaza, F. & Moyo, N. (2015) An evaluation of the policies instituted by the Government of Zimbabwe in promoting survival and growth of SMEs: The case of Glenview area 8 SMEs. *International Journal of Novel Research in Marketing Management and Economics*, Vol 2(2), pp.35-44.
42. Nyoni, T. (2018). The entrepreneurship miracle: a desperate move to rectify Zimbabwe's socio-economic herculean?
43. Olafsen, E., & Cook, P. A. (2016). Growth entrepreneurship in developing countries: A preliminary literature review. *Washington, DC: The World Bank Group*.
44. Ranga, V., Shweta, J. & Venkateswarlu, P. (2019) Exploration of Entrepreneurial Intentions of Management Students Using Shapero' Model. *Theoretical Economics Letters*. <https://09.959-972.10.4236/tel.2019.94062>
45. Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (Seventh). Nueva York: Pearson Education.
46. Sautet, F. (2013). Local and Systemic Entrepreneurship: Solving the Puzzle of Entrepreneurship and Economic Development. *Entrepreneurship Theory and Practice*, 37(2), 387-402.
47. Shapero, A. and Sokol, L. (1982) The Social Dimensions of Entrepreneurship. In: Shapero, A., Ed., *The Encyclopedia of Entrepreneurship*, Prentice Hall, Englewood Cliffs, 72-90.
48. Shinnar, R.S., Giacomini, O. & Janssen, F. (2012) Entrepreneurial Perceptions and Intentions: The role of Gender and Culture. *Entrepreneurship Theory and Practice*, 36(3), pp.465-493. <https://doi.org/10.1111/j.1540-6520.2012.00509.x>
49. Shumba, V. (2014). The journey towards productive entrepreneurship: A theoretical review of the entrepreneurial landscape in Zimbabwe. *International Journal of Economics, Commerce and Management*, 2(7).
50. Siebetet, J.U., Kunzi, R.E. & Roff, P. (2021) Effects of decision training on individual's decision making proactivity. *European Journal of Operational Research*, Vol.4 (1), pp. 264-282.
51. Siwela, G. & Njaya, T. (2021) Opportunities and challenges for digital financial inclusion of females in the informal sector through mobile phone technology: evidence from Zimbabwe, *International Journal of Economics and Management*, IX, 60.
52. Slavtchev, V., Laspita, S., & Patzelt, H. (2012). Effects of entrepreneurship education at universities. *Jena Economic Research Papers*, 25, 1-33.
53. Snieder, R. & Larner, K. (2009) "The Art of Being a Scientist: A Guide for Graduate Students and their Mentors", Cambridge University Press, p.16
54. Volery, T. (2000) *Entrepreneurship: The engine of economic growth and development*, University of St. Gallen. https://www.researchgate.net/publication/36389190_Entrepreneurship_The_engine_of_economic_growth_and_development
55. Wach, K., & Wojciechowski, L. (2016). Entrepreneurial intentions of students in Poland in the view of Ajzen's theory of planned behaviour. *Entrepreneurial Business and Economics Review*, 4(1), 83.
56. Zhao, J., & An, Y. (2021). Behavioural intention of forest therapy tourism in China: based on health belief model and the theory of planned behaviour. *Current Issues in Tourism*, 24(24), 3425-3432.
57. Zindiye, S., Chiliya, N. & Masocha, R. (2012) The impact of government and other institutions' support on the performance of small and medium enterprises in the manufacturing sector in Harare, Zimbabwe. *International Journal of Business Management and Economic Research*, 3(6), pp.655-667.