EFFECT OF ENTREPRENEURIAL CULTURE ON THE GROWTH OF BUSINESS START-UPS IN TECHNOLOGY INCUBATION CENTRE, MINNA, NIGER STATE, NIGERIA.

BY

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA, NIGERIA, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF TECHLOGY IN ENTREPRENUERSHIP AND BUSINESS STU

ABSTRACT

The place of culture in any organization is very cardinal to its growth. Entrepreneurial Culture is a powerful force among business start-ups to achieve sustainable growth. Hence, the study investigates the Effect of Entrepreneurial Culture on the Growth of Business Start-ups in Technology Incubation Center, Minna, Niger State. The study employed a Quantitative Approach using a Cross-Sectional Survey with a structured Questionnaire for Data Collection. Three null hypotheses were formulated and tested at $p<0.05$. A Census-based method was employed for total enumeration of the sample in other to have a robust result. A 5-point Likert scale structured questionnaire based on previous study was employed for data collection. Descriptive statistics was used to analyze the demographic profile of the respondents. While Inferential Statistics, that is, Multiple Regression Analysis was used to test the Research Hypothesis as consistent in previous studies. The sample frame contained forty-two (42) Business Start-ups in Technology Incubation Centre, (TIC), Minna, Niger state, Nigeria, with 188 respondents, who were the employees/managers. The result showed that R of 35.2% at 0.000 was significant for Business Start-ups in TIC, Minna, Niger State, Nigeria. The result revealed that Innovation has a significant effect on the growth of Business Start-ups in TIC, Minna, Niger State, Nigeria. The second hypothesis revealed that Tolerance of Failure has no effect on the growth of Business Start-ups in TIC, Minna, Niger State, Nigeria. The third hypotheses revealed that Risk-taking has no effect on the growth of Business Start-ups in TIC, Minna, Niger State, Nigeria. The research study was limited by inability to obtain timely, adequate and accurate data from the Business Start-ups in TIC, Minna, Niger State, Nigeria. It is recommended that the Business Start-ups in TIC, Minna, Niger State, Nigeria, should adopt Entrepreneurial Culture with its dimensions: Innovation, Tolerance of Failure and Risktaking, so as to achieve sustainable growth for its start-ups. The study contributes to the existing literature on Entrepreneurial Culture on the Growth of Business Start-ups.

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LIST OF ACRONYMS

OECD- Organization for Economic Co-operation and Development

TEA- Total Entrepreneurial Activity

GEM- Global Entrepreneurship Monitor

R & D - Research and Development

CSE - Confederation of Swedish Enterprise

EC - Entrepreneurial Culture

GGECYEG -Good Governance, Entrepreneurial Culture among Youths and Economic Growth.

PLS - Partial Least Squares

SEM - Structural Equation Modeling

TIC - Technology Incubation Center

AVE - Average Variance Extracted

GDP - Gross Domestic Product

DEA - Data Envelopment Analysis

SEM - Structural Equation Modeling

EAO - Entrepreneurial Attitude Orientation

EOR - Entrepreneurial Opportunity Recognition

VIF - Variance Inflation Factor

IEC - International Entrepreneurship Culture

CR - Composite Reliability

NPD - New Product Development

ICT - Information and Communication Technology

GDPPC - Gross Domestic Product Per Capital

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

From emerging economies to developed economies, there is the belief that entrepreneurship is a key factor to the growth of business start-ups (Okangi, 2019; Prasetyo, 2019; Charron Vias and River-Cruz, 2020). Entrepreneurship is required at developing strategies necessary for achieving the steady growth of business start-ups (Fritsch and Wyrwich, 2018; Buccieri *et al*., 2020). Business Start-ups are thus important in many economies since they perform as driving force for national competitiveness in the 21st century (Lee *et at*., 2011). Therefore, enhancing the growth of business start-ups is imperative as they produce goods and services, create employment, generate new innovations to the market, respond to economic needs of the communities by paying taxes to government (Okangi, 2019). To be able to make these important, socio-economic contributions on a consistent and sustainable basis, business startups must therefore, adopt a culture that is entrepreneurial (Li and Lee, 2015; Fritsch and Wyrwich, 2018).

Entrepreneurial culture is a concept that engenders the introduction of new ideas, enables experimenting and offers new solutions to problems (Doody *et al.,* 2016; Hanson *et al.,* 2019). As such, entrenching an entrepreneurial culture may, to some extent assist business start-ups to achieve growth through innovation, tolerant of failure and risk-taking (LealRodriguez *et al*.,2017; Tibaingana, 2019; Okangi, 2019).

Technology incubators are noted for their ability to instill a culture among the entrepreneurs in order to help them realize their entrepreneurial dreams (Tibaingana, 2019). Technology incubation commenced in the early 1950s in the United States of America as a gateway for the growth of business start-ups (National Business Incubation Association, 1985). The aim was to create and promote new businesses, wealth, employment and economic development (Ndagi, 2019). Technology incubation programmes have the potential for creating jobs, building wealth by fostering the formation of new jobs and wealth by businesses start-ups and accelerate research to industry linkages (Ndagi, 2018). To accomplish its goals, incubators implement ground plans that would enhance access to capital especially the one stop shop method, business and technical management training, contract procurement assistance, by contract forming new networking opportunities by gathering export aids and technological transfers (Hamdan, 2019). Incubation as a concept was revealed to Africa in 1988 by United Nations Development Programme (UNDP) that test run the new idea on pilot schemes in four (4) countries: Nigeria, Equatorial Guinea, Zimbabwe and Ivory Cost by the year 2008, the programme had already cut across with about 100 Incubation centers in Africa (Ndagi, 2018).

The establishment of Technology Incubation Programme in 1988, and pilot centers in Aba, Kano, and Lagos, the successes achieved facilitated setting up of Calabar, Minna and Nnewi in 1998 (Ndagi, 2019). In 2005, it has increased to seventeen (17) incubation centres and by 2012, about forty (40) incubation centers came onboard with about two hundred and eightyseven (287) entrepreneurs and a total number of six thousand two hundred (6200) new jobs created (NBTI, 2013). Entrepreneurship and technology incubation are related concepts in the incubation industry (Prasetyo, 2019).

Minna Technology Incubation Centre was established in April, 1998 and commenced operations in August, 1998 with only six (6) incubator units with six (6) pioneering entrepreneurs. That centre was officially commissioned on 16th May, 1999 and by December

2000, the centre had twenty-two (22) incubation units with nineteen (19) entrepreneurs (Ndagi, 2018). As at 2021, the TIC, Minna has twenty-three (23) incubation units with twenty-three (23) entrepreneurs.

Therefore, the present study attempts to address the effect of entrepreneurial culture on the growth of Business Start-ups in TIC, Minna, in other to ensure, a sustainable growth by exploring innovation, tolerance of failure and risk-taking cultural dimensions.

1.2 Statement of the Problem

Incubation, widely acknowledged as a model that triggers the growth of business start-ups (Tibaingana, 2019), paucity of information to validate the contribution of incubators at encouraging the growth of business start-ups in Nigeria is still a cause for concern. it is also widely accepted that the inadequate maximization of incubation centres because they lacked the knowledge and understanding of the purpose for its being setup, contributes to business start-ups' demise.

Most prior studies such as Fredin and Jogmark (2017); Fernandez-Serrno *et al.* (2018); Fritch and Wyrwich (2018); Capelleras *et al*. (2019); Cwynar (2019); Buccieri *et al*. (2020); Charron and Rivera-Cruz (2020), have not considered the importance of entrepreneurial culture or

such variables as innovation, tolerance of failure and risk taking, as variables required to enhance the growth of business start-ups.

The above analysis poses a gap which this study sought to fill. In view of the above therefore, it is imperative to conduct a study by investigating the effect of entrepreneurial culture and growth of business start-ups in TIC, Minna, Niger state. Based on these problems, the following research objectives became necessary to guide this study.

1.3 Objectives of the Study

The main objective of this study is to investigate the effect of entrepreneurial culture at enhancing the growth of business start-ups in TIC, Minna, Niger state. The specific objectives are:

1. To examine the effect of innovation on the growth of business start-ups in TIC, Minna.
2. To investigate the effect of tolerance of failure on the growth of business start-ups in TIC, Minna.
3. To investigate the effect of risk-taking on the growth of business start-ups in TIC, Minna.

1.4 Research Questions

1. What is the effect of innovation on the growth of business start-ups in TIC, Minna?

2. Does tolerance of failure have any effect on the growth of business start-ups in TIC, Minna?

3. To what extent does risk-taking affect the growth of business start-ups in TIC, Minna?

1.5 Research Hypotheses

The following null hypotheses were developed to guide the study.

1. **Ho**: Innovation has no significant effect on the growth of business start-ups in TIC, Minna.

2. **Ho**: Tolerance of failure has no effect on the growth of business start-ups in TIC, Minna.

3. **Ho**: Risk-taking has no effect on the growth of business start-ups in TIC, Minna.

1.6 Significance of the Study

Research in entrepreneurship is usually carried out to address certain problems in order to maximize its contribution to all the stakeholders. Hence, the management, entrepreneurs and

employees of business start-ups in TIC, Minna, Niger state, Nigeria, and the academia stand to benefit immensely from the results of its findings.

Findings from this study add to the general body of knowledge in many areas of entrepreneurial culture that influence the entrepreneurial attitudes of technology incubation centre to enhance the abilities to add knowledge theory and business practice and in determining their growth. In addition, it further contributes immensely not only to the existing gaps in knowledge of entrepreneurial culture, but also scale-open the door to new directions in research.

The results of this study have an immense policy implication, most especially for government and development agencies in designing policies that would enhance business start-ups that may desire to boost entrepreneurship by vigorously pursuing those aspects of culture that are important towards entrepreneurship.

1.7 Scope of the Study

This study has been defined along the following four (4) dimensions. Firstly, in respect to its context and in regards to its main purpose, but dwells principally within the scope of entrepreneurial culture as it affects the growth of business start-ups in TIC, Minna, Niger State, Nigeria. Secondly, the independent variables for the study were innovation, tolerance of failure and risk-taking measured by employee size. Thirdly, the study adopted a crosssectional survey using census-based method for data collection and from 42 business startups in TIC, Minna, Niger State, Nigeria, for the periods of five years (2016-2020) but must have being a year old. Fourthly, a quantitative approach was employed using both

descriptive and inferential statistics. Therefore, caution should be taken in generalizing to other business start-ups in Nigeria.

1.8 Limitation of the Study

First, there is paucity of academic literature on entrepreneurial culture on the growth of business start-ups. Second, the inability to obtain timely, accurate and adequate data and information from the study centre, TIC, Minna, Niger State, Nigeria, occasioned by "EndSARS PROTEST" of March, 2020 to November, 2020, which, has limited staff movements to their offices and other important research areas. Third, the uncooperative attitudes of some business start-ups in TIC, Minna, towards divulging useful information to enhance the analysis of data that will facilitate the interpretation of the present study. However, the

researcher was able to overcome them.

1.9 Definition of Terms

This section provides the operational terms used in this study as most words have different meanings.

*Beliefs***:** Refers to the acceptance and behaviour that is associated with entrepreneurship as being desirable and legitimate in achieving desirable outcomes.

Competitive Advantage: The leverage an entrepreneur has over his/her competitors for a product or service in a defined environment.

*Entrepreneurial Behaviour***:** An expression of a person's ways of behaviour that offers the individual to reveal and show a variety of many needs that are important to his livelihood.

*Firm Orientation***:** The beliefs that, as long as the product/service was of a high standard, people would buy and consume it.

Entrepreneurial Orientation: The practices, processes, and decision-making styles of enterprises that are innovative.

*Entrepreneurial Spirit***:** Entrepreneurship that is modelled by new ideas and risk-taking culture that forms an important portion in the market place that is globally competitive**.**

*Entrepreneurial Culture***:** Culture of new ideas and creativity that results to growth of most businesses.

Growth: Measurement parameter that shows a positive increase in the quantity of the

workforce at a particular point in time.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Conceptual Review

This section discusses the definitions and conceptualizations of the two variables: entrepreneurial culture and growth. Entrepreneurial culture is the independent variable with three dimensions (innovativeness, tolerance of failure and risk-taking. The dependent variable is growth which focuses on business start-ups. The objective of this section is to provide an overview of the various ways by which the two variables have been conceptualized by prior studies in order to achieve how they will be conceptualized in this study.

2.1.1 Concept of entrepreneurship

Entrepreneurship refers to the process of creating something new with value by devoting necessary time, putting in effort, sinking funds, taking psychic and social risks as recovering the rewards of monetary, personal satisfaction and independence (Prasetyo, 2019; Buccieri *et al*., 2020). Shane (1993) provides an acceptable concept of entrepreneurship as "an activity that involves the discovery, evaluation, and exploitation of opportunities to introduce new goods and services, ways of organizing, markets, process, and raw materials through organizing efforts that previously had not existed"(Shane and Venkataraman, 2000; Breazeale *et al*., 2015). Schumpeter (1934) writings on the other hand, further gave credence to the concept of entrepreneurship by his emphasis on "new combinations" of factors of production that leads to technological change, that is, "innovation" (Ndagi, 2018).

Schumpeter (1934) therefore concentrated on how entrepreneurial acts listed five categories of action that are covered by the concept of innovation:

i. The introduction of a new good or quality of a good;

ii. The introduction of a new method of production-something that is yet tried in industry;

iii. The opening of a new market;

iv. The utilization of some new source of supply for raw materials or immediate goods;

v. The carrying out of some new organizational form of the industry.

Thus, Schumpeter (1934) sees entrepreneurship as an innovation and not imitation (Ndagi, 2018; Adeyeye *et al.*, 2019). It was believed that only the entrepreneur can move the economy out of the static equilibrium, but thought that the very mainspring of the exercise of the entrepreneurial function is the powerful will to assert economic leadership. The entrepreneur has the capacity to move the economic system out of the static equilibrium by creating new products and or production methods thereby making others obsolete which is termed "creative destruction," which was seen by Schumpeter as the driving force behind economic development (Shane and Venkataraman, 2000).

The term entrepreneurship thus owes much to the work of the economists Cantillon (1775), Baptiste Say, Ludwig Von Mises, clerk, Marshall and Von Hayek till the end of the 19th century (Adeyeye., 2018). Therefore, the concept of entrepreneurship has to do with how several activities were accomplished in an organization for efficiency (Okangi, 2019).

However, entrepreneurship, most often, is linked with personal traits such as creativity, innovativeness, imagination, patience, tolerance, proactivity and opportunism as agents of change (Leal-Rodriguez; Adeyeye *et al.*, 2019). Entrepreneurship, a word derived from French word entrepredre, meaning to undertake, i.e., the process of undertaking activities is linked with identifying and exploiting business opportunities while assuming its associated. risks (Ndagi, 2018). Thus, entrepreneurship is about a type of behavior that includes initiative taking, reorganizing economic activities and the acceptance of risks (Prasetyo, 2019; Tibainagana, 2019; Okangi, 2019). The peculiarity of entrepreneurship thus insinuates a need for an entrepreneurial culture for an organizational culture.

2.1.2 Entrepreneurial culture

The concept, entrepreneurial culture is a combination of entrepreneurship and culture. The term "culture" to Hofstede (2016) refers to "a collective programming of mind which distinguishes the member of one group of people from others" (Prasetyo, 2019). Likewise, Mornah and MacDermortt (2016) sees culture as behaviour that could be studied and impacted on others with an imprint that will benefit the wider society in general. Schumpeter (1934) writings gave credence to the concept of entrepreneurship by his emphasis on "new combinations" of factors of production that leads to technological change, that is, "innovation" (Garcia-Ruiz and Tominelli, 2015; Ndagi, 2018).

Entrepreneurial culture has been defined as an aggregate of individual's attitudes and beliefs in societies that considers such concerns that such an entrepreneurial life style that seem necessary in such a way that seriously searches for efficient entrepreneurial behaviour for groups or individuals (Dimitratos *et al*., 2012; Adeyeye *et al*., 2019; Prasetyo, 2019). Prior studies conceptualized entrepreneurial culture as ones preparedness to face competition, set with regulations, which result in a set of positive behaviours regarding to businesses formed in maximum conditions to achieve growth (Grace, 2013; Del Giudice *et al*. 2017; Hamdan, 2019), opined that entrepreneurial culture is that "….*in which innovation and creativity are expected, risk-taking culture is accommodated, tolerance of failure is permitted, process, product and administrative innovations are championed, and continuous change is seen leading to opportunities*" (Ruel *et al*., 2012; Li and Lee, 2015; Adeyeye *et al*., 2019). Thus, upholding an entrepreneurial culture by paying attention to key skills has the capacity that can lead to growth, since culture adopts entrepreneurial strategies for environmental, and other economic and social perspectives (Breazeale *et.al*., 2015; Charron and Rivera-Cruz, 2020).

Even though, an entrepreneurial culture has been seen to be an important factor for business start-ups that enables the innovative capabilities of the workforce, (Noke and Mosey, 2017; Okangi, 2019), some scholars of entrepreneurial culture that focused solely on the features of entrepreneurship, considers that in most cases, many of the businesses appears to be local and small, but also involves such bodies that are mostly practiced in their domain which rely solely on their local channels for start-ups, and growth (Roy *et al*., 2020; Buccieri *et al.,* 2020). Entrepreneurial culture is principally the deviation from conventional management principles, for optimal growth and to gain competitive advantage that non-entrepreneurial firms have no choice than either to adapt to be entrepreneurial or back out.

Therefore, entrepreneurial culture is regarded as an aggregate of beliefs, values and behaviours adhere in organizations that accept the idea that an entrepreneurial way of life is necessary and seriously support to investigate for an entrepreneurial attitude by every individuals as well as others (Marti *et al*., 2013; Fredin and Jogmark, 2018; Prasetyo, 2019; Hamda, 2019; Bucceiri *et al*., 2020).

Further, entrepreneurial culture that favours a positive social manner towards an entrepreneurial approach accommodates high tolerance for failure and permits the acceptance of effort for the entrepreneur to achieve firm growth (Glassman, 2009; Hancioglu, 2014). Entrepreneurial culture emphasizes more attention on innovation, and in this area of high competitiveness, leaving the business start-ups with no other choice but to be entrepreneurial. Previous studies on entrepreneurial culture encourages people to take risks (Ruel *et al*. 2012; Li and Lee, 2015; Leal-Rodriguez *et al.* 2016; Fritsch and Wyrwich, 2018) of exploring possibilities of innovativeness, proactiveness against reactiveness, competitive autonomy, informality against bureaucracy and also tolerance of failure.

2.1.2.1 Features of entrepreneurial culture

There are features that are distinctive in any particular subject, hence certain features are found in an organizational culture that classified it as entrepreneurial culture. Few of them are discussed in this sub-section:

2.1.2.2 Innovation

Entrepreneurship and innovation are twin concepts often considered to be exceptional activities carried out by heroic individuals (Wyrwich, 2018; Tibaingana, 2019).

Entrepreneurial culture is key to innovation and thus essential to the growth of business startups (Huyghe and Knockaert, 2015; Charron and Rivera-Cruz, 2020). This assertion is because the heart of entrepreneurship is innovation (Adeyeye *et al.*, 2018). Thus, innovation is a concept that deals with the proactivity of the start-ups to support new and creative ideas, products or processes for markets because it is a fundamental aspect of the entrepreneurialism of the business (Okangi, 2019). Adeyeye *et al*. (2017) defined innovation as the growth achieved in the exploitation of new ideas. It is accepted as the process that carries ideas into actions, be they be new manufacturers; new ways of organizing and doing business, and more so, new ways of thinking (Fritsch and Wyrwich, 2018). Innovativeness helps business startups to pursue opportunities, because it as well helps to improve their positions in the market and improve the quality and quantity of their products and services (Lim *and Lee*, 2009; Adeyeye *et al.,* 2019). It also improves cost efficiency and increases productivity in the enterprise.

As such, innovation in business on one hand can be seen to include product innovation, market development, market innovation, and process innovation (Gabrielsson *et al*., 2014; Leal-Rodriguez *et al.,* 2016). Creativity on the other hand is the post hoc of innovation and thus, every employee must re-awaken their creative potentials to discover new windows of opportunities and exploit it for a new product/service, process, and market at a regular interval (Okangi, 2019). “Innovate or die”, a quote attributed to Penn State University, (Kochargaonkar and Boult, 2014; Del Giudice *et al.* 2017) which encapsulates the belief that

organizations need to continually improve, refresh and invent new offers and ways of doing things in order to survive highly competitive business environment.

Therefore, innovation in this study is taken to represent an entrepreneurs' attempt to imbibe new ways of doing things in order to achieve growth for his start-up in TIC, Minna.

2.1.2.3 Risk-taking

Risk-taking can be defined as a business start-up' tendency to engage and the willingness to commit significant resources to opportunities with uncertain outcomes (Omari *et al*., 2017; Okangi, 2019; Tibaingana, 2019). The willingness to take risks in pursuit of goals are regarded as human virtues and promoted as such (Samli, 2016; Bouchouicha and Vieider,

2019). As such, when looking at the different rates of innovation across nations, (Shane, 1993) shows that an acceptance of uncertainty appears to be a necessity, probably because innovation requires tolerance of risks and change.

Consequently, risk-taking assist start-ups to engage in bold actions rather than actions that are cautious (Okangi, 2019). Leal-Rodriguez *et al*. (2016) posited that innovation must often imply some degree of risks and its use and applications may not always guarantee success. Hancioglu (2014) also opined that individuals that behave entrepreneurially must search for opportunities in the markets that are usually dynamic, and by their knowledge stock, have the

abilities to perceive and deal with uncertain conditions which might also be based on motivation and risk-taking tendency.

Individuals that possess the willingness to take risks enables an economy to grow, thereby increasing the quantity of people with entrepreneurial traits that leads to growth. For this study, risk-taking is taken to mean the probability that an investment outcome may be positive or negative in business start-up. However, entrepreneurs need to be moderate risktakers to avoid total loss in case the investment becomes a sinking boat.

2.1.2.4 Tolerance of failure

Tolerance of failure can be defined as the willingness or propensity of the entrepreneur to forge bridging ties, that is, the possibility that a barrier to innovation may not deter further experimentation, Kinnear and Ogden (2011). Tolerance of failure is important to entrepreneurial culture and the learning theory considers failure as a learning curve (Adeyeye *et al.*, 2018). As such, failure is inherent in every experimentation as well as innovation processes and therefore, every employee in the business start-up must contribute to its growth, irrespective of their employment status and with no recourse to whether it will fail or succeed (Marti *et al.*, 2013; Dheer, 2016).

Therefore, it is expected that business owners of business start-ups in TIC, Minna, must tolerate failures arising from experimentations bearing in mind that not all may result to

failure. Accepting failure is an important aspect of innovation which a business owner must live with because Some level of successes may arise that may lead to growth.

2.1.2.5 Proactiveness

Proactiveness can be defined as a process that aims at anticipating and acting on future opportunities in terms of products, technologies and market rather than reacting to events after they may unfold (Ketche and Short, 2012). To be proactive means introducing new products ahead of competition and strategically eliminating operations that are often at a declining stage of the business cycle (Okangi, 2019).

Business start-ups that are proactive in pursuing opportunities can achieve growth more than those that are not. The reason being that the more proactive the business start-up is in capturing new business opportunities, the greater the growth rates of the business (Roopchund, 2020). This is because proactiveness equip business start-ups with the ability to respond effectively to market opportunities. Therefore, proactiveness can improve growth of a business start-up developing new businesses. Farja *et al*. (2016) in Israel indicated that the higher the level of proactiveness in a business start-up, the higher the level of growth that would be realized in such business start-up.

2.1.2.6 Informality

Informality is a source of change, innovation and development. For instant, when members of a business start-up start to deviate from formal rules, regulations and the normal ways of

accomplishing tasks. Kuratko *et al*. (2012) contended that informality breaks every bureaucracy and protocols that may likely affect entrepreneurial culture by allowing freedom to innovate and access to the authorities concerned at any given time. As such, informality is an alternative, where formal management system is considered weak or virtually unproductive (Pfeffer, 2012). The main features of informality are the opposite of the formal, where everything tends to be subjective and sometimes irrational, which is required to escape from the "iron age" of formal domination (Weldrom, 2011).

In an informal business start-up, it can be noticed that informality seems to be the norm against formal rules and regulations. Employees are encouraged to have the freedom to express themselves both with fellow employees and management in order to get the work accomplished. Therefore, for a business start-up to become entrepreneurial, there must be a reasonable level of freedom assigned to its employees (Ruel *et al*., 2012). Adeyeye *et al*.

2018) posited that informality breaks protocols, bureaucracy and encourages networking and innovation. There are other features such as rewards for employees' innovativeness, experimentation, accountability and others.

Only three variables out of these features were tested. The first, innovation, because it is the core of entrepreneurship; the second, tolerance of failure, because that is the feature that can encourage employee's innovativeness; risk-taking being the third feature, encourage business start-up owners to act boldly rather than being reactive. These will encourage the business start-ups to imbibe the culture of being entrepreneurial without undue fear or favour to achieve sustainable growth.

2.1.3 Business start-ups

Tibaingana (2019) conceptualized business start-ups as "infant and micro with brilliant ideas". Rompho (2018) also conceptualized business start-ups as young companies that have not attained 10 years in business, but have an innovative business model and/or innovative technology. As such, business start-ups are important drivers of job creation and wealth and contribute in no small measure to the growth of most economies (Okangi, 2019; Prasetyo, 2019). Business start-ups are very important in most developed and developing economies because they provide an important platform for new ideas and knowledge which is factordriven, because of the low-level economic development of the country, and its reliance on the primary sector, which is agriculture (Breazeal *et al*, 2015; Obschonka, 2017).

In addition, innovation lies at the head of every business start-up which serves as a critical differentiation for young entrepreneurs and also for mature organizations (Fredin and Jogmark, 2017; Fritsch and Wyrwich, 2018). As such, an entrepreneurial culture where innovation thrives and employees are encouraged to be creative in pursuit of new products or services across all aspects of their businesses to attain fast growth both in size and in volumes (Okangi, 2019; Bucceiri, 2019).

However, there are various bottlenecks that impede the growth of business start-ups, such that even when they come up with a good business idea up to conception and development stage, access to finance becomes a challenge (Lalkaka, 2000; Tibaingana, 2019). Furthermore, most lending institutions hardly trust business start-ups, because they lack security in the form of collateral ((Okangi, 2019; Prasetyo, 2019). In addition, the attitude (entrepreneurial mind-set) of the owners of business start-ups are often initiated as a stopgap measure for search (a

necessity as opposed to opportunity) and once a job is secured, then, the firm is left to die (Fritsch and Wyrwich, 2018; Adeyeye *et al.*, 2019). Consequently, the entrepreneur's attitude affects the motivation and impact to grow the business (Adeyeye *et al*., 2018). Other factors inhibiting the growth of business start-ups are cost of operation which greatly affects the way the business is run, such as the costs incurred in legalizing the business and the taxes levied, weak managerial experience and recurring conflicts among owners, lack of innovative skills, etc. unlike most well established businesses (Nason, 2018; Cwynar, 2019). However, start-ups today have access to a myriad of resources through social media, Government schemes, Crowd- funding, incubators, etc. which contribute to making the life of an entrepreneur easier (kochargaonka and Boult, 2014; Fritsch and Wyrwich, 2018).

2.1.4 Technology incubators

Lewi *et al.* (2001) sees technology incubation programmes as an innovative system designed to aid entrepreneurs and investors in the development of a new technology-based business start-ups. The aim of business incubation is therefore, to create new successful businesses, employment, wealth and achieve growth (Tibaingana, 2019). Essentially, the incubation programme is to provide assistance and support towards the transformation of selected, early stage businesses with high potentials into self-sufficient, growing and profitable enterprises.

This concept has undergone extensive development in the USA, India, China, Korea, Israel, Germany, France, etc. in the context of new global trend of engineering real sector development through small and medium scale businesses (Ndagi, 2018). The African continent was not covered by this literature which this present study wishes to address.

2.1.5 Concept of growth

Growth refers to an increase in size and output of a business start-up, which is very closely related to its survival (Davidsson *et al,* 2015; Churchill and Lewis, 2020). The growth in business start-up is realized where there is an increase in size from one point in time to another (Li and Lee, 2015; Nason and Wiklund, 2018). Gupta and Govindarajan (2000) envisioned growth in terms of revenue generation, expansion of volume of the business and its value addition. High growth firms are widely known and considered as pivotal contributors to economic prosperity, if only for the large number of jobs that they create (Haltiwanger 2014).

Growth of business start- up can be measured using one of either form: financial measures and non-financial measures or a combination of both (Tsang and Park, 2013; Kochargaonka and Boult, 2014; Del Giudice *et al*., 2016; Tibaingana, 2019; Ndagi, 2018, Adeyeye *et al*.,

2019; Okangi, 2019).
Financial measures are related to monetary value derived from accounting records (Samli, 2016; Omari *et al*., 2016; Okangi, 2019). However, previous studies adopting this measure sought to use objective means (annual financial reports and other financial documents) (Gupta *et al.* 2013; Nason and Wiklund, 2018) or subjective measures which request respondents (i.e. entrepreneur or business owner) to evaluate their business financial growth to that of their competitors (Kinnear *et al*., 2013; Adeyeye *et al*., 2019) with specific indicators such as profit, revenue growth, return on investment and market share (Wee and Brooks, 2012; Samli, 2016; Omari *et al*., 2016; Okangi, 2019; Tibaingana, 2019).

On the other hand, non-financial growth uses non-monetary elements to provide explanations on how well a business start-up is doing ((Ruel *et al*., 2012; Li and Lee, 2015; Prasetyo,

2019).This studies adopted subjective measures (perception) of entrepreneur, business owner, employees and other stakeholders on the growth of business start-up (Mornah and MacDermott, 2016; Dheer, 2017). The specific indicators used include number of employees, new branches, ethical behaviour, employee satisfaction, and stakeholder's satisfaction (Delmer, 2003; Li and Lee, 2015; Adeyeye *et al*., 2019; Tibaingana, 2019).

Finally, the last categories of studies combined both the financial and non-financial measures

(Tsang and Park, 2013; Kochargaonkar and Boult, 2014; Li and Lee, 2015; Prasetyo, 2019). These categories of studies sought to have a comprehensive and holistic view of the startups by analyzing both financial and non-financial growth indicators (Lee *et al*., 2011; Dheer, 2016; Nason and Wiklund, 2018; Okangi, 2019).In addition, this combined approach adopts the use of objective and subjective measures (revenue growth, profit , market share and return on investment, number of employees, new branches, ethical behaviour, employee satisfaction, and stakeholder's satisfaction) (Delmer *et al.,* 2003; Wee and Brooks, 2011; Samli, 2016; Omari *et al*., 2017; Adeyeye *et al*., 2019; Tibaingana, 2019; Okangi, 2019). Moreover, using this approach, a structured questionnaire was developed to gain the perception of the employees in order to obtain a robust assessment (Kochargaonkar and Boult, 2014; Dheer, 2016; Okangi, 2019).

Generally, it is often difficult to obtain accurate data from business owners on profitability, return on investment and other financial measures. The reason includes non-disclosure so as to evade tax. Also, the incessant insecurity ranging from armed robbery to abduction for ransom payments that has made business owners to exercise caution on whom to disclose their business deals with. Thus, the non-financial measures of size of employees has little or

no risk, and as such, the business owner without any record could recall the size of his/her employees at the tip of the fingers. Adequately is more evident in the size of employees as a measure for growth than others. However, there is the argument that, does it mean that the higher the number of employees, the more the business grow in this era of technology? The answer is no, but in developing countries like Nigeria, where there are technological infrastructural challenges the size of employees stands to be the best option. Hence, it becomes the most measure of growth for this study. Most prior studies in developing economies employed size of employees to measure growth for business start-ups (Adeyeye *et al*., 2019; Okangi, 2019; Prasetyo, 2019; Tibaingana, 2019; Buccieri *et al.*, 2020).

This study therefore adopted the number of employees (size) to measure the growth of business start-ups in TIC, Minna, Niger State. The number of employees is a control variable between the dependent variable (growth) and the independent variable (entrepreneurial culture), an instrumental variable that an entrepreneur could use in order to meet up with increased expectations from customers (Adeyeye *et al.*, 2019). The change in growth of business start-ups should result into increase in the number of employees as explored by past studies (Adeyeye *et al*., 2019; Okangi, 2019; Prasetyo, 2019; Tibaingana, 2019P). This is because employees' size is one of the common factors in studies of business start-ups' growth and an acknowledgement by the proprietors' subjective measure that the business is achieving progress. To the proprietor, increase in size of employees also serves as an acknowledgement that the business is generating enough revenue to meet up with increases in paying salaries and wages and other attendant cost of production.

2.1.6 Conceptual framework.

This study aimed at investigating the effect of entrepreneurial culture on the growth of business start-ups in TIC, Minna, Niger state. The main framework is to bring structure, coherence and legitimacy to entrepreneurial culture on the growth of business start-ups (Li and Lee, 2015; Charron and Rivera-Cruz, 2020). It represents a clear and structured path for start-ups' development at every stage. The independent variable, entrepreneurial culture, has three dimensions/modes: innovativeness, tolerance of failure and risk-taking. Growth is the dependent variable greatly influenced by entrepreneurial culture. This conceptual framework was designed as a model to deliberate on the relationships between the dependent and independent variables discussed earlier in the literature review and elaborated below in figure 2.1.

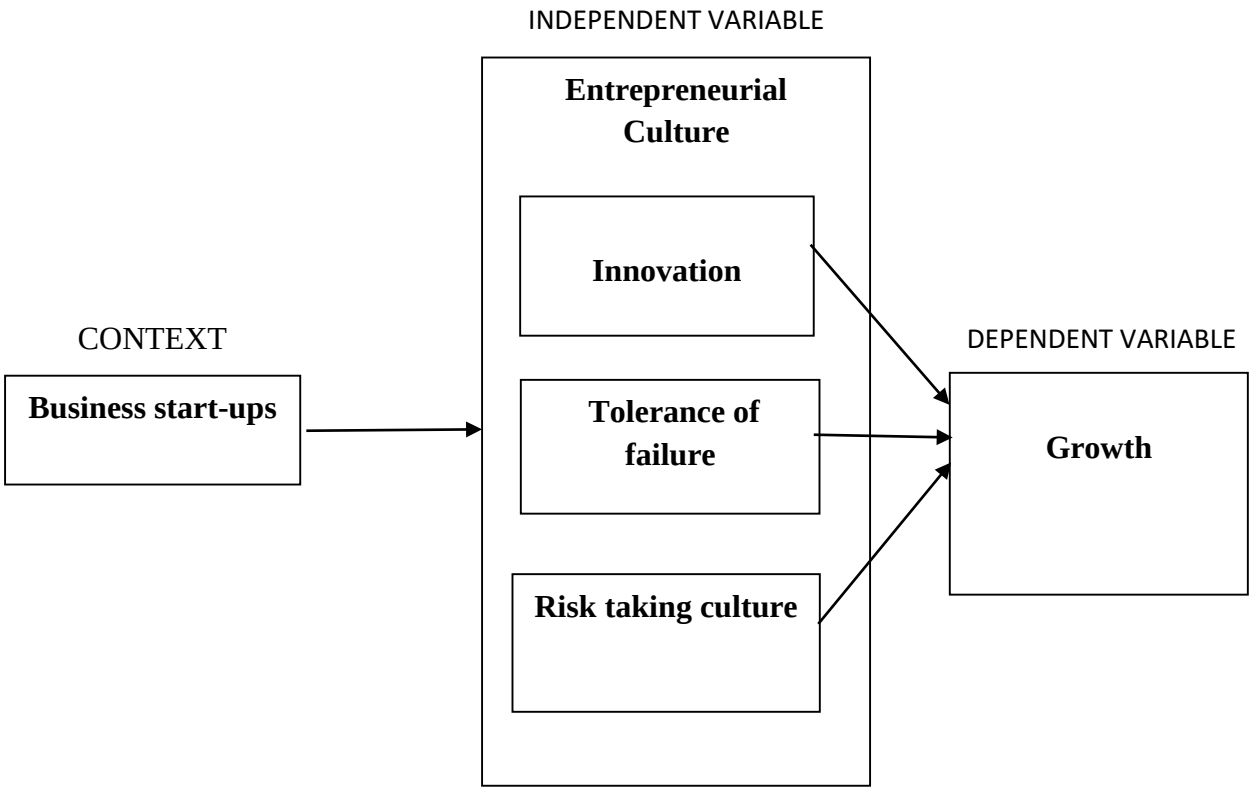

Figure 2.1 Conceptual Frame work

Source: Author, (2021)

The conceptual framework for the study showing the effect of entrepreneurial culture on the growth variables. It depicts the modes of culture that an entrepreneur can adopt in order to achieve growth for his/her business start-up.

2.2 Theoretical Review

This section identifies and explains the various theories utilized by prior studies to show the effect of entrepreneurial culture on the growth of business start-ups. This in addition, further discusses the theory that will be adopted for this study and the reason for its selection.

2.2.1 Innovation theory

Schumpeter's theory of innovation posits that innovation in business is the major reason for increased investments and relative business fluctuations (Schumpeter, 1934). By innovation, Schumpeter means, the changes in the methods of production and transportation, production of new products, changes in industrial organizations, opening of new markets, acquisition of new sources of supply of raw materials or semi-finished goods, etc. (Ruel *et al.*, 2012; LealRodriguez *et al*., 2017). Schumpeter view an entrepreneur as one who is the catalyst for economic change, which is voiced thus; the process of creative destruction, in which entrepreneurs create new ideas and businesses that make existing ones obsolete, is a sign of a vibrant economy (Zimmerer and Scarborough, 2016). Schumpeter, a prominent Australian economist, challenged various assumptions underlying neoclassical economics and saw the entrepreneur as the source of new demand through the process of innovation. Therefore, it is the entrepreneur who play an important role by challenging the status quo, and entering the market using innovation.

The assumption of Schumpeter's theory of innovation was based on purely competitive economy in a stationary state. That in such an economy, there is no uncertainty, no economic profit, stable income velocity, stable money supply, stable price, and no economic growth.

One criticism of Schumpeter's innovation is that it is rather diffuse. There are no exact boundaries for the phenomenon as Schumpeter was more concerned with economic development than with accuracy of the definition. Other criticisms to Schumpeter's theory are as follows;

1. The theory only focuses on innovation function of entrepreneurs and does not talk about other important and equally critical aspects of entrepreneurs like organizational management skills.
2. The theory does not uphold the concept of risk-bearing as intensely as it does to the idea of innovation. As such, innovation comes first, then risk-bearing, but according to some experts, entrepreneurship is all about risk-bearing and assessing the uncertainties as well as devising strategies to avert their impact.

3. Surprisingly however, this theory completely undermines or distinctly ignores the classical traits of entrepreneurship where he assembles and make use of factors of production in creating a tangible product or services. According to Schumpeter's theory, only innovators are true entrepreneurs but the question is, what about traditional business models and traditional approach towards wealth creation?

It is thus important that business start-ups should see innovation as an intrinsically important part of life and that business without creativity through innovation, might not grow and will lead to early demise of the business. In order to overcome the challenges inherent in business start-ups and to achieve competitiveness, start-ups must innovate for it to achieve growth.

2.2.2 Knowledge-based theory

The Knowledge-Based Theory of the firm was propounded by Robert Morris Grant, an economist and a teacher of strategic management in 1966. Although knowledge-based theory is a recent extension of Resource-Based View, postulates that knowledge is the most strategic resource that does not depreciate when used as does other economic productive factors, and

its application is a key source of start-ups, particularly in innovative industries (Acs *et al.*, 2009; Fritsch and Wyrwich, 2018; Buccieri *et al*., 2020). A Knowledge based theory is therefore, an economy that depend *"primarily on the use of knowledge and application of technology rather than exploitation of normal factors of production by individuals, enterprises, organisations, and communities to promote economic and social development*" (Gupta and Govindarajan, 2000; Adeyeye *et al*, 2019).As such, business start-ups in general can be regarded as manifestations of knowledge spillovers from extant knowledge sources (Okangi, 2019; Prasetyo, 2019).

The basic assumption of the knowledge-based theory of entrepreneurship is that knowledge should possess the potential to provide rich opportunities for many start-ups (Prasetyo, 2019), because of the positive relationships among network members that influences the flow of knowledge among entrepreneurs. It also assumed that business start-ups exist because markets are not capable of coordinating knowledge held by individuals in the organizations. As such, people show more trust in others than strategies, they are more opened to accepting ideas from them and thus triggers the confluence of knowledge which often leads to the identification and creation of new business start-ups (Dheer, 2016).

The knowledge-based economy transforms the traditional business environment into an entrepreneurial environment world-wide and this could be as a result of the industrial countries where knowledge-based industries are expanding rapidly, the labour market demands tend to change accordingly as the demand for high-skilled workers and particularly information and communication technology (ICT) increases, and the demand for low-skilled workers declines (Okangi, 2019). However, formal education provides knowledge and skills

that can be useful not only for entrepreneurs and managers but also for other occupations and activities acquired by setting up and running a business (i.e. entrepreneurial experiences) which are significantly valuable particularly when the individual (i.e., entrepreneur) is engaged in the process of creating and running a new business (Capelleras *et al.,* 2019;

Okangi, 2019).

2.2.3 The uncertainty-bearing theory of knight

(Frank, 1921) in his book, "Risk, Uncertainty and Profits" regards profit of the entrepreneur as the reward of bearing non-insurable risks and uncertainties which he distinguished into insurable and non-insurable risks.

Salient point of Knight's theories is:

(i) The entrepreneur earns pure profits for bearing the uncertainty;

(ii) That the probability of uncertainty or non-insurable risks cannot be statistically estimated;

(iii) Entrepreneurs undertake risks of varying degrees according to their ability and inclination; The theory suggests that the riskier the nature of enterprise, the higher the level of profits earned by the entrepreneurs.

(iv) Profit is the reward for the entrepreneur for risk bearing and uncertainties. Thus, it should be part of the normal cost;

(v) The reward for the Entrepreneur is uncertain but guarantees interest to lender of capital, wages to workers and rent to the landlord;

(vi) The level of uncertainty in business can be reduced by applying the technique of consolidation.

Knight identifies the entrepreneur as the recipient of profit which he termed as the reward for the entrepreneur for bearing costs for uncertainty. He emphasized the speculative nature of entrepreneurship and viewed the entrepreneur as a calculated risk taker (Deakins and Freel, 2009). As such, the entrepreneur is seen as anyone who has the confidence and venturesome enough to make judgments about the uncertain future and reward for the profits that will be earned.

Uncertainty bearing theory of the Knight has received varied criticisms which include the followings;

1. Knight's theory of profit is the reward for uncertainty, but critics were quick to point out that sometimes an entrepreneur earns profit in spite uncertainty bearing.

2. Critics also observed that uncertainty bearing cannot be looked upon as a separate factor of production like labour, land or capital but the psychological concept that forms part of the real cost of production.

3. In most modern business corporation's ownership is separate from control. Decision making is thus done by the salaried managers who control and organize the corporation. Ownership rest solely with the shareholders who ultimately bear uncertainties of the business. Knight however does not separate ownership and control and this theory therefore becomes unrealistic.

4. Uncertainty bearing is considered as a determinant of profit which is not the only determinant. Profit is also a reward for other activities performed by entrepreneur like initiating, coordinating and bargaining, etc.

Without any doubt, risk is one of the main elements in the discussion about entrepreneurial behaviour (Fritsch and Wyrwich, 2018). Risk is the consequence of uncontrollable change. For Frank (1921), change is not initiated by the entrepreneurial process but the entrepreneur in using change for his purpose (Schumpeter, 1934).

Therefore, risk-taking is an internal organizational factor required to support entrepreneurial culture within organizations. Risk taking ability helps the firms to engage in bold rather than cautious actions (Samli, 2016; Charron Vias and Rivera-Cruz, 2020). Furthermore, looking at the different rates of innovation across nations, Shane (1993) indicated that "*an acceptance of uncertainty appears to be necessary, probably because innovation requires a tolerance of risks and change. However, entrepreneurship does not entail reckless decision making, but reasonable awareness of the risks and being able to calculate and manage these risks"*. (Nason and Wiklund, 2018)).

2.2.4 Theory selection process for the study

In this subsection, steps are taken to select an appropriate theory that would be adapted from the study under discussion. Innovation was seen as the only way to discover new windows of opportunities which must be exploited for new and/ or unique

products/services, process and markets. While tolerance of failure connotes experimenting to accommodate failure that may result in success after several trials. The risk-taking culture emphasized the need to be encouraged entrepreneurial desire to commute significant resources to opportunities with uncertain outcomes.

However, the appropriate theory considered to be the most suitable for this study is the Innovation theory and is thus adopted for this research work. The choice of this theory is hinged on the relative composition of technology incubation Minna. It is composed of few entrepreneurs who needed to be encouraged to imbibe innovativeness as a culture in their work places, by exploring new ways of doing things in other to be competitive. This however, can be achieved if failure can be tolerated by developing risks taking capabilities.

This is important because the business start-ups in TIC, Minna, Niger State, Nigeria, have remained stagnant, lacking knowledge on how to be innovative, afraid to take risks and cannot afford to fail when innovating.

2.3 Empirical Review

This section reviews the findings of extant studies which investigated the impact of entrepreneurial culture and growth of business start-ups. From the conceptual review section of this study, entrepreneurial culture was conceptualized as having three major dimensions/modes: Innovation, tolerance of failure and risk-taking. As such, the empirical review is also subdivided into three subsections dealing with the impact of each dimension/modes on growth.

2.3.1 Innovation and growth of business start-ups

Five studies in this category adopted qualitative approach in determining the relationship between innovation and growth of business start-ups (Marti *et al*., 2013; Fredin and Jogmark, 2017; Fritsch and Wyrwich, 2018; Tibaingana, 2019; Charron and Rivera-Cruz, 2020).

Marti *et al. (2013)* conducted an empirical study on how to generate an entrepreneurlization for a local community in Argentina. The data analyzed in this study was built from an indept interviews, conducted between November 2008 and December 2010, 77 semi-structured interviews consisted of ad hoc questions that arose in the course of the interviews in other to explore different themes and allow the respondents a greater opportunity to speak in their own voice. A grounded theory approach was employed to the selection of interviewees and were tape-recorded on digital audio files and then transcribed verbatim by a professional transcriptionist. All interviews were face-to-face. Findings from this study contributes to how a community might become entrepreneurial.

Fredin and Jogmark (2017) conducted a study that employed a qualitative method that used multiple sources of data for case study that examines how an industrial legacy leads to the formation of a distinct local culture and how the cultures' survival provides a context for the subsequent entrepreneurial activities in new local industries. Two Swedish cities were selected for this research which was based on the results of a recent survey by the CSE. The survey included 60,000 business owners and entrepreneurs all from Sweden who were asked about their experiences about municipalities business climate. Linkoping and Norrkoping, which are known as "twin cities" in Sweden exhibited striking differences. In terms of perception or attitudes, Linkoping and Norrkoping rank well above the Swedish average, while Norrkoping scores well below. Considering all factors together, 62% of the

entrepreneurs in Linkoping stated that their municipality has a good, very good or excellent business climate, while about 32.6% in Norrkoping state the same. To identify patterns a cross- case analysis using a matrix technique for comparative analysis was performed. The result of findings showed that culture is formed through social interactions and therefore entrepreneurial activities must be studied in their everyday context. Findings also showed that studying culture is deeply rooted in economic history and that studying culture from an economic perspective explains why a particular culture was formed in a specific location.

Fritsch and Wyrwich (2018), investigated the role of entrepreneurship culture and historical base of a region on the current levels of new business formation in innovative industries on German regions, which covers the time period of 1907-2014. The data on new business formation was drawn from Mannheim enterprise panel to allow for identifying innovative start-ups based on their application with certain industries. The result of the findings shows that a considerable part of the knowledge that constitutes an important source of entrepreneurial opportunities is deeply rooted in history. This therefore goes to show that successful innovative start-ups locate their firms close to their former place of work or near where they reside. New knowledge can be acquired from historical knowledge. This is an important phenomenon that policy makers and researchers need to explore. This study is related to the present study for its emphasis on new knowledge which is required to drive entrepreneurial opportunities of a business start-up.

Tibaingana (2019) conducted a study using descriptive survey on the role of incubation in the growth of business start-ups in Uganda. The study adopted qualitative approach, using

interviews and focus group discussions for data collections. The study employed exploratory method to describe the role of incubators in supporting the growth of business start-ups.

Twenty-two (22) interviews, one in every incubation laboratory conducted with the Chief Executive Officers (CEOs) of the business start-ups were face-to-face interviews to collect data on their experiences of owning and managing a business start-up. Semi-structured interview with open-ended questions were established to guide the discussions. Result of findings shows that services offered by incubators are critical and key to growth of business start-ups. As such, policy makers should be obliged to look at the business start-ups as having the potential to create and stimulate economic growth through business incubation.

Charron and Rivera-Cruz (2020) in an article presented a new framework for designing business education programme to provide students with the tools they will need to succeed as entrepreneurs, intrapreneurs. Grounded theory in qualitative research was used to present a framework that impacts entrepreneurship and business education in order to develop an entrepreneurial mindset. This article presents a clear and structured path for programme development, aiming at innovation and engagement of diverse stakeholders at every stage for business start-ups.

Four studies in this category adopts quantitative approach in determining the relationship between innovation and growth of business start-ups (Del Giudice *et al.*, 2017; Adeyeye *et al*., 2019; Prasetyo, 2019; Roy *et al*., 2020).

Del Giudice *et al.* (2017) investigate the effect of entrepreneurial culture on Principal Investigation performance. Structured questionnaire was distributed to PLS across Europe

using quantitative method with linear regression analysis to explain the relationship between the dependent variable, performance indicators and independent variables, or covariates. Findings shows that the entrepreneurial culture of a country is the real driving force that makes PIs and their research groups more competitive than other international PIs. This study is in line with the present study in terms of the methodology and analysis of data used.

Adeyeye *et al.* (2019) investigated the impact of entrepreneurial culture on the growth of KIBs in Minna Metropolis. This study employed a quantitative approach that employed survey research design by using a self-structured questionnaire on a five-point Likert scale based on previous studies. The reliability and validity of this instrument was carried out and a purposive sampling method was employed to obtain the sample size for the study. Data was analyzed using descriptive and inferential statistics to test multiple effect of entrepreneurial culture on growth. Multiple regression analysis was utilized for the analysis. Result shows significant positive relationship between entrepreneurial culture and growth. The research question shows that entrepreneurial culture of employees' rewards and innovativeness has significant positive effect on KIBS firms' growth in Minna Metropolis but shows an insignificant positive effect on the cultures of informality.

The study therefore contributed originally to literature on entrepreneurship and innovation in developing economics by identifying employees reward and innovativeness to promote entrepreneurial culture as it differs from other economics. The study thus recommends that KIBs firms should focus more on people and empowerment to enhance entrepreneurial culture. This study is related to the present study as it addresses growth as a dependent variable and also uses the same methodology for the research findings.

Prasetyo (2019) conducted a study that determined the influence of good governance governing entrepreneurial culture among the youths on economic growth and recovery in Jos Metropolis, Plateau State, Nigeria. The paper adopted a descriptive method and employed two sampling techniques: purposive and random. The study population which was a sample of 200 respondents where the entire object or elements were studied. A purposive and stratified sampling techniques were used in selecting the sample. The study used a structured questionnaire which was designed as Good Governance, Entrepreneurial Culture among Youths and Economic Growth (GGECYEG). Two-point Likert scale of agree and disagree with 2 and 1 were utilized as the score value. The reliability of the instrument was obtained using Split-half method, while splitting test scores into even and odd numbers and analyzing the hypothesis. The result of the findings revealed that there is a significant influence of good governance, entrepreneurial culture among youths for economic growth in Jos metropolis, plateau State, Nigeria. The study concluded and recommended that the youths should get involved in entrepreneurial skills acquisitions that will equip them with knowledge that will enhance their capabilities as well as improve the economy. This study is related to the present study which emphasizes knowledge theory to acquire entrepreneurial skills.

Roy *et al*. (2018) conducted a study that investigates firms' entrepreneurial culture for technical improvements to achieve New Product Development (NPD) success by providing quality products and achieving customer satisfaction.in testing the hypothesis for this study data was collected from 76 manufacturing experts of Indian companies. A semi- structured questionnaire was employed and a 7- point Likert system scale was used to qualify the degree of importance and implementation of the indicators as per experts' opinions. Composite reliability (CR), average variance extracted (AVE) and Cronbach's alpha reliability testing

was performed to test the reliability of the survey data the CR values of between 0.3 and 0.5 are considered moderate. Findings in this study have clearly expressed the impact of entrepreneurial culture and its associated variables on technical improvements of firms which helps in achieving NPD success by producing high-quality New Products for customer satisfaction. This study is related to the current study only on the methodology used for data collection and analysis.

Two studies in this category employed cross-sectional research design in determining the relationship between innovation and growth of business start-ups (Hamdan, 2019; Buccieri *et al.*, 2020).

Hamdan (2019) conducted an empirical case study to test the relationship between entrepreneurship and economic growth using secondary data, in a 20-year time series (19962015), obtained from three sources: The international database, the general statistics of

United Arab Emirates, and data that was obtained from the Global Entrepreneurship Monitor (GEM). Validity of data was achieved from a battery of statistical tests including normal distribution tests, time-series stationarity tests, autocorrelation and multicollinearity. The impact of entrepreneurship on economic growth was evaluated through regression analysis in which the economic growth constitutes the dependent variable and entrepreneurial activity, the dependent variable. Findings from this case study validate the assertion that entrepreneurship remains a key means by which individual economic actors in society can engender sustainable growth by identifying fruitful areas of innovation, matching entrepreneurs with providers of seed capital from venture capitalists as well as angel investors in order to foster the formation of successful business start-ups.

Buccieri *et al*. (2020) carried out a survey that uses the owner-entrepreneur, director or manager of the firm as key respondents. Data collection was achieved with a cross-sectional multi-industry sample of high technology international new venture (INVs) from India. INVs

were defined as “start-ups that seek to derive significant competitive advantages from the sale of outputs in international market”. All measures were adapted from previously used scale. The number of full-time employees was employed to capture firm size. The result of analysis shows that high technology INVs should consider investment in innovation skills that would focus on delivery new product offerings and opening new markets, as well as developing incremental enhancements to existing offerings and processes. However, this research is limited to India, and thus, it is important to note that keys to early success for global start-ups are the abilities to develop innovative offerings as well as to communicate value to attract customers.

One study in this category adopts Partial Least Square (PLS) in determining the relationship between innovation and growth of business start-ups (Leal-Rodriguez *et al*., 2017).

Leal-Rodriguez *et al.* (2017) investigated the links between entrepreneurial culture, innovation and performance by moderating the role of the family firms. The empirical investigation was based on a sample of 145 family firms from the automotive components manufacturing section in Spain. The study uses Partial Least Squares (PLS), a variance based Structural Equation Modeling (SEM) Method. The assessment and interpretation of PLS models were conducted in two (2) stages: assessing the reliability and validity of the measuring model and evaluating the structural model. The measurement model involves assessing the reliability and validity of which all the variables meets the discriminant validity requirement while the structural model was assessed on the basis of the algebraic sign, magnitude and significance of the structural path co-efficient. This study finally points to the paucity of research studies that empirically analyze nature of firms as an example. This ultimately reveals a gap which researchers should aim to fill.

One study in this category adopts Data Envelop Analysis to analyze the relationship between innovation and growth of business start-ups (Fernandez *et al*., 2018).

Fernandez *et al*. (2018) investigates the impact of entrepreneurial culture on economic growth and development. Data Envelopment Analysis (DEA) was used as the methodology and used multiple inputs to define a simple measure of a firm's efficiency. Empirical analysis was carried out on a sample of 27 developed countries described by the World Bank Classification. The selected inputs are that of entrepreneurs or owner managers of a new business and opportunity/Necessity Ratio, i.e. the ratio between the Improvement/Necessity Ratio. Findings shows that nine (9) efficient countries with DEAP version 2.1 software (Austria, Belgium, Germany, Hongkong, Japan, Norway, Singapore, Switzerland and the USA). This shows the importance of geographical factors in the prevailing business cultural environment and values of a country. This investigation therefore provides insights into the desirability of cultural change for an efficient and effective entrepreneurial culture in order to maximize wealth. The implication derived for policy-makers may be important because a better understanding of cultural effects on entrepreneurship is gained and as such, government programmes on cultural values may be obtained.

2.3.2 Tolerance of failure and growth of business start-ups.

In this category, one study adopted qualitative approach in determining the relationship between tolerance of failure and growth of business start-ups (Dheer, 2017).

Dheer (2017) investigates the role of individualism-collectivism in moderating the effect of political freedom, corruption and education on entrepreneurial activities across nations.

Although there was no evidence of empirically data collected, a macro-level data on 84 nations was obtained from multiple reliable sources was used to test the hypotheses. Entrepreneurial activity, the dependent variable was measured based on the data obtained from the GEM study. While the independent variables of political freedom, corruption and education were hinged on to the account for the gap that may exist for the effect of those institutional factors to show on entrepreneurial activity. Findings lend support to the perspective that culture shapes perceptions, intentions and actions of individuals and thus a critical determinant of the rate of entrepreneurial activity across nations. Based on the findings of the three (3) independent variables, it was found that individualism moderates the effect of political freedom on entrepreneurial activity and this effect is more positive and significant for those nations which fall on the upper end of individualism scale than for nations on the lower end of the scale; findings on the role of individualism on the relationship between corruption and the rate of entrepreneurial activity had a significant negative impact and provide an empirical evidence to the notion that corruption increases the perceived opportunity cost of starting new business ventures; and the third findings elaborate on the impact of individualism-collectivism on the relationship between education and entrepreneurial activity. That since education is an investment people make towards improving their social status, the opportunity cost for starting new business start-ups may be higher than less educated people. This study has made notable contribution by resolving some of the inconsistencies regarding the impact of formal institutional variables on a nation's entrepreneurial culture and its growth and it is important that researchers and policy makers focus on the right set of factors so as to understand how they interact with each other to impact on various entrepreneurial outcomes when they embark on policies that foster the initiation and growth of business start-ups.

In this category, one study adopts quantitative approach in determining the relationship between tolerance of failure and growth of business start-ups (Adeyeye *et al*., 2018).

Two studies in this category employed mixed method, qualitative and quantitative approach in determining the relationship between tolerance of failure and growth of business start-ups (Ruel *et al.*, 2012; Roopchund, 2020).

Ruel *et.al*. (2012) studied the determinants of entrepreneurial culture in innovative biotech clusters in Europe. The study is predominantly exploratory in nature. A multi-case studybased research design was used with a combined structural questionnaire filled out by biotech cluster participants in different regions in Wester-Europe and an in-depth semi-structured interview. 16 bio clusters and bioregions from all over the world (Spain, USA, Canada,

Norway, Germany, France, Belgium, Sweden) were used for the study. Using an institutional theory as the lens through which determinants were selected, social networks, role model companies and funding have a high impact on entrepreneurial culture. Other factors that have less impact on entrepreneurial culture were entrepreneurial education, economic enablers, specific legislation and supporting facilities. This study contributes to the understanding of entrepreneurial culture development in innovative start-ups and that attention should be focused on exploring the variables that determines entrepreneurial culture so as to achieve the desired growth.

Roopchund (2020) investigated a study on the impact of SMEs to the growth of Mauritian economy. The study adopted mixed method and relied on an existing secondary data for further analysis and extrapolation. Findings shows that no direct relationship has been established and as such, requires further research with more variables. It has only succeeded in giving an overview of the different types of entrepreneurial styles.

In this category, one study adopted cross-sectional approach in determining the relationship between tolerance of failure and growth of business start-ups (Capelleras *et al.*, 2019).

Capelleras *et al*. (2019) investigates the impact of entrepreneurial human capital on growth and entrepreneurial culture. Using primary data on early-staged individual entrepreneurial activity in Spain and secondary data at the province level, entrepreneurial growth was used as the dependent variable. Growth was used as the dependent variable. Growth was used following previous studies, as the entrepreneurs expected number of employees in the next

5years and the actual number of employees, excluding the owners, at the firm's inception. Data has a pooled cross-sectional time-series structure using two levels of analysis, data are analyzed using hierarchical level modeling methods. Findings indicates that the effect of general and specific human capital, the independent variables are higher for individuals with prior entrepreneurial experience. As such, the study shows that individuals that had prior entrepreneurial experience with higher social acceptance in regions with entrepreneurship and entrepreneurial role models tend to increase their growth aspirations. This study used growth as the dependent variable and also measured growth with employee numbers. It is therefore in line with the present study.

2.3.3 Risk-taking and growth of business start-ups

One study in this category adopted quantitative approach in determining the effect of entrepreneurial culture of risk-taking on the growth of business start-ups (Okangi, 2019).

Okangi (2019) investigated the impacts of entrepreneurial orientation dimensions on the profitability growth of a construction firm in Tanzania. A total of 338 representative contractors were selected from a population of 2,854 Local Tanzania's building and civil works from the selected regions. A systematic sampling technique was adopted because it was easier to implement than other sampling techniques like simple random sampling. It also "leads to a more representative survey than the simple random and hence it is preferred in implementation because of its ease and designed efficiency". Data collection was employed through a structured questionnaire which also included questions adopted from previous studies that focused on entrepreneurial culture and modified in order to meet the objective of the study. Respondents were instructed to rate the 15 items on a 5-point Linkert scale with a scoring system ranging from 5-completely true, to 1 = never true. A simple regression analysis to test the impacts of individual dimension was employed on the entrepreneurial culture of the construction firms. The regression analysis was used because "*it is a statistical tool to investigate the relationships between variables, and helps to estimate the quantitative effect of the causal variable upon the variable that they influence*". The reliability of the instrument used was assured by performing a factor analysis and measuring the factor Cronbach's alpha for each variable. The result indicates that the more the firm invests in innovativeness, pro-activeness and risk-taking, the more such a construction firm will experience a change in profits generated. Risk-taking has a significant and positive impact on the profitability growth of Tanzania's firms. Risk-taking was also found to have positive effects on the growth of firms and this shows that the ability of firm to stay competitive in the markets is related to the amount of risk taken. As such, risk taking decisions are critical for the success of every business. However, managers are advised to take calculated risks but remain risk averse.

Two studies in this category adopted qualitative approach (Gabrielsson *et al*., 2014; Breazeale *et al.*, 2015).

Gabrielsson *et al*. (2014) conducted a study on international entrepreneurial culture and growth of international new ventures. The study employed a multiple case study of 4 finished International New Ventures as they grow overtime. The selected case studies

adopted a holistic design, which indicates that a simple unit of analysis has been selected and uses the principle presented by Wang and Yen (2012) regarding the selection of cases, data collection and analysis. The data triangulation method used multiple sources of evidence to generate empirical study. Most of the primary data used for the analysis were collected from in-dept interviews with the CEOs or Founders of the firms. The interviews were recorded and transcribed and a database was created to help maintain the planned case study protocol and also to ensure validity. The interviews conducted were semi structured, beginning with open-ended questions. Findings revealed that international motivation, innovation propensity, risk attitude, market orientation, and proactiveness all have a positive influence on advancement on early growth phase. This study is invariably related to the present study as it addressed the variables in connection in the early growth phase of the new ventures.

Breazeale *et al*. (2015) proposes a qualitative data collection that measures local entrepreneurial culture using semi-structured interviews with entrepreneurs and nonentrepreneurs in Kentucky (USA). The initial 36-item was developed and then reviewed by a focus group that was composed of entrepreneurship coaches. A multi-dimensional scale was constructed for the analysis to measure the local entrepreneurial culture. Findings shows

that factor analysis of the survey data was employed and the correlation between perceived entrepreneurial culture and actual entrepreneurship rates was much stronger in rural than in urban centres. This review focuses more on measures of entrepreneurial culture on the regional and national levels. Future studies will be needed to test the measure such as megacities, cultural enclaves and other cultural regions.

One study employed correlation analysis in determining the relationship between risk-taking and growth of business start-ups (Hancioglu, 2014).

Hancioglu (2014) conducted an empirical study to measure the relationship between uncertainty avoidance, entrepreneurship and economic development. The study utilized three sources of data: TEA which originated from the GEM project; the countries development levels and GDPPC which originated in the world bank: the countries' uncertainty avoidance levels obtained from Hofstede (2016). Correlational regression analysis was used to achieve the result. TEA score was taken from the global entrepreneurship monitor (GEM). TEA was defined as the percentage of individuals aged between 18-34 in an economy who are in the process of starting or a real ready running new business in the GEM project. GEM's first report encompassed 10 members of OECD countries published in 1999. Hofstede's cultural dimensions were scored 0-100. Countries that had higher scores indicated risk aversion culture, while those with lower scores indicated risk taking cultures. The result of the findings indicated that the uncertainty avoidance level of a country is not strongly connected with entrepreneurial activity, lower level of uncertainty avoidance results in higher levels of entrepreneurial activity. This study is related to the present study as it discussed entrepreneurial activities and the level of risks involved in new start-ups.

Cwynar (2019) conducted a study that analyzes the initial seasons of two reality podcast, gimlet medias, start-up and stable genius and entrepreneurial culture. It demonstrated that leveraging public radio expertise and capital to launch reality soundwalk programmes shift in American culture towards entrepreneurship of the self. Self-finding indicates how risk taking is embraced for the sake of immense gains in terms of autonomy. The study contributes to the present study by way of encouraging risk-taking culture in order to enjoy future bumper benefits arising from investments.

2.4 Empirical Literature Gaps

The empirical review of the study related to the effect of entrepreneurial culture on the growth of business start-ups revealed the following literature gaps. The first gap identified, was that, most of the reviewed extant studies based their research on economic development and performance alone (Chalhoub, 2011; Li and Lee, 2015; Leal-Rodriguez *et al*., 2016; Del Giudice, *et al.*, 2016; Adeyeye *et al*., 2018; Adeyeye *et al*., 2019;). Very few studies investigated entrepreneurial culture on the growth of business start-ups (Gabrielsson *et al.*, 2014; Dheer, 2016; Fritsch and Wyrwich, 2018; Okangi, 2019; Prasetyo, 2019). This study therefore seeks to address the gap by investigating entrepreneurial culture on the growth of business start-ups of TIC, Minna, Niger State.

The second gap identified in the literature was that the geographical settings of most of the studies are foreign, for instance (Lee *et al.* 2009; Breazeale *et al*. 2014; Del Giudice *et al.*

2016; Dheer(2016); Mornah and McDarmott, 2016) were from USA; (Tsang and Park, 2013; Gabrielson *et al. 2014;* Kochargaokar and Boutt, 2014) were from United Kingdom; Fritsch

and Wyrich (2018) from Germany; Fayolle *et al.* 2010; Marti *et al.* 2013 from France; Chalhoub (2011) from Middle East; Li and Lee (2015) from China; Hancioglu (2014) from Turkey; Ruel *et al.* (2017) from Netherlands; (Pirillos, 2011; Leal- Rodriquez *et al.* 2017*;* Fernandez, 2018) were from Spain; Omari *et al.* (2016) from Morocco; (Wee and Brooks, 2012; Obschonka, 2017) from Austria; Ferdinand and Jogmark (2017) was from Sweden.

More so, those studies that were conducted in Nigeria (Adeyeye *et al. 2018;* Adeyeye *et al*. 2019; Prasetyo, 2019) were not conducted on entrepreneurial culture and business start-ups growth. Hence, the need for this study which is carried out in Nigeria and is on the effect of entrepreneurial culture on the growth of business start- ups in TIC, Minna Niger State. This contributes to knowledge.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Description of the Study Area

Minna, the headquarter of Niger state is the study area. It is located at latitude 9037^{o} North and Longitude 6033^{0} east. Minna has two (2) local government to itself: Chanchaga and Bosso local governments. Presently, the state covers a total land area of 76,000 sq.km. or about 9

percent of Nigeria's total land mass. This invariably makes Niger state the largest in the country.

Thus, TIC, Minna is centrally located in Chanchaga local government with common characteristics of civil servants who solely depend on state government appointments despite its business potentials. The location of TIC is ideal because it is accessible to all willing entrepreneurs both from Niger state and Federal Capital territory, Abuja, and has the potential to attract budding entrepreneurs who lacked initial capital and knowledge to enhance the growth of their businesses. In addition, electricity supplies are assured because the state warehouses the Shiroro dam, Kainji dam and about to be completed Zungeru dam. TIC, Minna has the provision to incubate new entrepreneurs with adequate provision to provide the needed infrastructure such as advisory and training facilities for three (3) consecutive years after which they are graduated to fend for themselves. The immediate objective is to enhance the growth of business start-ups.

3.2 Research Design

This study is a cross-sectional survey because data was gathered and analyzed in other to establish the effect of entrepreneurial culture on the growth of business start-ups. This method is appropriate because it facilitates data collection from different individuals at a single point in time and viewed individuals as acting homogenously (Elsayir, 2014; Taherdoost, 2016; Capelleras *et al*., 2018; Okangi, 2019).

3.3 Population of the Study

The target population for this study comprised of all the employees and the managers of business start-ups in TIC, Minna that have attained at least one year but not more than five (2016/2020) years. These include those that have graduated and those still in incubation and are based/located in TIC, Minna. The population figure for the study is the entire 188 employees/managers of business start-ups in TIC, Minna.

The unit of analysis for the study is firm level, hence, the need to focus on individual employees/ managers of business start-ups in TIC, Minna.

3.4 Sampling Technique

The population frame for the study consist of all the employees/managers of the 42 business start-ups in TIC that are based in Minna. The sampling technique used for this study is the census-based method, since data was collected from all the units of the population to ensure the robustness of the result.

3.5 Sample Size

The sample size that sufficiently qualify for the purpose of the study, the census-based method was adopted. This was because the sample frame is small and in other to have a robust result, 188 employees/managers, which was the total population from 42 business start-ups in TIC, Minna were used as the respondents.

3.6 Sources and Methods of Data Collection

For the purpose of this study, primary method of data collection was utilized. Primary data was collected using structured questionnaires, which was administered on the employees/managers of business start-ups in TIC, Minna.

3.7 Description of the Questionnaire

The questionnaire was grouped into two parts;

Part 1: Section A - The respondents' demographic profile, and

Part II: Section B - Questions relating to the objectives of the study

i. Innovation ii. Risk-taking culture
of the start-ups. iii. Tolerance of Failure
iv. Growth (Number of employees)

The items were responded to by indicating the appropriate respondent's best perception using a 5-point Likert Scale method which allows the respondents to give their opinions in the best forms.

(i)	Strongly Agree (SA)	5.0
(ii)	Agree(A)	4.0
(iii)	Undecided(U)	3.0

(iii) Disagree (D) 2.0

(iv) Strongly Disagree (SD) 1.0

3.8 Variable Specification and Measurement

This subsection explains the variables to be used for independent, dependent and control variables as well as how they were measured. Therefore, to achieve the objectives of this study, three variables were utilized.

3.8.1 Independent variable

The independent variable for the study is entrepreneurial culture. Three entrepreneurial culture dimensions (i.e. innovation, tolerance of failure and risk-taking) were assessed, using seven items each. Respondents were instructed to rate the items measuring entrepreneurial culture dimensions on a 5-point Likert Scale with a scoring system ranging from 5= Strongly Agree, to 1= Strongly Disagree. Each of the variables have 5 items to which respondents were to tick within the range of 5 to 1 with the highest score of 25 and the lowest score of 5 (Okangi, 2019; Tibaingana, 2019).

3.8.2 Dependent variable

For this study, number of employees was used to measure growth of business start-ups of TIC, Minna, Niger state, for five (5) consecutive years (2016-2020). A business start-up's growth is determined by comparing the change in the number of employees captured in the first and the last year (2016-2020). Li and Lee, (2015); Adeyeye *et al*. (2019); Tibaingana, (2019); Buccieri, (2020) also employed employee number as dependent variables in their studies. The formula for the calculation is stated below:

$$\frac{\text{Current Employees} - \text{Beginning Employees}}{\text{Beginning Employees}}$$

For example, if a particular business start-up commenced its business in 2016 with 2 number employees, by 2020 if the number of its employees had increased to 10, its growth can be calculated thus:

$$\frac{10-2}{2}$$

$$= 4 \text{ or } 400\%$$

This means that the company has achieved growth by 400%.

3.9 Psychometric Properties of the Instruments

In this subsection, the validity and reliability of the research instrument used in the study were discussed in the following section.

3.9.1 Validity of research instruments

In other to ascertain the validity of the instrument, face and content validity of the questionnaire was carried out in the School of Entrepreneurship and Management Technology, Federal University of Technology, Minna. Face and content validity are concerned with the systematic assessment of how well a construct's measurable components represent that construct (Hair *et al*., 2015).

The questionnaire was examined and appraised by four (4) experts including the supervisor, who read through the work in order to make necessary corrections to determine the relevance of the questions to the objective of the study so as to achieve the desired objectives. All necessary corrections were done before commencing the pilot study for this research.

3.9.2 Reliability of research instruments

The reliability of the instruments for the study was carried out by using a pilot study- test retest approach by embarking on the pilot study of business start-ups in TIC, Minna, Niger State, with 19 staff. To achieve this, the test-retest reliability was conducted at an interval of one month as it was during COVID 19 period which made the staff unavailable. The same questionnaires were used to take two separate measurements on the same business start-ups in TIC, Minna. Responses were based on a 5-point Likert scale (Ahmad and Usop, 2011). To further ensure reliability of the instrument, Cronbach's Alpha test was conducted through administering of copies of the questionnaires to randomly selected employees/managers in business start-ups in TIC, Minna.

In conducting the test, psychometric test was calculated using Cronbach's Coefficient Alpha for either even or uneven items based on the order of number arrangement of the questionnaire items. Data generated from the study was used to measure the internal consistency of the instrument using Cronbach's alpha test. Internal consistency was measured on a scale of 0 to 1, and considered satisfactory if the Cronbach's Alpha coefficient is at > 0.7. Fraenkel and Wallen (2000) posited that as a rule of thumb, a proposed psychometric instrument should only be applied if the alpha value, α, obtained is 0.70 or higher on a substantial sample. The study obtained a Cronbach's Alpha value of 0.86 from the pre-test prior to the administration

of the questionnaire which was certainly above the recommended value of 0.70, implying the accuracy of the questionnaires which was 0.86. After ascertaining that the instrument gave consistent results, it was adopted as the main tool used for data collection for the study.

Therefore, the study obtained a Cronbach's Alpha value of 0.86 which was above the value of 0.70 as recommended by (Li and Lee, 2015; Taherdoost, 2016). Hence, the result demonstrates an excellent consistency.

3.10 Pilot Study Administration and Findings

In this section, the results of the pilot study of quantitative phase of the study is reported in the paragraph below.

3.10.1 Pilot study of questionnaire

The draft of the questionnaire had its face and content validation by four academic professionals (the study supervisor, two doctorate degree holders from the department of entrepreneurship and business studies, FUT, Minna. As such, a pilot study of respondents was conducted and the recommendations of the academicians were noted, corrections duly effected in the second draft of the questionnaire. Consequently, the final draft of the questionnaire was achieved devoid of any ambiguity that may pose as a constraint into eliciting appropriate responses from the respondents. Finally, the pilot study was administered on 10% of the sample size of business start-ups in TIC, Minna.

3.11 Data Analysis Technique

The data collected through the structured questionnaire was analyzed using both the descriptive and inferential statistics methods. According to Mugenda and Mugenda (2009) descriptive analysis involves a procedure which transforms raw data into charts, tables, with frequency and percentages, which are a crucial part of interpreting and making sense of the data. For this study, data was collected by utilizing the primary method of data collection through structured questionnaire used to develop appropriate quantitative instruments that provide accurate measures within the Business Start-ups in TIC, Minna. A 5-point Likert scale was employed for the scaling of the items developed in the questionnaire ranging from

5 point as "Strongly Agree" to 1 point as "Strongly Disagree". (Adeyeye *et al.*, 2019; Okangi, 2019; Prasetyo, 2019; Roopchund, 2020). The most suitable data analysis procedure for the study was the use of both descriptive statistics for analyzing the demographic profile of employees/managers in Business Start-ups in TIC, Minna. The hypothesis raised in the study were tested and analyzed using multiple linear regression as consistent in previous innovation studies (Grace, 2013; Rompho, 2018; Bouchouicha and Vieider, 2019; Hamda, 2019; Ndagi, 2019; Charron and Rivera-Cruz, 2020).

3.12 Model Specification

Linear Regression Model by Chen (2006) was adopted for the analysis of data. This model is a statistical tool widely used for analyzing quantitative data. The Multiple Regression Analysis was conducted to provide evidence on the multiple effect of the relationship between Entrepreneurial Culture and Growth. This model has some accompanying

assumptions:

$G = f\ (X_1, X_2 \ldots \ldots \ldots \ldots \ldots \ldots \ldots X_n$ (3.1)

$G = \beta_\circ + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3$

$G = \beta_\circ + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad + \acute{\varepsilon}$

Where G = Dependent Variable of the study

$X_1 \ldots$. Xn = Independent variable of the study

$\acute{\varepsilon}$ =Error term

Substituting the variable of this current study into equation 1 above, we have:

$GP = F(IN, RT, TF)$ (3.2)

Where, G = Growth

IN =Innovation

RT = Risk-taking

TF= Tolerance of failure

Transform into linear equation as:

$G = \beta_0 + \beta_1 IN + \beta_2 RT + \beta_3 TF$ (3.3)

Econometrically, the above model is further modified by introducing the error term. This is done to capture errors of miss-specification in the Model. Thus, the model can then be expressed econometrically as:

$G = \beta_0 + \beta_1 IN + \beta_2 RT + \beta_3 TF + \acute{\varepsilon}$ (3.4)

β_1= % change in G due to change in IN β_2=

% Change in G due to change in RT $\beta_{3=\%}$

Change in G due to change in TF

3.13 Assumptions of Multiple Linear Regression Analysis

The following are the assumptions of the linear regression employed in this study:

i. Linearity: the relationship between the independent and dependent variables should be linear.

ii. Multivariate normality: this assumes that the residuals, i.e., the difference between the observed value of the dependent variable and predicted value are normally distributed.

iii. Multicollinearity: this assumes that there is little or no multicollinearity in the data. iv. Variability: it assumes that there is variance in all the predictor/explanatory variables.

v. Model specification model should be properly specified in the initial analyses carried out to make sure there is no violation of the above stated assumptions.

Multiple linear regression models have been the most popular statistical tool of analysis of quantitative data. As such, in order to test the multiple effect of entrepreneurial culture on the growth of business start-ups, a multiple regression analysis was employed.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION.

4.1 Survey Respondents

188 self-questionnaires were administered to employees/managers of business start-ups in TIC, Minna, Niger State.

Table 4.1 presents the response rate of (100%) resulting from the method of administration of the instrument. According to Mugenda and Mugenda (2009) a response rate of over 50% response rate was considered satisfactory to draw an inference to the study, hence, the 100% response rate is an indication that the data is satisfactory enough for analysis. The 100% response rate was achieved by the researcher requesting the respondents to fill the questionnaire on the spot. This method enabled the respondent's queries to be addressed. It was a case of wait, fill and collect.

Table 4.1: Distribution of Response by Rate

Number of questionnaires returned	Number of issued questionnaires	Response rate (%)

188	188	100

Source; Author's Field Survey, (2021)

Table 4.2 presents the gender distribution of the employees/managers of Business Start-ups in TIC, Minna, and reveals that 61.8% representing 115 respondents were male, and 38.6% representing 73 respondents were female. This implies that female employers are rare and less common in Business Start-ups in TIC, Minna. This makeup could be due to cultural belief in the North that women are homemakers and therefore not engaged in works that require physical exertion (Daniel, 2012; Pervan *et al*., 2017; Otaru, 2019).

4.1.1 Demographic profile of respondents

Table 4.2: Distribution of Respondents by Gender

Parameter	Frequency	Percent	Valid Percent	Cumulative Percent
Male	115	61.8	61.8	61.8
Female	73	38.6	38.6	100.0
Total	188	100.0	100.0	

Source: Author's Field Survey (2021)

Table 4.3 presents the respondents according to their various age groups and reveals that

38.3% representing 72 surveyed respondents had their age range between 18 and 29 years, 37.2% representing 70 respondents had their age between 30 and 39 years. Also, 11.7% representing 22 respondents had their age range between 40 out of 49 years respectively. Finally, 12.8% which represents 24 respondents had their age above 50years. The findings show that the age of the respondents was drawn from all the age categories, with all of them

being mature in age and life since they were aged between 30 and 39. Such age groups are energetic.

Table 4.3: Distribution of Respondents by Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 – 29	72	38.3	38.3	38.1
	30—39	70	37.2	37.2	75.5
	40 – 49	22	11.7	11.7	87.2
	50 and above	24	12.8	12.8	100.0
	Total	188	100.0	100.0	

Source: Author's Field Survey (2021)

The results shown in Table 4.4 indicated that the majority of the respondents had ND/NCE level of education consisting of 30.3% representing 57 respondents, closely followed by 21.3% which make up 40 respondents who had HND level of education. The respondents with Bachelor Degree consisted of 20.2% representing 38 respondents, equally 17.6 representing 33 respondents has Post Graduate level of education while 10.6% which represent 20 surveyed respondents had only senior secondary level of education. The findings imply that all the respondents had different forms of qualifications. These underscore the importance of having trained and well-motivated and experienced workforce in the Business

Start-ups in TIC, Minna as they could competently manage the businesses efficiently. According to Okorsley and Nkrumah (2012), business start-ups should have employees that are educated to carry out their assigned duties efficiently.

Table 4.4 Distribution of Respondents by Level of Education

		Frequency	Valid Percent	Cumulative Percent	
Valid	WAEC	20	10.6	10.6	10.6
	ND/NCE	57	30.3	30.3	40.9
	HND	40	21.3	21.3	62.2
	Bachelor Degree	38	20.2	20.2	82.4
	Post Graduate Degree	33	17.6	17.6	100.0
	Total	188	100.0	100.0	

Source: Author's Field Survey (2021)

From Table 4.5, 18.6% which represent a total of 35 respondents who work at the management level of various business start-ups. 14.9% had 28 respondents who were at supervisory levels. 66.5% of the employees representing 125 of the respondents worked as general staff as they worked at various production levels of the business start-ups. The result indicate that the majority of the respondents are employees are paid production staff with their qualifications ranging from National Diplomas, Higher National Diploma and First degrees. This is an indication that most business start-ups require competent employees that are knowledgeable and innovative in their field of endeavours.

Table 4.5: Distribution of Respon dents by Staff Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Management	35	18.6	18.6	18.6

Supervisor	28	14.9	14.9	33.5
General Staff	125	66.5	66.5	100.0
Total	188	100	100	100.0

Source: Author's Field Survey (2021)

Table 4.6 shows that in terms of work experience, 34.4% have spent between 11-15yrs in the enterprise, 37.6% haves spent 6-10yrs, while 27.5% have between 1-5yrs in the enterprise. This indicates that the majority of the respondents have spent many years in the start-ups and are therefore knowledgeable on the subject matter of the entrepreneurial culture variables: Innovation, Tolerance of Failures and Risk-taking.

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Innovation, Tolerance of Failures and Risk-taking.

Table 4.6 Distribution of Respondents by Work Experience

Parameter	Years	Frequency	Percentage %
Work Experience	1-5years	52	27.5

6-10yrs	71	37.6
11-15yrs	65	34.4

Source; Author's Field Survey, (2021)

4.2 Presentation of Descriptive Statistics Results

Table 4.7 presents the result of the summary statistics for the dependent and independent variables. It provides a concise descriptive coefficient of the variables employed in the study.

The statistical measures used to describe the data include: measure of central tendency (mean), measures of dispersion (standard deviation), employed to establish the extent of spread and distribution of the variables as well as the minimum and maximum values for each dependent and independent variable respectively. Similarly, the mean values of each 4.4338 for innovation fall between the minimum and maximum values of 4.00 and 5.00 respectively; similarly, mean value of 4.1854 for tolerance of failure falls between the minimum and maximum values of 1.85 and 5.00 respectively; and finally, the mean value of 4.5289 for risk-taking falls between the minimum and maximum values of 1.28 and 5.00 respectively, indicating that the data were normally distributed across the studied business start-ups. The standard deviation of 0.31079 for innovation, 0.48286 for tolerance of failure, and 0.48279 for risk-taking shows that the values do not diverge from their values significantly. This implies a stable growth for the studied business start-ups in TIC, Minna. Similarly, the negative skewness of -1.749, -1.988 for tolerance and risk-taking around the maximum values indicates its irrelevancy to the growth of business start-ups in TIC, Minna, while the positive skewness of 3.605 and 1.273 for growth and innovation implies that the distribution of the data is good as their mean values are also positive.

Table: 4.7 Descriptive Statistics Results

	Min.	Max	Mean	Std Dev.	Skewness	Kurtosis
	Statistics	Statistic	Statistics	Statistic	Statistics	Statistic	Statistics
Innovation	188	4.00	5.00	4.4338	.31079	1.273	2.306
Tolerance	188	1.85	5.00	4.1854	.48286	-1.749	4.234
Risk	188	1.28	5.00	4.5281	.48279	-1.988	9.653
Valid N (Listwise)	188						

Author's Computation (2021) using SPSS

4.2.1 Growth computation for business start-ups in TIC, Minna.

The table below shows the results of computations on data collected from the employees/managers of 42 business start-ups in TIC, Minna.

Table 4.8 presents the results of data computation on employee/managers of 42 business start-ups in TIC, Minna. The results indicate the effects of entrepreneurial culture dimensions (innovation, tolerance, risk-taking) on the growth of business start-ups in TIC, Minna, using

a 5-point Likert scale method by allowing the respondents to give their opinions based on their varied experiences. The results of the computation show that most of the Business Startups in TIC, Minna, achieved growth based on the number of employees used as a measure.

The businesses include companies 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24 25, 27, 28, 29, 30, 31, 32, 35, 36, 37, 38, 39,40, 41, and 42. The reason for achieving growth was because they are highly innovative. Others have not achieved growth since inception. Those in this category are company 9, 18, 26, 33, and 34. It is obvious that those in this category may not have been innovative; may have taken too much risks and or have tolerated failures arising from experimentations. However, none of the Business Startups in TIC, Minna, have achieved negative growth (Ahlstrom *et al*., 2019).

Therefore, Business Start-ups that are desirous to achieve growth must be innovative by generating ideas and creativity (Ruel *et al.*, 2012; Okangi, 2019; Tibaingana, 2019; Azoulay *et al*., 2020; Buccieri, *et al*., 2020)

Table 4.8: Results of Data Computation for Growth

Company	Innovation	Tolerance	Risk-Taking	Growth %
1.	6.84	6.12	6.52	2.0
2.	6.8	6.5	6.2	2.0
3.	5.75	4.2	6.1	2.0
4.	6.4	6.4	7.0	1.0
5.	6.1	6.2	6.3	2.0
6.	5.2	6.0	5.8	3.0
7.	6.84	6.12	6.52	2.0
8.	5.75	4.2	6.1	1.67
9.	6.4	4.8	6.7	0
10.	6.4	6.3	7.0	1.67
11.	6.0	5.5	6.6	2.0
12.	6.8	6.2	5.4	0.5
13.	5.2	5.9	4.6	3.0

14.	6.0	5.0	6.4	0.75
15.	6.13	6.13	6.33	2.0
16.	5.2	5.9	4.6	3.0
17.	6.84	6.12	6.52	2.0
18.	6.4	4.8	6.7	0
19.	6.1	5.4	5.7	3.0
20.	6.0	6.1	5.4	4.0
21.	5.2	5.9	4.6	1.25
22.	6.1	4.7	5.5	3.0
23.	6.8	6.2	5.4	1.5
24.	5.2	5.6	7.0	1.5
25.	5.2	5.9	4.6	1.5
26.	6.4	4.8	6.7	0
27.	6.0	6.1	5.5	1.0
28.	6.1	5.7	6.7	2.0
29.	5.2	6.0	7.0	4.0
30.	6.2	5.2	5.4	0.67
31.	6.1	4.7	5.5	1.0
32.	5.75	4.2	6.1	5.0
33.	6.1	4.2	5.4	0
34.	6.4	4.8	6.7	0
35.	6.13	5.93	6.4	1.5
36.	5.75	4.2	6.1	2.0
37.	6.13	6.13	6.33	2.0
38.	6.1	5.7	6.7	2.0
39.	6.20	5.20	5.40	1.0
40.	6.84	6.12	6.52	2.0
41.	6.20	5.20	5.40	1.33
42.	6.2	5.4	5.2	2.0

Source: Author's Computation (2021)

4.2.2 Presentation of collinearity statistic result

This test was carried out to ascertain the presence of multi-collinearity among the independent variables. The result of the test is presented below:

Table 4.9 above presents the Variance Inflation Factor (VIF) and the Tolerance levels to test the variables for the presence of multicollinearity.

Tolerance levels are all above 0.10 and VIF values are below 10 shows absence of multicollinearity (Hair *et al.*, 2015). Therefore, Table 4.9 shows tolerance level above 0.10, that is 0.933, 0.740 and 0.776 respectfully. The VIF is below 10 which are 1.072, 1. 350 and 1.289. Therefore, there is absence of multicollinearity in the independent variables.

Table 4.9 Collinearity Statistic Result

Variable	Variance Factor (VIF)	Inflation Tolerance
Innovation	1.072	.933
Tolerance of Failure	1.350	.740
Risk-taking	1.289	.776

Authors' computation, (2021)

4.3 Linear Regression Analysis Result

Linear Regression Analysis was used to produce a best fit line to predict independent variables from the dependent variable. This analysis was used to determine how the independent variable influenced the dependent variable, to what extent each independent variable affected the dependent variable and which of those factors are more significant. The results obtained are shown in table 4.9

Table 4.10 shows the relationship between the dependent variable (growth) and the independent variables (innovation, tolerance and risk-taking) for the model. The R-square of 0.124 indicates that the independent variables of the study explain 12.4% of the total variation in the dependent variable, while the remaining 87.6% of the variation represent extraneous variables not captured in the model. The result shows that the model for the study has a good fit. This is indicated by the F-value of 8.608 which is significant at 0.000** at P<0.05. This means that 12.4% variation in growth of business start-ups in TIC, Minna could be attributed to entrepreneurial culture under study.

Table 4.10 Summary of Regression Analysis Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	sig
1	.352	.124	.109	3.44237	8.608	.000

a. Predictors: (Constant), Innovation, Tolerance, Risk
b. Dependent Variable: Growth

Source: Author's Field Survey (2021)

4.4 Testing of Research Hypotheses

The three null hypotheses were put forward for testing in order to achieve the objectives of the study. The study employs multiple linear regression model and the result obtained was used to decide whether to reject the null hypotheses or retain them. The result of the regression analysis was based on the unstandardized coefficients presented below:

Ho_1: *Innovation has no significant effect on the growth of business start-ups in TIC, Minna.*

Table 4.11 indicates that, at 0.05 level of significance, there is a significant positive effect of

innovation on the growth of Business Start-ups in TIC, Minna. With a coefficient of 3.662 and a p-value of (0.000), implies that a unit increase in innovation, holding other variables fixed, will produce 3.662 units increase in growth of Business Start-ups of TIC, Minna. Therefore, based on this statistical effect of Innovation on growth, the null hypothesis which states that "*innovation has no significant effect on the growth of business start-ups in TIC, Minna"* is rejected at 0.05 significant level since the p-value is less than the 0.05 significant level, while accepting the alternate hypothesis that states that *"Innovation has significant effect on the growth of business start-ups in TIC, Minna"* at 0.05 significance level since the p-value is less than the 0.05 significance level. It is important to note that innovation at business start-ups in TIC, Minna, has witnessed varied expansion as a result of new ideas, new technologies, new markets explored, new sources of supplies of raw materials that were put in place. It is worth to mention that 95% of all the business start-ups in TIC, Minna has grown in size (number of employees) which has facilitated large quantity of its productions.

Ho$_2$: *Tolerance of failure has no effect on the growth of business start-ups in TIC, Minna"*. According to the result, at 0.05 level of significance, tolerance has a positive effect but is insignificant to growth because of the high level of p-value. The regression coefficient of 0.554 with a p-value of 0.362, which is an indication that a unit increase of tolerance of failure will produce only 0.554 units. This is invariably too low. Therefore, based on this statistical result the researcher fails to reject the null hypotheses which states that "*Tolerance of failure has no effect on the growth of business start-ups in TIC, Minna.*" as postulated in the hypothesis.

Ho$_3$: *Risk-taking has no effect on growth of business start-ups in TIC, Minna*.

Lastly, the result in table 4.11 also shows that *risk-taking has no statistical effect on growth*

Model	Unstandardized Coefficients		Standardized Coefficients	Sig
	B	Std. Error	B	
(Constant)	-16.891	4.083		0.000
Innovation	3.662	0.838	0.313	0.000
Tolerance of failure	0.554	0.607	0.073	0.362
Risk-taking	0.318	0.592	0.042	0.592

Dependent Variable: Growth
Source: Author's Computation, (2021)

of business start-ups in TIC, Minna. This is shown by a coefficient value of 0.318 with a provalue of 0.592. The statistical implication of this result is that at 0.05 level of significance, a unit increase in risk-taking by business start-ups in TIC, Minna, enhances their growth by just 0.318 units. This is apparently low. For this reason, the null hypotheses failed to reject the null hypothesis, which state that "*Risk-taking has no effect on growth of business startups in TIC, Minna".*

Table 4.11 Result of Regression Analysis

4.5 Discussion of Findings

4.5.1 Discussion of findings from descriptive statistics

The descriptive statistic result in table 4.7 shows that the mean values of growth, innovation, tolerance of failure and risk-taking are 7.000, 3.174, 2.116 and 2.560 respectively. The

common features of these variables are that they all have positive mean values. This means that each of the variables display increasing tendency throughout the sampling period. The average value of growth is 3.1040 which implies that the proportion of growth of business start-ups in TIC, Minna is low. As such, more attention should be given to measures that will improve the growth of business start-ups in TIC, Minna business activities in the long run.

The average value of innovation is approximately 4.4338. This average value is high, the business start-ups in TIC, Minna need to create more awareness about innovation and its effect in the long run business growth of the start-ups. The average value of tolerance of failure and risk-taking cultures are 4.1854 and 4.5281 respectively. Although, these values are within the same range with the average contribution of innovation to the growth of business start-ups in TIC, Minna, which implies that innovation support the growth of business start-ups in TIC, Minna much more than tolerance of failure and risk-taking cultures.

Therefore, in other to enhance the growth of business start-ups in TIC, Minna, their owners need to imbibe innovation in view of its contribution to the growth of their start-ups. This is in line with the suggestions of Adeyeye *et al*. (2019), Okangi (2019), Prasetyo (2019), Bucciere *et al*. (2020) and the Schumpeter's theory of innovation. That businesses must be creative and innovative for it to achieve sustainable growth. Table 4.7 also shows that except for growth with a high degree of variation with a standard deviation of 3.65, other variables have remained fairly stable. This high volatility in the growth of business start-ups in TIC, Minna call for concern, as it does not impact well for its growth.

4.5.2 Discussion of findings from inferential statistics

This study revealed that innovation has a significant positive effect on the growth of business start-ups in TIC, Minna. More so, not all the three variables have significant positive effect on the growth of business start-ups in TIC, Minna. The study therefore reveals that growth can be achieved if the business start-ups in TIC, Minna, invest and improve on innovation according to Schumpeter's theory of innovation. For instant, investing in new ideas, new products, new markets, new sources of raw materials, etc.

The findings of this study corroborates other empirical findings that innovation can stimulate growth of business start-ups by pursuing new opportunities in the production process and markets (Ireland *et al*., 2003; Gambastese and Hallowell 2010; Lim *et al.,* 2010; Zhang and Zhang, 2012; Wang and Yen, 2012; Leal-Rodriguez *et al.,* 2016; Fadda, 2018; Adeyeye *et al.*, 2019; Okangi, 2019; Buccieri *et al.*, 2020; Charron and Rivera-Cruz, 2020). The findings of this study also comply with the findings of other scholars that business start-ups that invest in innovation and are also committed to introducing new products or services are likely to experience increased growth (Lee et al., 2001; Zhang and Zhang, 2012; Kraus, 2013). They can introduce new products that is different from what exists around them, explore new markets by going into nearby villages around Minna. They can also advertise in social media for a wider audience. They can introduce personal selling by taking their products to the door step of potential customers. They can source for new sources of supplies of quality and cheap raw materials in other to reduce production costs.

However, the result also indicate that tolerance of failure cannot contribute to the growth of business start-ups in TIC, Minna, as is shown to have a no significant impact on the growth

of business start-ups in TIC, Minna. This is because the result indicates that an increase in tolerance of failure will lead to a decrease in growth of business start-ups in TIC, Minna significantly.

This is in line with some studies of Kuratko (2012); Grigore and Mitroi (2012); Ruel *et al.*

(2012) who affirmed that tolerating failure is not a culture in most business start-ups. Nevertheless, other research finds positive link with tolerance and growth, Leal-Rodriquez et al. (2016) Adeyeye *et al.* (2019); Okangi (2019); Prasetyo (2019), affirmed that tolerating failure and eventually leads to growth. Most business start-ups in TIC, Minna do not understand what tolerance entails. A large number of them cannot wait because it is not in their culture to expect that failure may lead to successes in another time. Investment in knowledge must be put in place so as to training them on entrepreneurial culture on how to tolerate failures by trying again and again until growth is eventually achieved. There can never be development without failing and trying again and again. This must be emphasized with vivid examples during organized seminars, conferences, trainings and other forms of development.

On risk-taking culture in business start-ups in TIC, Minna, findings indicate that it cannot lead to increase in growth of business start-ups in TIC, Minna. This however contradicts the findings of the studies of Lee *et al*. (2009), Fayolle *et al.* (2010), Ruel *et al.* (2012), Hancioglu (2014), Omari *et al.* (2017), Adeyeye *et al.* (2019), Cwynar (2019), and Okangi, (2019), who found that risk-taking culture is one of the critical internal factors necessary to support the growth of business start-ups. Some of the risks that business start-ups have to consider is to

be innovative because innovators are risk takers who experiment with radically different orientations, ideals or products which could result to growth.

The result of this finding is however in agreement with the previous research of Wang and Ahmed 2004; Cwynar, 2019; Tibaingana, 2019; Prasetyo, 2019), who concurred that business start-ups are not financially stable to absorb risks to a large extent and its applications does not always guarantee success. Most business start-ups in TIC, Minna, do not exhibit the willingness to take risk, because they lack the knowledge and mostly are risk- averse. They need to acquire knowledge on how to manage and how to take calculated risks. This can be achieved by inviting professional trainers on entrepreneurship, who would train, develop and impact knowledge on the employees in other to change their mind set on risktaking. Wambugu *et al*. (2015) showed that the ability of firms to stay competitive can be related to the amount of risks taken.

The importance of business start-ups to most economies cannot be overemphasized. As such, supporting the growth of business start-ups is critical as they provide goods and services, create numerous employments, accommodate new innovations to the market and enable payment of taxes to the government

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study investigated the effect of entrepreneurial culture on the growth of 42 business start-ups of Technology Incubation Centre, Minna. In giving answer to the first research question that stated *"what is the effect of innovation on the growth of business start-ups of TIC, Minna*?" The answer to this research question based on the findings of the study which reveals that innovation has a positive and significant effect on the growth of business startups of TIC,

Minna. The second research question which stated "*does tolerance of failure have any effect on the growth of business start-ups of TIC, Minna*?" The findings of this study to the research question is that tolerance of failure has a positive but insignificant impact on the growth of business start-ups of TIC, Minna. The third research question states thus, "*to what extent does risk-taking affect the growth of business start-ups of TIC, Minna*?". The findings of this study revealed that risk-taking has a positive but insignificant effect on the growth of business start-ups of TIC, Minna. *Conclusively, entrepreneurial culture of innovation only has a significant effect on the growth of business start-ups of Technology Incubation Centre, Minna while tolerance of failure and risk-taking are important but not significant.*

This study on the effect of entrepreneurial culture on the growth of business start-ups, has contributed to Literature on entrepreneurship and innovation in developing countries by identifying that tolerant of failure and risk-taking cultures can promote entrepreneurial culture in this context, as it differs from other economies.

5.2 Recommendations

In view of the research findings and the benefits that could be derived from this study, the following recommendations were made

1. Management of various business start-ups in TIC, Minna, should encourage innovation by putting in place, an educational infrastructure in which the employees/managers can gain exposure to a variety of innovative technologies as well as being able to be trained to acquire essential business skills.

2. Management of business start-ups in TIC, Minna should tolerate failures arising from experimentations because failure is a learning process that could promote growth in the long run.

3. All business start-ups carry some degree of risks and as such entrepreneurs in TIC, Minna must be willing to take risks in other to enjoy higher returns arising from their investments.

5.3 Contribution to Knowledge

The study is credited as the first to examine the effect of entrepreneurial culture on the growth of business start-ups in technology incubation centre, Minna, Niger state, Nigeria. The use of growth for business start-ups as a measure for dependent variable while, similar studies were on performance and not on growth (Adeyeye *et al*., 2018; Okangi, 2019; Prasetyo, 2019).

This study has thus, contributed to knowledge by offering new insights into the effect of entrepreneurial culture on the growth of business start-ups in TIC, Minna, Niger state, Nigeria, by identifying how entrepreneurial culture variables can be explored to achieve business start-ups' sustainable growth in TIC, Minna, and by extension, the developing economies. The result of the study showed that R of 35.2% at 0.000 was significant for business start-ups in TIC, Minna, Niger state, Nigeria. It was revealed that at 0.05 level of significant, there is positive effect of innovation in business start-ups in TIC, Minna, Niger state, Nigeria, with a coefficient of 3.662 and a p-value of (0.000). Tolerance of failure has no effect on the growth business start-ups in

TIC, Minna, Niger state, Nigeria, since the result revealed that at 0.05 level of significance, the regression coefficient was 0.554 with a p-value of 0.362. Risk-taking has no effect on growth of business start-ups in TIC, Minna, Niger state, Nigeria, since the result revealed that at 0.05 level of significant, the regression coefficient value of 0.318 showed a p-value of 0.592.

5.4 Suggestion for Further Research

The findings of this study also suggest the following areas for further study:

1. Future empirical studies should include the employers of business start-ups of TIC, Minna. The inclusion in a similar study would provide for a diverse view from both the employers and the employees of business start-ups of TIC, Minna.

2. Since this study is limited to business start-ups of TIC, Minna, other interesting studies should be conducted outside the business start-ups of TIC, Minna, to serve as a comparative study on growth of business start-ups.

3. Studies should be carried out on other variables that would engender growth of business start-ups generally.

REFERENCES

Acs, Z. J., Braunerhjelm, P., Andretsch, D. B. & Carlsson, B. (2009). The Knowledge

Spillover Theory of Entrepreneurship. *Small Business Economics*, 32(2), 15-30

Adeyeye, M. M., Udogwu, C.V., Bello, E. I. and Araga, E.S. (2019). Entrepreneurial Culture and Growth of Knowledge Intensive Business Services in Minna, Niger State, Nigeria. *Nigerian Journal of Technological Research*, *14*(2), 93-98.

Adeyeye, M. M., Wale-Oshinowo, B., & Ndibe, L (2018). Entrepreneurial Culture as Antidote for Corruption on Information and Communication Technology Firms' Performance.

Ahmad, R. & Usop, H. (2011). *Conducting Research in Social Sciences, Humanities, Economics and Management Studies*: A Practical Guide, Malaysia: Lee Mining Press.

Ahlstrom, D., Chang, A. Y., & Cheung, J. S. (2019). Encouraging Entrepreneurship and Economic Growth. *Journal of Risk and Financial Management*, *12*(4), 178.

Azoulay, P., Jones, B. F., Kim, J. D., & Miranda, J. (2020). Age and High-growth Entrepreneurship. *American Economic Review: Insights*, *2*(1), 65-82.

Bouchouicha, R., & Vieider, F. M. (2019). Growth, Entrepreneurship, and Risk-tolerance: a Risk-income Paradox. *Journal of Economic Growth, 24*(3), 257-282.

Breazeale, N., Fortunato, M. W. P., Allen IV, J. E., Hustedde, R. J., & Pushkarskaya, H. (2015). Constructing a Multi-dimensional Measure of local Entrepreneurial Culture. *Community Development*, *46*(5), 516-540.

Buccieri, D., Javalgi, R. G., & Cavusgil, E. (2020). International New Venture Performance: Role of International Entrepreneurial Culture, Ambidextrous Innovation, and Dynamic Marketing Capabilities. *International Business Review*, *29*(2), 101639.

Capelleras, J. L., Contin-Pilart, I., Larraza-Kintana, M., & Martin-Sanchez, V. (2019). Entrepreneurs' Human Capital and Growth Aspirations: The Moderating Role of Regional Entrepreneurial Culture. *Small Business Economics*, *52*(1), 3-25.

Chalhoub, M. S. (2011). Culture, Management Practices, and the Entrepreneurial Performance of Small and Medium Enterprises: Applications and Empirical Study in the Middle East. *Journal of Small Business & Entrepreneurship*, *24*(1), 67-84.

Charrón Vías, M., & Rivera-Cruz, B. (2020). Fostering Innovation and Entrepreneurial Culture at the Business School: A Competency-based Education Framework. *Industry and Higher Education*, *34*(3), 160-176.

Churchill N.C. and Lewis L. V. (2020). Entrepreneurial Management: The Five Stages of Small Business Growth mhtml: file://E./ the Five Stages of Small Business Growth (1). html

Cwynar, C. (2019). Self-service Media: Public Radio Personalities, Reality Podcasting, and Entrepreneurial Culture. *Popular Communication*, *17*(4), 317-332.

Daniels, Leonard, Gard (2012), *World Statistics Pocketbook* http//cweb2.loc.gov/frd/cs/profile/Nigeria.pdf retrieved 4/12/2011.

Davidsson, P., Achtenhagen, L., & Naldi, L. (2015). Research on Small Firm Growth: A Review. In European Institute of Small Business. https://eprints.qut.au/2072.

Deakins, D., & Freel, M. (2009). Entrepreneurship and Small Firms. 5th Edition, McGraw Hill, New York.

Del Giudice, M., Nicotra, M., Romano, M., & Schillaci, C. E. (2017). Entrepreneurial Performance of Principal Investigators and Country Culture: Relations and Influences. *The journal of technology transfer*, *42*(2), 320-337.

Delmar, F., Davidsson, P. & Gartner, W. B. (2003). Arriving at the High-growth Firm. *Journal of Business Venturing*, 18(2), 189-216.

Dheer, R. J. (2017). Cross-national Differences in Entrepreneurial Activity: Role of Culture and Institutional Factors. *Small Business Economics*, *48*(4), 813-842.

Dimitratos, P., Voudouris, I., Plakoyiannaki, E., & Nakos, G. (2012). International Entrepreneurial Culture—Toward a Comprehensive Opportunity-based Operationalization of International Entrepreneurship. *International Business Review*, 21(4), 708-721.

Doody, S., Chen, V. T., & Goldstein, J. (2016). Varieties of Entrepreneurial Capitalism: The Culture of Entrepreneurship and Structural Inequalities of Work and Business Creation. Sociology Compass, 10(10), 858-876.

Elsayir, H. A. (2014). Comparison of precision of systematic sampling with some other probability samplings. *American Journal of Theoretical and Applied Statistics*, 3(4), 111–116.

Farja, Y., Gammon, E., & Greenberg, Z. (2016). The Effect of Entrepreneurial Orientation on SMEs Growth and Report in Israeli Peripheral Regions. *New England Journal of Entrepreneurship*, 19(2), 24-40.

Fadda, N. (2018). The Effects of Entrepreneurial Orientation Dimensions on Performance in the Tourism Sector. New England, *Journal of Entrepreneurship*, 21(1), 22–44.

Fayolle, A., Basso, O., & Bouchard, V. (2010). Three levels of Culture and Firms' Entrepreneurial Orientation: A Research Agenda. Entrepreneurship and Regional Development, 22(7-8), 707-730.

Fernández-Serrano, J., Berbegal, V., Velasco, F., & Expositor, A. (2018). Efficient Entrepreneurial Culture: A Cross-country Analysis of Developed Countries. *International Entrepreneurship and Management Journal*, 14(1), 105-127.

Fredin, S., & Jogmark, M. (2017). Local Culture as a Context for Entrepreneurial Activities. European Planning Studies, 25(9), 1556-1574.

Fritsch, M., & Wyrwich, M. (2018). Regional knowledge, Entrepreneurial Culture, and Innovative Start-ups Over Time and Space—an Empirical Investigation. Small Business Economics, 51(2), 337-353.

Frank K. (1921). Risk, Uncertainty and Profit: The Economic Theory of Uncertainty in Business Enterprise and its Connection to Profit Prosperity in Society.

Fraenkel, J. R., and Wallen, N. E. (2000). Visual Statistics: A Conceptual Primer, Boston: Ally and Bacon.

Gabrielsson, M., Gabrielsson, P., & Dimitratos, P. (2014). International Entrepreneurial Culture and Growth of International New Ventures. *Management International Review*, *54*(4), 445-471.

Gambatese, J. A.& Hallowell, M. (2010). Enabling and Measuring Innovation in the Construction Industry. *Construction Management and Economics*, 29(6), 553-567.

Garcia-Ruiz, J. L., & Tominelli, P. A. (2015). Entrepreneurial Culture or Institutions? A Twentieth-Century Resolution. In *the Determinants of Entrepreneurship* (pp. 135152). Routledge.

Glassman, (2009). Innovation in Services: A Review of the Debate and a Research Agenda, *Journal of Evolutionary Economics*, 19(2) 149-172.

Grace, J. (2013). Building Entrepreneurial Culture in a 'Company Town': Innovative Initiatives in the Illawarra. In *Regional Advantage and Innovation* (pp. 319-337).

Grigore, A.M. and Mitroi, A. (2012). Romanian Culture and its Attitude Towards Entrepreneurship. A Review of International Comparative Management, 13 (1), pp149-157).

Gupta, A. K., & Govindarajan, V. (2000). Knowledge Flows Within Multinational Corporations. *Strategic Management Journal*, 21: 473–496.

Hair Jr. J. F., Wolfinbabarger, M., Money, A. H., Samuel, P., & Page, M. J. (2015). *Essentials of Business Research Methods*, 28(1), 21-42.

Hamdan, A. M. M. (2019). Entrepreneurship and Economic Growth: An Emirati Perspective. *The Journal of Developing Areas, 53*(1) 65-78.

Hancıoğlu, Y., Doğan, Ü. B., & Yıldırım, Ş. S. (2014). Relationship Between Uncertainty Avoidance Culture, Entrepreneurial Activity and Economic Development. *ProcediaSocial and Behavioral Sciences, 150*, 908-916.

Hanson, S. K., Hessel, H. M., & Danes, S. M. (2019). Relational Processes in Family Entrepreneurial Culture and Resilience Across Generations. *Journal of Family Business Strategy*, *10*(3), 100263.

Hofstede, G. H. (2016). Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations. *Collegiate Aviation Review,* 34, (2), 108.

Huyghe, A., & Knockaert, M. (2015). The Influence of Organizational Culture and Climate on Entrepreneurial Intentions Among Research Scientists. *The Journal of Technology Transfer*, *40*(1), 138-160.

Ireland, R., Hitt, M. & Simon, D. (2003). 'A Model of Strategic Entrepreneurship: The Construct and its Dimensions, *Journal of Management,* Vol.29, No.6, pp.963-989.

Ketche, D., & Short, J. (2012). Strategic Management Evaluation and Execution (V.1.0), Chapter 2, 70-75, http//my.uopeople.edu/pluginfile.php/57436/modBook/chapter/122442/BUS%205117%20strategic-managementevaluation.pdf.Accessed 7Apr. 2013

Kinnear, S., & Ogden, I. (2011, June). The Central Queensland Innovation Prospectus. Report to the Department of Industry, Innovation, Science and Research.

Kochargaonka, A., & Boult, J. (2014). Designing an Innovation Culture Within an Entrepreneurial Environment. *Design Management Review, 25*(3), 10-16.

Kraus, S., Rigtering, J. P. C., Hughes, M., & Hosman, V. (2013). Entrepreneurial Orientation and the Business Performance of SMEs: a Quantitative Study from the Netherlands. *Review of Managerial Science*, 6(2), 161–182.

Kuratko, D. F., Morris, M. H & Covin, J. G. (2012). *Corporate Innovation & Entrepreneurship. Entrepreneurial Development Within Organisations.* International Edition. United Kingdom. South-Western Cengage Learning.

Lalkaka, R. (2000) Manual on Technology Business Incubators, UNESCO-UNISPAR Programme, Paris: UNESCO>

Leal-Rodríguez, A. L., Albort-Morant, G., & Martelo-Landroguez, S. (2017). Links between Entrepreneurial Culture, Innovation, and Performance: The Moderating Role of Family Firms. *International Entrepreneurship and Management Journal*, *13*(3), 819835.

Lee, S. M., Lim, S. B., & Pathak, R. D. (2011). Culture and Entrepreneurial Orientation: a Multi-country Study. *International Entrepreneurship and Management Journal*, *7*(1), 1-15.

Lewi, D. A., Harper-Anderson, E., & Molnar, L. A. (2001). Incubating Success: Incubating Best Practice That Lead to Successful New Venture (Technical Report), US Department of Commerce Economic Development Administration. DOI: 10,13140/RG.2.12.2732.6881.

Lim, S. & Lee, S. M. (2009). Entrepreneurial Orientation and the Performance of Service Business. 3(1), 1–13.

Li, J., & Lee, R. P. (2015). Can Knowledge Transfer Within MNCs Hurt Subsidiary Performance? The Role of Subsidiary Entrepreneurial Culture and Capabilities. *Journal of World Business*, *50*(4), 663-673.

Li, Q. S. (2015). The Necessities and Approaches of Cultivating the Entrepreneurial Culture of China's New Undergraduate Colleges and Universities. In *Management, Information and Educational Engineering* (pp. 1083-1086). CRC Press.

Marti, I., Courpasson, D., & Barbosa, S. D. (2013). "Living in the Fishbowl". Generating an Entrepreneurial Culture in a Local Community in Argentina. *Journal of Business Venturing*, *28*(1), 10-29.

Mornah, D., & MacDermott, R. J. (2016). Culture and Entrepreneurship. In *United States Association for Small Business and Entrepreneurship. Conference Proceedings* (p. JO1). United States Association for Small Business and Entrepreneurship.

Mugenda O. & Mugenda A. (2009). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Research Methods. ACTS.

Nason, R. S., & Wiklund, J. (2018). An Assessment of Resource-based Theorizing on Firm Growth and Suggestions for the Future. *Journal of Management*, 44(1), 32-60.

National Board for Technology Incubation (NBTI) (2013) An Annual Report Abuja: Federal Ministry of SCIENCE AND Technology.

Ndagi, A. (2018). Effect of Technology Incubation Programme on Entrepreneurship Development in Nigeria, *World Technopolis Review, Vol.7. No.1 (issue 18),* www.wtanet.org

Ndagi, A. (2019) Effect of Technology Incubation Programme on Entrepreneurship Development in Nigeria (Unpublished Phd. Thesis), Nasarawa State University, Keffi, Nigeria.

Noke, H., & Mosey, S. (2017). Entrepreneurial culture and leadership: Structure, Processes and People. In *Building an Entrepreneurial Organisation* (pp. 47-58). Routledge.

Obschonka, M. (2017). The Quest for the Entrepreneurial Culture: Psychological Big Data in Entrepreneurship Research. *Current Opinion in Behavioral Sciences*, *18*, 69-7

Okangi, F. (2019) The Impacts of Entrepreneurial Orientation on the Profitability Growth of Construction Firms in Tanzania. *Journal of Global Entrepreneurship Research*, 9 (1), 1-23.

Okorley, E. L., & Nkrumah, E.E. (2012). Organizational Factors Influencing Sustainability of Local Non-governmental Organizations: Lessons from a Ghananian Context. *International Journal of Social Economics,* 39(5), 330-341.

Omari, M. E., Erramdani, M., & Hajbi, R. (2017). For Formed Entrepreneurial Culture. In *Europe and MENA Cooperation Advances in Information and Communication Technologies* (pp. 459-467). Springer, Cham.

Otaru, S.F. (2019): Financial Resource Mobilization and Sustainability of NonGovernmental Organizations (NGO) in Minna, Niger State (unpublished Mtech Thesis). a

Pervan, M., Pervan, I., & Curak, M. (2017). The Influence of Age on Firm Performance: Evidence from the Croatian Food Industry. *Journal of Eastern Europe Research in Business and Economics*, 2017, 618681. https://doi.org/10.5171/2017.618681.

Pfeffer, F. (2012). Towards the Deployment and Adaption of Location-based Services for Optimal Mobile Communication Operations in Africa, *The African journal of Information Systems*, 4(2) 61-83.

Prasetyo, P. E. (2019). Role of Entrepreneurial Culture as the Driver of Economic Growth. *International Journal of Economics and Financial Issues*, *9*(3), 237.

Rompho, N. (2018). Operational Performance Measures for Start-ups. *Measuring Business Excellence*, 22(1), 31-41 https:/doi.org/10.1108/MBE-06-2017-0028

Roopchund, R. (2020). SMEs in Mauritius: Economic Growth, Employment and Entrepreneurial Culture. *International Journal of Entrepreneurship and Small Business*, *39*(4), 585-596.

Roy, S., Modak, N., & Dan, P. K. (2018, January). Entrepreneurial Culture-Driven Improvement of Technical Facets for Product Quality and Customer Satisfaction. In *International Conference on Mechanical Engineering* (pp. 713-732). Springer, Cham.

Roy, S., Modak, N., & Dan, P. K. (2020). Managerial Support to Control Entrepreneurial Culture in Integrating Environmental Impacts for Sustainable New Product Development. In *Sustainable Waste Management: Policies and Case Studies* (pp. 637-646). Springer, Singapore.

Ruël, H. J., Frolova, P., & Groen, A. (2012). Entrepreneurial Culture in Innovative Biotech Clusters in Europe. *International Journal of Entrepreneurship and Small Business*, *17*(2), 249-263.

Samli, A. C. (2016). The Needed Entrepreneurial Culture. In *Empowering the Market Economy through Innovation and Entrepreneurship* (pp. 79-91). Palgrave Macmillan, New York.

Shane, S. (1993). Cultural Influences on National Rates of Innovation. *Journal of Business Venturing*, 8(1), 59-73.

Shane, S. A. & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Review, 25(1) 217-226.*

Schumpter, J. (1934). The theory of economic development: An inquiry into profits, capital, credit, interest and the business cycle, Cambridge: Harvard University Press, Cambridge MA.

Taherdoost, H. (2016). Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research. *International Journal of Academic Research in Management,* 5(2), 18-27.

Tibaingana, A. (2019). Anecdotal Evidence of the Role of Incubation in the Growth of Business Start-Ups in Uganda. *International Business Research, 13*(1), 64-78. Tsang, D., & Park, Y. (2013). How Culture and Government Shape Entrepreneurial innovation: The Case of Korean and UK Online Gaming Firms. *Asian Journal of Technology Innovation*, *21*(2), 237-250.

Wang, C. L., & Ahmed, P. K. (2004). The Development and Validation of the Organizational Innovativeness Construct Using Confirmatory Factor Analysis. European Journal of Innovation Management, 7(4), 303-313.

Wambugu, A. W., Gichira, R., Wanjau, K, N. & Mungatu, J. (2015). The Relationship Between Risk-taking and Performance of Small and Medium Agro Processing Enterprise in Kenya, *International Journal of Economics, Commerce and Management* /// (12), 441-455.

Wang, H. & Yen, Y. (2012). An Empirical Exploration of CEO and Performance in Talwanese SMEs: a Perspective of Multi-dimensional Construct. *Total Quality Management and Business Excellence,* 23(9), 1035-1044.

Wee, L., & Brooks, A. (2012). Negotiating Gendered Subjectivity in the Enterprise Culture: Metaphor and Entrepreneurial Discourses. *Gender, Work & Organization, 19*(6), 573-591.

Wilderom (2011). *Strategic Entrepreneurship*, ed., Pearson Education Limited.

Zhang, Y., & Zhang, X. (2012). The Effect of Entrepreneurial Orientation on Business Performance and the Role of Network Capabilities in China. Journal of Chinese Entrepreneurship, 4(2), 132–142.

Zimmerer, T.W and Scarborough, N.M. (2016). Essentials of Entrepreneurship and Small

Business Management. Peason.

APPENDIX A

QUESTIONNAIRE

School of Entrepreneurship and Management Technology,

Department of Entrepreneurship & Business Studies,

Federal University of Technology,

Minna.

Dear Respondent,

RESEARCH QUESTIONNAIRE

I am a postgraduate student of the above-named department and university, currently undergoing a study on **"Effect of Entrepreneurial Culture on the Growth of Business Start-ups in Technology Incubation Centre, Minna"**.

You are kindly requested to fill this questionnaire as objectively as possible. I assure you that your responses will be treated with utmost confidentiality and will be used solely for academic purposes.

Thank you in anticipation of your cooperation and understanding.

Yours sincerely,

Mohammed Ibrahim Sojeko.

PART I

Kindly tick the appropriate box and fill in the relevant answers for the questions.

SECTION A: **Demographic profile**

1. Gender: Male [ ] Female [ ]
2. Age: less than 30 30 – 49years 50 – 59years 60 years and above
3. Highest level of Education:

a. Primary b. secondary c. OND/NCE d. BSC/HND e. Masters and above

4. What is your functional responsibility? a. Supervisor Manager c. Clerical Staff
5. Name of the organisation:

6. Location of Organisation: Chanchaga LGA ☐ ☐

Bosso LGA ☐ ☐

7. Time spent in the organisation: less than ☐ 1year 1 - 2years

3 - 5year ☐ 6- and above

Part II

Please kindly tick appropriately to indicate your response using the following scales: SA, A, U, D, and SD.

Where: SA- Strongly Agree; A- Agree; U- Undecided; D- Disagree; SD- Strongly Disagree.

SECTION B: **INNOVATION**

S/N	Variables	SA	A	U	D	SD
1.	Your organisation encourages employees that like doing things differently from what is on ground.					
2.	Introducing different products/services makes your company to have more customers than others					
3.	Your company creates an enabling environment suitable for wanting to do things differently.					
4.	Your company has achieved growth, because it has developed the capacity to do things differently.					
5.	Your company dedicates time enough for its employees to learn new behaviours.					

6.	Your organization often encourages employees that do things differently by giving rewards which motivates them so as to do more.					
7.	Your company train its employees in order to equip them with new skills.					

SECTION C: **TOLERANCE OF FAILURE**

S/N	Variables	SA	A	U	D	SD
1.	Your company does not penalize staff for making mistakes that affect the revenue of the organization.					
2.	Tolerance of experiments by your company encourages /boosts staff morale.					
3.	Mistakes are not personalized but perceived as something to learn from.					
4.	Your company does not abandon a failed experiment but try again and again until it achieves the purpose.					
5.	Your company tolerates staff who have a failed experiment.					
6.	Your company does not fire staff that commits errors with the business resources.					
7.	Your company is achieving growth because it tolerates experimentation of all kinds.					

SECTION D: **RISK TAKING**

S/N	Variables	SA	A	U	D	SD
1.	Your organization encourages us to dabble into other products/services rather than the ones being dealt with.					
2.	Your company is not afraid of taking reasonable risks. It is the matter of making it or not making it.					

3.	Your company believes that failing in a venture does not make them a failure.					
4.	Your organization is always confident of sales of whatever product/service that is produced.					
5.	Your company is aware that doing things differently is a risk.					
6.	Your company is always prepared to take any type of risk associated with achieving growth.					
7.	Your company makes provision for risk such as poor sales, in case it does not go as expected					

SECTION E: **GROWTH**

Kindly provide appropriate number of employees in the past 5 years (2016/20182019/2020)

Year	2006	2017	2018	2019	2020
Number of employees					

Appendix B

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	risk, innovation, tolerance[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Growth

Descriptive Statistics

	Mean	Std. Deviation	N
Growth	3.1040	3.64747	187
Innovation	4.4339	.31163	187
Tolerance	4.1834	.48333	187
Risk	4.5279	.48390	187

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.352[a]	.124	.109	3.44237	.124	8.608	3	183	.000	1.756

a. Predictors: (Constant), risk, innovation, tolerance

b. Dependent Variable: Growth

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	306.023	3	102.008	8.608	.000[a]
	Residual	2168.530	183	11.850		
	Total	2474.553	186			

a. Predictors: (Constant), risk, innovation, tolerance

b. Dependent Variable: Growth

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-16.891	4.083		-4.137	.000					
	Innovation	3.662	.838	.313	4.368	.000	.338	.307	.302	.933	1.072
	Tolerance	.554	.607	.073	.914	.362	.174	.067	.063	.740	1.350
	Risk	.318	.592	.042	.536	.592	.123	.040	.037	.776	1.289

a. Dependent Variable: Growth

Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	inovation	tolerance	risk
1	1	3.982	1.000	.00	.00	.00	.00
	2	.009	21.371	.08	.16	.37	.17
	3	.006	24.825	.00	.02	.62	.76
	4	.002	41.400	.92	.82	.01	.07

a. Dependent Variable: Growth

Statistics

		Innovation	tolerance	risk
N	Valid	188	188	188
	Missing	0	0	0
Mean		4.4338	4.1854	4.5289
Std. Deviation		.31079	.48286	.48279
Skewness		1.273	-1.749	-1.988
Std. Error of Skewness		.177	.177	.177
Kurtosis		2.306	4.234	9.653
Std. Error of Kurtosis		.353	.353	.353
Minimum		4.00	1.85	1.28

Maximum	5.00	5.00	5.00

APPENDIX C

List of Business start-ups in TIC, Minna, Niger State, Nigeria.

1. Hamstring Engineering
2. De-marine & Business Network
3. Michigan Foods Nig. Ltd.
4. Nancy Gold
5. ITEC Fabrications
6. Ates Ventures
7. Gladstone Ornamented Wares
8. Natures Sleeks Secrete
9. Princess Organic Cosmetics 10. M.H.Hadmmoh Natural Spices
11. Zafra Foods Nig. Ltd.
12. Evenly Aura Soap
13. Dotbiz Nig.Ltd.
14. Pad-up Creations
15. Baynam Ventures & Services
16. OB Praco

17. Kato Emma Pharmaceuticals
18. John G. Nig. Enterprise
19. Ovanab Data Syrup
20. Ashenad Organic Cosmetics
21. Muna Fish Enterprise
22. Gold-Rain Drops
23. Food processing Ventures
24. Doko Yegborolo
25. Ley-jay Pharmacy
26. Kad Engineering
27. Kitchen Friendly
28. ICON Rael Electronics
29. Chichi Confectionaries
30. Takimo Enterprises
31. Ugo-Oma Confectionaries
32. Jummy Honey
33. J. C. Honey
34. Al-Habib Posters
35. Christomo Soya Meal
36. Kasam Spices
37. SV Power
38. Dotbiz G & G Associates
39. De-Leonard
40. Famous Intercontinental
41. Anameh Priesly Foods
42. Royal Multipurpose.