EXPANDING ENTREPRENEURIAL CAPABILITIES THROUGH BUSINESS INCUBATORS: A CASE STUDY OF THE iDEA HUB NIGERIA

BY

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August, 2016
DECLARATION

I hereby declare that this mini thesis titled *Expanding Entrepreneurial Capabilities Through Business Incubators: A Case Study of the iDEA Hub Nigeria*, is my own work and that I have not previously submitted it at any university for a degree or examination. All sources that I have quoted have been indicated and duly acknowledged by means of referencing.

Kenechukwu Maduka Ikebuaku

Signature: ……………………………

August, 2016
ACKNOWLEDGEMENTS

Firstly, I will like to give all glory to the Almighty God, the Source and the Sustainer of my life, for His unending love, grace and strength.

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Finally, to my mother, Mrs Nche Ikebuaku, who sacrificed everything she had to raise me, I am eternally grateful. To my uncle, Sunday Akabogu, you have been a father to me, may God richly reward you. To my siblings, friends and all my mentors, thank you for your invaluable contributions into my life. I am a product of the sacrifices of many.
DEDICATION

This thesis is dedicated to the African youth who, though faced with enormous challenges, are making immense contribution to the development of our continent. You are the hope of Africa.
ABSTRACT

Entrepreneurship has long been offered as the panacea for poor economic growth and high rate of unemployment. Business incubation is considered an effective means for enhancing entrepreneurial activities while engendering socio-economic development. Information Technology Developers Entrepreneurship Accelerator (iDEA), is a software business incubation programme established by the Nigerian government as a means of boosting digital entrepreneurship activities and reducing unemployment in the country. This study assessed the contribution of iDEA Nigeria’s entrepreneurship programmes towards enhancing the capabilities of its tenants.

Using the capability approach and the sustainable livelihoods approach, the study analysed iDEA programmes’ contribution towards the expansion of participants’ entrepreneurial capabilities. Apart from identifying a set of entrepreneurial capabilities from both the literature and empirical analysis, the study went further to ascertain how iDEA incubation has helped to enhance those capabilities for its tenants. It also examined digital entrepreneurship as a valued functioning and as an intermediate functioning leading to other valuable functioning. Furthermore, the study examined gender as a conversion factor in digital entrepreneurship. Both qualitative and quantitative research methods were used for the study and measurement of key variables was made. While the entire population was utilised to collect data for the qualitative research, purposive sampling was used to select respondents for semi-structured interviews in the quantitative research. However, only 40 beneficiaries agreed to take part in the survey while 10 respondents were interviewed for the study. Responses collected from questionnaires administered were subjected to statistical analysis using SPSS.

The study developed indexes to measure the perception of the respondents, on how iDEA programmes have enhanced their entrepreneurial capabilities. The Capabilities Enhancement Perception Index (CEPI) computed indicated that the respondents believed that iDEA programmes enhanced their entrepreneurial capabilities. While access to power supply and reliable internet have the highest positive deviations around mean, negotiation skills and access to customers/clients have the highest negative deviation. These were well supported by the findings of the qualitative analysis in which the participants unequivocally narrated how the resources provided by iDEA aid them in their entrepreneurial endeavours. It was also found that iDEA programmes have a significant effect on the tenants’ access to networking opportunities, both with other emerging entrepreneurs and established entrepreneurs.

While assessing gender as a conversion factor, it was discovered that there was very low female participation within the digital entrepreneurship ecosystem. The root cause of this gender disparity was found in unquestioned cultural beliefs and social norms which relegate women to a subservient position.
and household duties. The findings also showed that many of the entrepreneurs could be considered opportunity-based entrepreneurs rather than necessity entrepreneurs, and that digital entrepreneurship is a valued functioning for iDEA tenants. Moreover, it was found that digital entrepreneurship offers the participants the opportunity to contribute towards the wellbeing of others through employment creation while for others; it was considered a tool for wealth creation.

With regards to challenges facing digital entrepreneurship in Nigeria, infrastructural/institutional inadequacies, lack of funding opportunities, and unfavourable government policies, were considered inimical to entrepreneurial capabilities in the country. The study recommended, inter alia, the establishment of more technology incubators across different states in Nigeria, especially areas with high technology potential. It also recommended that iDEA programmes should focus more on improving areas in which they have the least effect on the entrepreneurs, in order to make their contribution more comprehensive.
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<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>BoA:</td>
<td>Bank of Agriculture</td>
</tr>
<tr>
<td>BoI:</td>
<td>Bank of Industry</td>
</tr>
<tr>
<td>EDS:</td>
<td>Enterprise Development Services</td>
</tr>
<tr>
<td>GEM:</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>GDP:</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GSM:</td>
<td>Global System for Mobile-Communications</td>
</tr>
<tr>
<td>HEIs:</td>
<td>Higher Education Institutions</td>
</tr>
<tr>
<td>HTBFs:</td>
<td>High Technology Business Firms</td>
</tr>
<tr>
<td>IBIs:</td>
<td>Industrial Business Incubators</td>
</tr>
<tr>
<td>iDEA:</td>
<td>Information Technology Developers Entrepreneurship Accelerator</td>
</tr>
<tr>
<td>MDAs:</td>
<td>Ministries, Departments and Agencies</td>
</tr>
<tr>
<td>NBS:</td>
<td>National Bureau of Statistics</td>
</tr>
<tr>
<td>NCC:</td>
<td>Nigerian Communications Commission</td>
</tr>
<tr>
<td>NACRDB:</td>
<td>Nigerian Agricultural Cooperative and Rural Development Bank</td>
</tr>
<tr>
<td>NITDA:</td>
<td>National Information Technology Development Agency</td>
</tr>
<tr>
<td>SMEDAN:</td>
<td>Small and Medium Enterprises Agency of Nigeria</td>
</tr>
<tr>
<td>SMEEIS:</td>
<td>Small and Medium Enterprises Equity Investment Scheme</td>
</tr>
<tr>
<td>TBIs:</td>
<td>Technology Business Incubators</td>
</tr>
<tr>
<td>USIs:</td>
<td>University Science Park incubators</td>
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<td>UNDP:</td>
<td>United Nations Development Programme</td>
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KEYWORDS

Beneficiary
Business Incubator
Capabilities
Development
Employment
Empowerment
Entrepreneurship
Programme
Technology
CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Entrepreneurship and Business Incubators in Context

Entrepreneurship has long been offered as the panacea for poor economic growth and high rate of unemployment (Matlay, 2008). In many African countries, the rate of population growth oversteps employment growth, necessitating the need to promote entrepreneurship as a means of creating employment and alleviating poverty (Okafor et al., 2015). In Nigeria, entrepreneurship is considered an effective tool for enhancing socio-economic development (Aja-Okorie & Adali, 2013).

According to Sun, Ni and Leung (2007), technology-based Small and Medium enterprises (SMEs) are central to efforts towards regional and world economic development. However, these enterprises are beset with enormous challenges, including lack of access to financial resources and relevant infrastructure (Lin et al., 2011). Hence there is a need for programmes targeted at providing these young entrepreneurs or start-up businesses with the relevant resources in order to help them survive and succeed. According to Lesakova (2012), entrepreneurship can be boosted through the incubation of start-up businesses. Business incubators accelerate the successful development of companies through the provision of various business support resources and services (Lesakova, 2012). Therefore by correcting the shortage of resources which start-ups often have to deal with, business incubators ensure business stability, long term survival and economic growth for newly founded firms (Schwartz & Hornych, 2008).

This study aims to empirically assess the ways in which iDEA Hub, a technology business incubator in Lagos, Nigeria, contributes towards enhancing the entrepreneurial capabilities of its tenants (participants). The study uses Sen’s capability approach as the theoretical framework and engages both quantitative and qualitative research methodology in order to access how the iDEA programmes enhance effective opportunities for the participants. It provides relevant suggestions for iDEA Hub Nigeria in particular, and similar projects in general.

Chapter 1 presents the background to the study. The following sections of the chapter provide (a) background to the research and study area, (b) significance of the study, (c) problem statement and
research question, (d) aim and objectives of the research. The chapter concludes with the research agenda.

1.2 Background to the Research and Study Area

Like many other developing countries, Nigeria embraces entrepreneurship as a vehicle for employment creation and poverty alleviation (Okafor et al., 2015). This quest is of crucial importance, considering the alarming rate of unemployment, especially among the youth. According to Ukpom (2013), millions of Nigerian graduates are churned out by universities on a yearly basis with most of them having no hope of getting employment. Youth unemployment in Nigeria is said to have gone up to as high as 50% (Omoh, 2015).

The Nigerian government has implemented a number of programmes in order to address the high rate of unemployment, including making entrepreneurship education compulsory for all students in Higher Education Institutions (HEIs). Moreover, in 2013, the Information Technology Developers Entrepreneurship Accelerator, also known as iDEA, was established as one of the government’s efforts to reduce youth unemployment by leveraging technology. The programme aims to support the development of indigenous capabilities in software development (iDEA, 2014).

This study seeks to explore the contribution of iDEA Nigeria programmes towards enhancing the entrepreneurial capabilities of its participants.

1.2.1 Nigeria and Development

Nigeria is a West African country covering an area of 932,768sqkm, and bounded by Chad to the northeast, Niger to the north, Benin to the west, the Atlantic Ocean to the south and Cameroon to the east (Roma, 2008). Considered the largest country in Africa, the country has a population of about 173 million people accounting for 47% of West Africa’s population (World Bank, 2015). Furthermore, Nigeria has the largest natural gas reserves in Africa and is also the biggest oil exporter in the continent (World Bank, 2015). The country is endowed with enormous resources in various forms. These include expansive fertile agricultural land, abundant mineral deposits, and high-level manpower (Omotola, 2008).

Nigeria is said to be among the fastest growing economy in the world since the beginning of the new millennium (Deutsche Bank, 2014). According to Barungi, Ogunleye and Zamba (2015),
Nigeria’s economy has experienced sustained economic growth for ten years, with yearly real GDP increasing by about 7%. The country’s annual real GDP grew by 6.3% in 2014 (Barungi et al., 2015). Furthermore, in 2014, Nigeria’s GDP was raised by 75% after a rebasing exercise, making it the biggest economy in Africa and jumping 10 places to become the 28th largest economy in the world (Deutsche Bank, 2014; National Bureau of Statistics, 2014). The country’s economic growth has been attributed to sustained strong performance, particularly in services, industry and agriculture (World Bank, 2015). While the services sector contributes 57%, the manufacturing and agriculture sector contribute 9% and 21% respectively (Barungi et al., 2015). This means that the non-oil sector of the economy has been the major driver of growth. Therefore, Nigeria’s economy has been diversifying and becomingly increasingly services-oriented (Barungi et al). The country has been experiencing growth in information and communication, manufacturing, entertainment, retail and wholesale trade as well as the real estate sector (Barungi et al., 2015; World Bank, 2015). Moreover, the real GDP is projected to grow by 6% in 2016 (Barungi et al., 2015).

However, the sharp decline in oil prices has posed a major challenge to Nigeria’s external balance and public finances (World Bank, 2015). Since oil accounts for about 90% of the country’s export and about 75% of its consolidated budgetary revenues, the current decline in oil price will continue to cripple the government’s ability to implement its development programmes (World Bank, 2015). This might negatively impact the efforts to achieve infrastructural development, employment creation, poverty alleviation and other socio-economic goals of the government.

Furthermore, Nigeria’s economic growth has failed to translate into effective development for its people. Firstly, for GDP growth to translate into development, it must be ensured that the proceeds from the growth (in the form of increased government tax and revenue), are adequately deployed to improving the standard of living of the people (National Bureau of Statistics, 2014). However the pervasive corruption among public office holders has ensured that only the ‘select few’ are entitled to eating the national ‘cake’ (Oshewolo, 2010). Moreover, in order to ensure proper economic development, Nigeria needs to substantially improve its infrastructure and its business environment (Deutsche Bank, 2014).

Considering Nigeria’s abundant resources, it is surprising that the country continues to wallow in the mire of poverty, a situation which has been described as a ‘bewildering paradox’ (Oshewolo, 2010). The rate of poverty in Nigeria has increased to 64.2%, with the North-East and the North-
West geo-political zones of the country recording the highest poverty rates of 77.7% and 76.3% respectively (Salami, 2013; World Bank, 2013). The high rate of poverty in the country can be linked to the prevailing high unemployment rate. The unemployment rate in Nigeria stands at 23.9% (Salami, 2013). However, unemployment is higher among young people with the youth unemployment rate as high as 50% (Omoh, 2015). As observed by Adejimola and Olufunmilayo (2009), every year, about 80% of graduates of Nigerian universities experience extreme difficulty in finding employment. This is supported by Eke, Igwesi and Orji (2011) who assert that every year, Nigerian graduates are mass-produced, leaving them with neither job opportunities nor entrepreneurial skills.

The socio-economic consequences of the high rate of unemployment in Nigeria are enormous. According to Emeh (2012), the high rate of youth unemployment has led to numerous social and economic ills such as extreme poverty, prostitution, armed robbery, kidnapping and thuggery. Moreover, as the World Bank (2015) observed, high unemployment rate has lead to increasing frustration among the Nigerian youth. Thus, the country needs to facilitate the creation of productive employment through improvement in education and private sector growth (World Bank, 2015). In order to effectively deal with the scourge of unemployment and poverty, there is a need for the country to further diversify its economy while implementing relevant policies to boost job creation and productivity.

1.2.2 Entrepreneurship and Economic Development

Over the last two decades, entrepreneurship has emerged as the most potent economic force which the world has ever experienced (Booth-Jone, 2012). Therefore, the role of entrepreneurship in fostering economic growth and development has generated a strong interest among policymakers in recent years (Naude, 2011). Even among scholars, there is a general consensus that entrepreneurship is pivotal to economic growth in both developing and developed countries (Arokiasamy, 2012; Bakar, Islam & Lee, 2015; Carree & Thurik, 2010; Inyang & Enuoh, 2009; Lee, Chang & Lim, 2005; Ligthelm, 2008; Mitra, Abubakar & Sagagi, 2011). Through its innovation, employment and welfare effects, entrepreneurship serves as a powerful mechanism for driving development and boosting prosperity (Acs, Desai & Hessels, 2008; Edmond et al., 2014). It contributes significantly to the development of Small and Medium Scale Enterprises which serve as the driving force of economic growth and development (Okafor et al., 2015).
According to Bakar et al. (2015), a proper investment in entrepreneurship will lead to job creation, thereby reducing the challenge of unemployment. This is corroborated by Oviawe (2010) who asserts that boosting entrepreneurship will enhance self-employment and job creation opportunities, and as such help to effectively deal with the negative socio-economic effects of youth unemployment. Therefore for any country which is serious about boosting economic growth, reducing unemployment and alleviating poverty; adequate emphasis should be placed on enhancing its entrepreneurial activities and productive capacities through relevant policies and programmes.

1.2.3 Entrepreneurship and Employment Generation in Nigeria

Nigeria is considered an entrepreneurial nation (Kolawole, 2015). According to the Global Entrepreneurship Monitor (2012), Nigeria has a Total Early-stage Entrepreneurial Activity (TEA) of 35%. This means that out of every 100 Nigerians (ages 18 to 64), 35 are either an owner-manager of a new business or a nascent entrepreneur. The report also revealed that 15.7% Nigerians (ages 18 to 64) own and manage established businesses, while 44% are latent entrepreneurs who intend to start their own business in three years’ time.

Entrepreneurship has a strong link with Small and Medium Enterprises (SMEs) which is said to be the main components of many economies (Kunene, 2008). According to Inyang and Enuoh (2009), the Nigerian SMEs sub-sector sector has been experiencing major expansion, especially since the mid-1980s, consequent upon prolonged economic recession which forced numerous large enterprises to lay off many of their work-force. Recently, the Federal Government formally adopted SMEs as the engine of the nation’s economic recovery, and for re-engineering for national transformation (Nwekeaku, 2013). These small firms make both economic and social contributions to the country’s development. They stimulate indigenous entrepreneurship and technology, transform traditional industry, enhance the utilization of local resources, enhance diversification of the economy, create jobs, and help with wealth redistribution (Inyang & Enuoh, 2009). Thus, the role of entrepreneurship and SMEs in the social and economic life of Nigeria has been conspicuous, especially in the Agricultural sector which employs over 60% of the nation’s workforce (Inyang & Enuoh, 2009). As opined by Edmond et al. (2014), Nigeria’s hope of becoming one of the twenty biggest economies by 2020 is only a mirage without considerable efforts to enhance the entrepreneurial skills of the its youth and adults. Furthermore, considering
that in Nigeria, the rate of population growth oversteps employment growth, there is an urgent need to promote entrepreneurship as a vehicle of employment creation and poverty alleviation (Okafor et al., 2015).

As a way of dealing with the country’s macro-economic challenge of unemployment and its concomitant socioeconomic problems, the Nigerian Government has implemented numerous programmes to enhance entrepreneurship and small scale business development in the country. In order to improve access to financial resources for entrepreneurship development, the government established numerous programmes. In June, 2011, the Central Bank of Nigeria (CBN) established the Small and Medium Enterprises Equity Investment Scheme (SMEEIS) as a way of liberalizing access to funds for SMEs through all the commercial banks (Inyang & Enuoh, 2009). The Federal government also established the Small and Medium Enterprises Agency of Nigeria (SMEDAN), in 2003 (Inyang & Enuoh, 2009). The Agency provides support and information services to business operators in the country and helps them to gain easy access to funding. Other schemes designed to aid entrepreneurship and support small businesses include: Bank of Industry (BoI), Bank of Agriculture (BoA), Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), Corporate Institution Initiative, Enterprise Development Services (EDS) and Microfinance Banks (Inyang & Enuoh, 2009; Kolawole, 2015).

However, although the SMEs were made the building blocks of Nigeria’s economy, the nation still lacked trained entrepreneurs who could set up and successfully run these businesses. Thus, the government decided to invest in entrepreneurship education which will inculcate entrepreneurial knowledge and skills in students, thereby producing well rounded graduates who could become successful job creators rather than job seekers. In 2006, the Federal Government directed all Higher Education Institutions (HEIs) in the country to include entrepreneurship education as part of their curricula as a way of boosting entrepreneurship engagement among Nigerian graduates (Nwekeaku, 2013). The implementation of the mandate involved the design of a curriculum that is all encompassing in developing the spirit and culture of entrepreneurship (Aja-Okorie & Adali, 2013).

Despite these multipronged interventions, entrepreneurship development in Nigeria is still manacled by numerous challenges. According to Kolawole (2015, entrepreneurs in Nigeria report a lack of access to finance as a barrier to starting and growing an enterprise, and that such is a
major cause of enterprise discontinuity. Unlike developed economies, Nigeria and other developing economies suffer from poor institutional structures which are required for opportunity creation and realization (Mitra et al., 2011). Furthermore, as noted by Arogundade (2011), entrepreneurial activities and productivity in Nigeria are hampered by poor infrastructure, political instability as well as an unstable and unhealthy macro-economic atmosphere. Therefore, the government and all stakeholders need to invest more into providing a conducive entrepreneurial environment in the country through investment in infrastructural development, relevant monetary and fiscal policies and building adequate institutional capabilities.

1.2.4 Information and Communication Technology (ICT), Entrepreneurship and Socio-Economic Development in Nigeria

Information and Communication Technology (ICT) is an umbrella term encompassing communication applications or devices (such as: television, radio, cellular phones, satellite systems, computer and network software and hardware), as well as the various applications and services associated with them (Rouse, 2005). It is simply any form of technology which aids in the capturing, processing and transmission of information electronically (Ahmad, Ibrahim & Oye, 2011). Although, the term Information Technology (IT) is often synonymously used with ICT, the former has been generally replaced by the latter in order to highlight the communication component due to its significance (Nwabueze & Ozioko, 2011). The IT sector offers significant room for development of businesses for socio-economic development. According to Siyanbola et al (2012), focusing on small and medium-sized enterprises, viable businesses can be generated around these information technologies which would enhance innovativeness as well as generate wealth and employment in the country.

ICT has been regarded as the backbone of business activities, trade, productivity and social development (Anie, 2011). It plays a pivotal roles in the country’s economic, social, educational and political growth (Angaye, 2010). Numerous scholars have identified a positive relationship between ICT development and economic growth in Nigeria (Ahmad et al., 2011; Joseph & Olawepo, 2014; Okogun, Awoleye & Siyanbola, 2012; Posu, 2006). Some of the benefits of ICT in Nigeria’s socio-economic domains include job creation, reduced transport costs, GDP growth, greater security and speedy delivery of services (Posu, 2006). It can therefore be argued that the place of ICT in Nigeria’s quest for development cannot be over emphasised. As Anie (2011)
opines, Nigeria cannot compete favourably in the global economy without ensuring that adequate policies are put into place to foster ICT development.

As technology continues to power every aspect of human endeavour, the most successful economies in the world understand the glaring importance of developing adequate technological applications and solutions in their quest for development. Even in Nigeria, the government has emphasised the need to leverage technology as a means of fostering development in the country. In 1999, the policy on the adoption of ICT was initiated in Nigeria after the military regime was overthrown and a democracy was established (Anie, 2011). However, the communication sector in Nigeria only developed in 2000 when the Federal Government embarked on an aggressive drive aimed at enhancing provision of effective services in the country through its privatization and deregulation policies (Posu, 2006). The drive gave rise to the National Telecommunication Policy which, among other things, recognises the need for creating an enabling environment for rapid expansion of telecommunication services in Nigeria (Posu, 2006).

The drive also lead to the adoption of the Global System for Mobile-Communication (GSM) and the Digital Mobile License auction in Nigeria, which has given birth to a gigantic telecommunication industry with an investment profile of about $32 billion as of April 2016 (Vanguard, 2016b). Before the introduction of the GSM into Nigeria in 2001, there were only about 500,000 telecommunication lines in the country (Vanguard, 2016b). The situation has drastically changed with millions of subscriptions purchased and the number continues to increase. Statistics from the Nigerian Communications Commission (2016) reveal that, as of January 2015, there were 138,530,830 million mobile phone subscriptions in the country while the total number of all telecommunications network subscriptions was 140,822,837 million in the same month. The statistics further show that by January 2016, the number has increased to 149,022,919 mobile phone subscriptions and 151,357,769 total telecommunications network subscriptions. Thus, within one year, mobile phone subscriptions in the country have increased by about 10.5 million while the total telecommunication subscriptions have increased by over 10.5 million. This staggering statistics not only reveals the huge market for telecommunication in Nigeria but also shows that the mobile (GSM) network is currently the main driver of Nigeria’s telecommunication industry.
According to Nwabueze & Ozioko (2011), Nigeria reached a significant milestone in the development of the ICT industry in 2001 through the formulation of the National Information Technology Policy (NITP) by the Federal Government. The policy, which acknowledges that IT is the bedrock of the nation’s survival and development, among other things, strives to engage IT as an engine for sustainable development in Nigeria. In 2007, the Federal Government enacted the National Information Technology Development Act which created a national framework for the orderly and systemic development of IT in Nigeria (Angaye, 2010). The government also established the National Information Technology Development Agency (NITDA), saddled with the responsibility of taking charge of the planning, management and regulation of information technology activities, practices and systems in Nigeria (NITDA, 2014). The Agency’s mission is to develop and regulate IT for sustainable development.

In putting in place relevant policies, the Nigerian government aims to leverage ICT as a tool for creating jobs, eradicating poverty, creating wealth, improving education and enhancing global competitiveness (Posu, 2006). The ICT sector is thus playing a crucial role in the government’s drive to reduce youth unemployment and poverty in the country. From 2012 to 2014, about 12 million jobs were created in the ICT sector, marking a significant improvement from the 2.5 million jobs generated by the same sector from 2002 to 2012 (Elebeke, 2014). Moreover, the sector contributed 10.5% directly to the country’s GDP, also between 2012 and 2014 (Elebeke, 2014). The Ministry of Communications has expressed their desire to further increase the contribution of the ICT sector to Nigeria’s GDP to 30% in the near future (NITDA, 2016a).

According to Siyanbola et al (2012), Nigeria’s local technologies present significant opportunities for the country’s economic transformation and global competitiveness. Within the last five years, the ICT ecosystem in the country has witnessed a high rate of start-ups and there has been rejuvenated interest in ICT entrepreneurship, especially among young people (iDEA, 2015). A number of these ventures have been very successful and have provided great job opportunities for Nigerians. Some of the successful enterprises in the ICT sector within the last five years are Jumia, Konga, Paga, Jobberman, Iroko and Interswitch (iDEA, 2015). However, despite these successes, the ICT sector in the country remains an underexplored territory. For example, only 49% of Nigerian registered businesses have a website (iDEA, 2015b). This is despite the fact that internet usage has been growing exponentially in the country. From 2014 to 2015, internet usage in Nigeria
grew from 67 million users to 93 million users, with most Nigerians accessing internet via mobile phones (iDEA, 2015). Moreover, as of April 2016, internet usage has increased to 97 million (Vanguard, 2016b). As internet usage continues to grow exponentially, there are greater opportunities in software development ventures. Furthermore, considering the large number of mobile phone subscriptions (almost 150 million) in the country, the Nigerian market is indubitably a fertile ground for mobile applications as well as other ICT products and services. These tremendous opportunities should be effectively leveraged for Nigeria’s socio-economic development through the provision of a conducive environment for more IT companies to spring up and to thrive.

It is should be noted that in order to fully harness the many opportunities in the ICT sector, concerted efforts are required. As Siyanbola et al. (2012) observe, this potential can only be fully harnessed through the improvement and standardization of local ICT products and services. Firstly, there is a need to provide entrepreneurship and business education to Nigerians so as to inculcate in them the right mindset and knowledge to be able to navigate their way through the increasingly complex and competitive business world of today. Secondly, there is a need to provide quality IT education to these aspiring and budding IT entrepreneurs, making them capable of developing standard products and solutions that target the Nigerian market. Thirdly, there is a need to enhance access to relevant resources such as funding, internet, business advice, office space and many more. Adequate implementation of these policies will help to enhance ICT start-up formation, survival and success in the country.

Furthermore, if local ICT companies must thrive successfully, there is need for adequate policies protecting local manufacturers from bigger foreign competitors. The current massive import of foreign ICT products and services into Nigeria is a strong inhibitory force against the growth of local ICT companies (NITDA, 2016b). Every year, Nigeria loses over $2.8billion to the continued importation of ICT products and services (NITDA, 2016b). However, the government has put measures in place to foster the usage of locally made ICT products and services in the country. One of these measures is the setting up of the Local Content Policy for the ICT sector so as to protect indigenous companies. In order to effectively monitor the implementation of this policy, the government has also set up the Office of Local Content in ICT (NITDA, 2016a). Efforts are also being made to ensure that all Ministries, Departments and Agencies (MDAs) in Nigeria...
patronise indigenous IT products and services (NITDA, 2016a; NITDA, 2016b). However, these mechanisms are not intended to drive away foreign ICT companies but rather to encourage them to establish factories in Nigeria, partner with local companies, invest in ICT research and development in the country as well as make use of locally manufactured components for their systems (NITDA, 2016b). The mechanisms are therefore intended to strengthen indigenous companies, helping them to compete favourably with their foreign counterparts. If properly implemented, these initiatives will boost the demand for locally made ICT products and services, thereby helping domestic businesses to thrive and to be able to create more employment opportunities.

Improving ICT entrepreneurship in Nigeria will not only serve as a panacea for the high youth unemployment rate, but also help to boost the country’s foreign exchange earnings and revenue generation in the face of the volatility of the crude oil price and the concomitant dwindling of government revenue. It has been well noted that the impact of the volatility of the crude oil price on the Nigerian economy has been enormous due to the heavy reliance of the economy on oil export. According to the World Bank (2015), crude oil still accounts for about 90% of the country’s export and about 75% of its consolidated budgetary revenues. Therefore there has been a rejuvenated interest in non-oil revenue streams. Currently, the Nigerian government is seeking ways to diversify the economy and explore non-oil sources of revenue. Through the Ministry of Communications, the government is poised to transform the ICT sector in order to make it a viable revenue stream for the country (NITDA, 2016a). By providing opportunities for the training and retraining of experts in the ICT sector, the Ministry is set to bring an end to the nation’s dependence on oil and its concomitant challenges (Matuluko, 2015).

1.2.5 Description of the Project and the Study Area

Information Technology Developers Entrepreneurship Accelerator (iDEA) is a Software Business Incubation Programme established in 2013 by the Nigerian government through NITDA in line with its drive to develop Nigeria’s ICT industry (iDEA, 2014). Its establishment is in furtherance of NITDA’s mandate to transform Nigeria into a knowledge-based and an IT-driven economy (iDEA, 2014). The centre is part of the government’s drive to leverage technology in bringing about positive change in Nigeria which will engender socio-economic development in the country. The iDEA hub focuses on the development of ICT ventures which use software development
platforms to grow content, services and applications that are locally relevant as well as exportable (iDEA, 2014). It provides a safe and stable place for budding entrepreneurs to start and grow IT companies which can offer much needed products and services to the ICT community in the country and in the African region (iDEA, 2014). The programme therefore provides support for digital entrepreneurs in order to develop innovative solutions that will transform the digital business environment in Nigeria and help to reduce unemployment and poverty.

Within the last five years, the ICT ecosystem in the country has witnessed a high rate of start-ups and there has been rejuvenated interest in ICT entrepreneurship, especially among young people (iDEA, 2015). However, the establishment of iDEA Hub stems from the urgent need to confront the humungous challenges facing the Nigerian ICT ecosystem. According to iDEA (2014), IT start-up founders are confronted with enormous internal and external challenges such as inadequate infrastructure, lack of funding, unfriendly investment environment, lack of relevant knowledge/skills, high cost of Internet, computers and other tools required for success in digital entrepreneurship. In order to meet these needs, iDEA has designed two programmes: the incubation and the acceleration programmes.

The **incubation programme** is for first-time entrepreneurs or very early start-up businesses, and it focuses on helping them to develop their ideas and businesses (iDEA, 2015b). iDEA provides them with high speed internet, office space, business support and networks, technical and entrepreneurship training, professional services (like legal, marketing, accounting) and other resources which they need in order to turn their ideas into viable businesses (iDEA, 2015c). They are offered well-crafted business and technical curriculum intended to guide the company through various stages from product development to customer acquisition and then to financial management. Members are also provided with mentoring and coaching services as well as networking opportunities with other budding entrepreneurs and established entrepreneurs. Incubation members complete their programme between 12 to 18 months, and are expected to pay membership fees (iDEA, 2015c).

iDEA also has an **acceleration programme** which is a 16-week sprint; it focuses on rapid growth and prepares the start-ups to attract investment (iDEA, 2015c). The programme, which is for those entrepreneurs who have identified their niche in the ICT ecosystem, is intended to help them launch their products/services, grow market share, as well as raise funding (iDEA, 2015c). It provides
knowledge, operational, organizational and strategic support to the start-ups as such support is needed to rapidly grow their business and attract investment. The acceleration program focuses on mobile application, healthcare, financial services, enterprise (SME) and e-commerce businesses. Each year, iDEA admits two cohorts (one in February and the other in August). Apart from a $10,000 seed investment, companies in the acceleration programme also have access to serviced office space, intensive technical and business coaching, mentor-led training and a range of other benefits (including hosting, legal, organizational and financial services) (iDEA, 2015b). In exchange for all these services and resources provided, iDEA is entitled to a 6% equity stake in all the companies under this programme (iDEA, 2015c).

Moreover, the start-ups are exposed to targeted pitching opportunities with venture capitalists and iDEA partners, and this will not only enhance their access to more funding but also provide them with network platforms, and enables them to learn from established entrepreneurs. The progress of each of the teams is tracked using certain Key Performance Indicators (KPIs) which had been set out at the onset of each incubation relationship. By providing the young and aspiring entrepreneurs with access to these crucial resources, all iDEA programmes strive to boost digital entrepreneurship activities and success in the country, thereby enhancing employment creation and other socio-economic development of the nation.

**Figure 1: Incubation Floor at iDEA Hub**

Source: iDEA (2015b)
1.3 Significance of the Study

Various entrepreneurship programmes have been rolled out in Nigeria as a means of reducing the high unemployment rate. While there are several studies examining the role of entrepreneurship education in enhancing the entrepreneurial intentions of students, very few studies have been devoted to assessing how entrepreneurship programmes enhance actual entrepreneurial activities of its participants (Okafor et al., 2015). Moreover, none of the existing studies on business incubation engaged Sen’s capability approach, which has been considered a more holistic approach to evaluating development programmes. Thus very little is known about how these programmes expand the capabilities of the participants for successful entrepreneurship. Moreover, these studies do not take into cognizance the multiplicity of factors which can affect the conversion of entrepreneurial programmes into functionings.

There is therefore the need for a comprehensive approach to assessing the contribution of entrepreneurship programmes, taking into cognizance the multiplicity of external and internal factors. By applying the capability approach to entrepreneurship programmes (specifically technology incubators), this research broadens the understanding of the outcomes of IT incubation programmes in Nigeria. Being the first to make use of the capability approach in assessing business incubation, the study will provide a new lens for assessing the contribution of business incubators and other entrepreneurship programmes in the drive to enhance entrepreneurial activities and socio-economic development.

1.4 Problem Statement, Research Question and Hypothesis

Unemployment is a major macro-economic challenge confronting Nigeria, considering its pervasive consequences such as poverty, prostitution, armed robbery, kidnapping and thuggery, and insecurity (Emeh, 2012). Entrepreneurship has been considered a viable approach that is capable of reducing unemployment (Salami, 2011). Although the internet has become a good launching pad for digital entrepreneurs, digital entrepreneurship activities are still crippled by multifaceted challenges. The start-ups ecosystem suffers severely from lack of infrastructure and other resources needed for ICT entrepreneurs to succeed, and incubation centres like iDEA are striving to bridge this gap (iDEA, 2015c).
Extensive research has been carried out on entrepreneurship programmes and youth employment programmes in various countries such as USA, Korea, Sweden, South Africa, Nigeria etc. (Isaacs et al., 2007; Lee, Chang & Lim, 2005; Okafor et al., 2015; Robertson et al., 2003). Other studies have focused specifically on business incubation programmes (Albort-Morant & Oghazi, 2015; Bøllingtoft, 2012; Hernández & Carrà, 2016). However as Albort-Morant et al. (2015) noted, there is a paucity of studies regarding business incubators throughout the world. Moreover, the role of technology incubators in Nigeria remains under-investigated. More strikingly, there has not been any study applying Sen’s capability approach in understanding how business incubation facilitates and enables young entrepreneurs to thrive. None of these studies have engaged the capability approach by examining how these programmes have contributed to expanding participants’ real opportunities. Consequently, the effects of various conversion factors on the outcome of these entrepreneurship programmes and incubators, have been ignored. It is therefore certainly crucial to assess the extent to which entrepreneurship programmes (specifically IT incubators), are both effective and sustainable as a means of boosting the entrepreneurship capabilities of participants and reducing unemployment in Nigeria.

1.4.1 Research Question
In the context of the research problem identified above, the main purpose of the research is to provide an answer to the following general research questions:

- How have the iDEA Nigeria programmes contributed to the enhancement of participants’ entrepreneurial capabilities?

1.4.2 Hypothesis
The main hypotheses to be tested in this study are:

- H₀₁ (Null hypothesis 1): iDEA programmes do not enhance the entrepreneurial capabilities of participants.
- H₁₁(Alternative hypothesis 1): iDEA programmes enhance the entrepreneurial capabilities of participants.
1.5 Aim and Objectives of the Research

The aim of the research is to assess how the iDEA Nigeria programmes are contributing to the enhancement of entrepreneurial capabilities of its participants, with a view to provide recommendations and suggestions to the relevant stakeholders and related organization in Nigeria.

1.5.1 Objectives of the Research

The specific objectives are:

- To explore literature on business incubators globally, in Africa and in Nigeria
- To conceptualize business incubation using the lens of the capability approach
- To develop a list of capabilities and functionings for digital entrepreneurship
- To explore digital entrepreneurship as a valued functioning
- To explore the perception of iDEA participants regarding the contribution of the iDEA programmes towards enhancing their entrepreneurial capabilities.
- To identify the obstacles to digital entrepreneurship in Nigeria.
- To investigate gender as a conversion factor in digital entrepreneurship
- To provide relevant conclusions and recommendations for stakeholders involved in the iDEA Nigeria programmes in particular, and other related projects in general.

1.6 Research Agenda

The study is organised into six chapters. Chapter One is the introductory chapter, and provides the background/contextualisation for the study, research problem, research question and hypotheses, as well as aim and objectives of the study.

Chapter Two offers a comprehensive review of literature on entrepreneurship, digital entrepreneurship, business incubators, employment and related concepts. It further provides a review of empirical work/research on digital entrepreneurship and business incubators in various parts of the world.

Chapter Three provides the theoretical and conceptual frameworks engaged in the study. Sen’s capability approach is the theoretical framework for the study and is explained in the chapter. The chapter further describes how relevant variables in the study will be operationalised.
Chapter Four offers the discussion of the research design and methodology. It provides a comprehensive elucidation of the research process, methods and assumptions and presents the ethics statement required for conducting the research.

Chapter Five is on the empirical research and provides the presentation and discussion of the findings. The findings are explained in relation to the theoretical and conceptual frameworks used for the study. A discussion of the findings is centred on the following themes: socio-economic and demographic characteristics of participants, iDEA programmes and entrepreneurial capabilities expansion, digital entrepreneurship as a valued function and challenges of digital entrepreneurship.

Chapter Six provides the summary of findings. It also presents the researcher’s recommendations and suggestions on the study subject. Furthermore, the chapter provides a conclusion for the thesis. Figure 2 below illustrates the logical relationship between the various chapters.

**Figure 2: Logical flow of study chapters**

Source: Own Compilation
CHAPTER TWO

LITERATURE REVIEW

2.1 Chapter Overview
Entrepreneurship programmes and business incubators have been seen as major tools for boosting entrepreneurship activities, stimulating economic growth and reducing unemployment in many developed and developing countries. This chapter offers a literature review on entrepreneurship, digital entrepreneurship, entrepreneurship programmes and business incubators, both within Nigeria and globally.

The chapter aims at putting the study in context through a thorough synthesis of relevant literature. It begins with an elucidation on the concepts of entrepreneurship and business incubators. Furthermore, it provides a review of empirical studies on entrepreneurship and business incubators from different parts of the world.

2.2 Entrepreneurship
There is no consensus on the correct definition of entrepreneurship among various scholars (Gedeon, 2010; Nwekeaku, 2013; Varadjanin, Viduka & Dimić, 2014). However, this paper will present a number of definitions offered by different scholars in order to point out certain characteristic features of entrepreneurship. To begin with, it may be helpful to define entrepreneurship by defining the person who carries out the role of entrepreneurship, that is, the entrepreneur. According to Kirzner (1973), an entrepreneur is a decision-maker whose role arises from being alert to previously unnoticed opportunities. He or she is that person who creates an organization in order to pursue a perceived opportunity (Bygrave & Hofer, 1991). From these definitions, it can be deduced that an entrepreneur must have certain qualities. The first is the ability to see opportunities. The second is the willingness to exploit such opportunities, and the third is the capability (knowledge, skills etc) to exploit the perceived opportunities through business formation.

The journey of an entrepreneur is encapsulated in the word, entrepreneurship, which comes from the French word “entreprendre”, meaning to undertake something or to do something (Varadjanin
et al., 2014). According to Churchill (1992), entrepreneurship can be defined as the process of uncovering and developing an opportunity so as to create value through innovation, either through the formation of a new business or within an already existing company. It is the pursuit of market opportunities which have been discovered, evaluated and exploited in order to create innovative goods and services leading to new venture creation (Kunene, 2008). However, Gedeon (2010) provided a more comprehensive multi-dimensional definition of entrepreneurship:

Entrepreneurship is a multi-dimensional concept that includes owning a small business, being innovative, acting as a leader, or starting up a new company. It includes spotting opportunities to drive the market toward equilibrium or causing disequilibrium through creative destruction. It includes doing this on your own, in a team or inside a company. It involves starting without any resources and creating new values in the realm of business, social values, government or academia. (Gedeon, 2010, p.30)

This definition brings to the table the various aspect of entrepreneurship. The first of these is the leadership dimension or proactivity. An entrepreneur must set his/herself apart as a leader by identifying ‘hidden’ opportunities and channelling his/her will power and resources towards creating value from such opportunities. It also highlights the fact that one does not need to start an entirely new venture to be an entrepreneur. This is because an entrepreneur can still operate within an already existing company by, for example, altering the manner in which business is done in that company.

2.2.1 The Entrepreneurship Process
A report by Herrington et al. (2011) reveals that the entrepreneurship process involves a number of stages. According to the report, the journey of entrepreneurship begins with the stage of potential entrepreneurs. These are individuals who believe that they have the capabilities needed to start businesses and would not be dissuaded from starting a business by fear of failing. This intention may be underpinned by society’s perception of entrepreneurs, societal status enjoyed by entrepreneurs or even media’s positive reflection of entrepreneurship. For those with strong enough intent, the next phase is nascent entrepreneurial activity. This stage represents the first three months of running a new enterprise. Considering the many challenges associated with
starting a new venture, many fledgling businesses fail within the first few months, so that not all nascent entrepreneurs progress to the next stage.

The next stage of the entrepreneurship process is **new business owners**, and this represents entrepreneurs who have been in business for more than three months, but less than three and half years. According to Herrington et al (2011), nascent and new business owners account for the Total Early-stage Entrepreneurial Activity (TEA) as measured by the Global Entrepreneurship Monitor. **Established businesses** are those which have lasted for more than three and half years. The report further notes that **discontinued businesses** or **exited businesses** can serve as key resources for other entrepreneurs, providing them with various kinds of support like advice and finance.

### 2.2.2 Boosting Entrepreneurship through Entrepreneurship Education and Training

Various studies have shown that there is a positive relationship between entrepreneurship education and training on one hand, and entrepreneurial success on the other hand (Herrington et al., 2008; Isaacs et al., 2007; Robertson, Collins, Medeira & Slater, 2003; Lee, Chang & Lim, 2005). Education is known to have a strong positive influence on the entrepreneurial performance of any country (Robinson & Sexton, 1994). It is regarded as a key factor in establishing a culture of entrepreneurship (Steenekamp, Van der Merwe & Athayde, 2011).

Contrary to the notion that entrepreneurs are born, a longitudinal study by Penaluna, Penaluna and Jones (2011) revealed that, through entrepreneurship education, entrepreneurship can be taught, or at least enhanced. This position is corroborated by Kuratko (2005) who notes that entrepreneurial ability is neither mystical nor magical but rather something that could be learned. Entrepreneurship education is a means of raising awareness of students of the value and nature of entrepreneurship, as well as delivering skills and knowledge. It is through education and training that the required human capacity for successful entrepreneurial engagement is developed. Therefore, a country with qualitative entrepreneurial education will likely produce successful entrepreneurs.

The terms ‘entrepreneurship education’ and ‘entrepreneurship training’ are generally used synonymously (Booth-Jones, 2012). According to Akhuemonkhan, Raimi and Sofoluwe (2013, p.64), entrepreneurship education refers to a set of specialised knowledge which inculcates into learners the traits of innovation, risk-taking, arbitrage and co-ordination of factors of production.
with the aim of creating new products and services for both new and existing users within human communities. Gedeon (2014) defines the term as a means of empowering students with a philosophy of entrepreneurial thinking, passion, and action-orientation which they can apply to their lives, their communities, their jobs and/or their own new ventures. It is the process of altering the mindset of students towards applying an innovative approach and creative thinking in order to proffer solutions to societal problems, assuming responsibility for both profit and risk, and thereby creating employment for others. Entrepreneurship education therefore aims to alter the beliefs and attitudes of learners while equipping them with the entrepreneurial skills and knowledge requisite for success in business. It includes various programmes targeted at changing the world view of learners, from job seekers to job creators. Amongst other things, entrepreneurship education seeks to promote creativity, risk-taking, leadership, team-spirit, autonomy, sense of initiative, self-employment, self-confidence and innovation; it is a combination of all these features which set entrepreneurship education apart from general economic or business studies (Aja-Okorie & Adali, 2013). Unlike ordinary business management, entrepreneurship involves elements of risk taking, creativity and innovation (Booth-Jones, 2012).

2.2.2.1 Entrepreneurship Education in Nigeria
Prior to independence in 1960, Nigeria’s education system was designed with the main aim of serving the administrative needs of the colonial master (Britain). Thus, educational systems and curricula were developed in such a way as to effectively produce clerical and administrative officers, teachers, interpreters, clergy, guards and other liberal art graduates who would foster British westernization and the mission of colonization (Aladekomo, 2004; Nwekeaku, 2013). Consequently Nigeria inherited a severely flawed schooling system at independence, and as such could not provide support for the country’s developmental agenda.

Having inherited a flawed educational system, it behoved the Nigerian post-independence government to prioritize drastic restructuring of the system. Unfortunately, as Nwekeaku (2013) bemoaned, nothing much was done to restructure the curricula of the entire schooling system so that liberal arts continued to dominate the system, despite the multiplication of HEIs in the country. As one would expect, the demand for graduates of such disciplines in the labour market continued to be in decline, leading to a mismatch between demand and supply, and consequently a high unemployment rate among university graduates (Akhuemonkhan et al., 2013). This dilemma was
also highlighted by Agboola (2010) who observed a mismatch between the skills and knowledge needed by the Nigerian labour market and those acquired in HEIs.

Furthermore, as Akhuemonkhan, et al. (2013) observed, the schooling system inherited from the colonial masters continued to produce not only graduates lacking self-motivation and the innovation of drive needed by the labor market; but also graduates lacking the entrepreneurial mindset required for boosting entrepreneurship in Nigeria. These institutions were seen as factories for the production of white collar job-seekers lacking professionalism and entrepreneurial skills (Omolayo, 2006). Even the business school students were not properly equipped with relevant skills and attributes required by a highly competitive business world (Nwekeakku, 2013). Consequently, tens of thousands of graduates are annually pumped into the labour market for which they are not prepared so that millions of Nigerian youths roam the streets in search of jobs (Arogundade, 2011).

In order to effectively deal with the grave socio-economic challenges of unemployment in Nigeria, the federal government directed all universities, polytechnics and colleges of education to include entrepreneurship education as part of their curricula, starting from the 2007/2008 academic session (Nwekeakku, 2013). For the universities, the mandate was to be implemented through the National Universities Commission (NUC), while the National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE) were responsible for the polytechnics and colleges of education, respectively. In light of this development, all higher education institutions in Nigeria were to run entrepreneurship studies as a compulsory course for all students, irrespective of their fields of study. The implementation of this mandate involved the design of a curriculum that is all encompassing in developing the spirit and culture of entrepreneurship (Ajao-Okorie & Adali, 2013).

Despite the seeming urgency of the directive, Anaele et al. (2014) noted that there has been staggered implementation of entrepreneurship education in various segments of education in Nigeria. The universities only implemented entrepreneurship education in the 2011/2012 academic session while polytechnics and colleges of education started theirs in the 2010/2011 academic session (Anaele et al., 2014). Before the 2011/2012 academic session, only a few universities like Covenant University, University of Benin and Obafemi Owolowo University implemented the entrepreneurship education programme in a practical manner (Eze & Nwali, 2012). However, in
order to facilitate the implementation of entrepreneurship education, the federal government, in 2011, directed all universities to set up entrepreneurship education centres on their various campuses, and these centres were tasked with the function of coordinating entrepreneurship education at each of these institutions (Eze & Nwali, 2012). Furthermore, universities were also mandated to start offering courses leading to a degree in entrepreneurship starting from the 2011/2012 academic session (Eze & Nwali, 2012).

These entrepreneurship programmes were aimed at inculcating into the students, the values, motivations, skills and knowledge required for active engagement in entrepreneurship. Amongst other things, entrepreneurship education is expected to enhance the following in the students:

- ‘Creative ingenuity, self-reliance and capacity to respond to change, as well as ability to generate, recognize and seize opportunities;
- Good perception of the demand and challenges of the work place;
- Ability to identify opportunities within the workplace and to apply initiative; and
- The ability to take a greater degree of responsibility for the quality of their work.’ (NBTE. 2007 cited in Eze & Nwali, 2012).

It also aimed to build a learning culture that would empower the youth to take responsibility for their own future (through entrepreneurship); and gain a good perception of the relationship between their school, immediate community, and business and industry (Eze & Nwali, 2012). However, as Aja-Okorie and Adali (2013) observed, despite the compulsory entrepreneurship education in higher education institutions, many Nigerian graduates still remain unemployed long after their graduation. Therefore, it appears that the entrepreneurship education delivered to undergraduate students is failing in meeting the set objectives and the purpose of the programme appears to have been defeated (Aja-Okorie & Adali, 2013).

2.2.2 Challenges to Entrepreneurship Education in Nigeria
The inability of entrepreneurship education to yield the desired fruits of enhancing entrepreneurial engagement, boosting job creation and reducing unemployment and poverty, could be attributed to many crippling factors. The first of these constraints is poor curriculum design. According to Agboola (2010), the curricula used by the Nigerian tertiary institutions are obsolete when viewed from the perspective of the modern global labour market. Thus the orientation and content of the
program followed by students do not produce the graduate attributes needed for the current labour market. Agboola (2010) also observed that the Nigerian educational system produces mostly general knowledge so that relevant skills in the technological, social, economical and political areas, are lacking. Furthermore, as Tope, Otaki and Margret (2014) observed, identifying a wide range of entrepreneurship ventures and building comprehensive curricula from there is a critical area of concern for educators in Nigeria. Thus, the strategic document and curricula on entrepreneurship education would not yield fruits unless a holistic approach is taken towards the plan and implementation of entrepreneurship education Tope et al., 2014).

Another challenge crippling the effectiveness of entrepreneurship education in Nigeria is lack of funding. According to Tope et al. (2014), due to widespread inequality in Nigeria, many aspiring entrepreneurs lack the required capital to start up their ventures, and assessing bank loans is challenging due to strident conditions. Agboola (2010) also assert that young entrepreneurs in Nigeria suffer because of the inaccessibility of soft loans and funding.

Furthermore, most Nigerian universities suffer from lack of sufficient and skilled manpower. It has been observed that Nigerian universities do not have adequate and high level manpower required for effective teaching and learning of entrepreneurship education (Nwekeaku, 2013; Tope et al., 2014). According to Tope et al. (2013), one of the major hindrances of entrepreneurship education in Nigeria is identifying and recruiting qualified teachers who have the appropriate knowledge and pedagogy to impart entrepreneurial skills and competences to the students. Moreover, Nwekeaku (2013) asserts that the available teachers for the entrepreneurship programme were drafted from pre-existing faculties and do have not have additional skills to cope with the challenges of the new curriculum. This is corroborated by Agboola (2010) who noted that there is a dearth of professionals and academic manpower (both in quantity and quality), that are capable of facilitating the entrepreneurship programme and translating it into reality.

Another major factor bedevilling entrepreneurship education in Nigeria is inadequate infrastructure. As observed by Nwekeaku (2013), the poor state of infrastructure in Nigeria is worrisome and as such, cannot support the newly introduced entrepreneurship education. The place of relevant infrastructure in entrepreneurship education cannot be overemphasized. Even with the best entrepreneurial intentions, the students may likely succumb to wage-employment due to the hurdles of infrastructural deficit. For example, somebody who wants to start an IT business may
be severely constrained by the erratic power supply in Nigeria. Fortunately, many of these challenges can be minimised through business incubation so that integrating incubation into entrepreneurship education in tertiary institutions may yield better dividends.

2.3 Boosting Entrepreneurship through Business Incubation

2.3.1 Introduction to Business Incubators
Various scholars assert that business incubators are viable instruments for enhancing innovation, accelerating creation of ventures, reducing business failures and boosting employment (Al-Mubaraki & Busler, 2010; Bergek & Norrman, 2008; Hackett & Dilts, 2004; Somsuk, Wonglimpiyarat & Laosirihongthong, 2012). The business incubators’ primary vision is to increase the number of start-ups while at the same time preventing business failures (Hackett & Dilts, 2004). In recent years, they have gained popularity as major tools for increasing the number of successful local companies (O’Neal & Kulonda, 2005). Thus, incubators are recognized by policy makers as tools for increasing the number of successful local companies (O’Neal & Kulonda, 2005). Therefore, business incubation can be regarded as a panacea for the macroeconomic challenges of unemployment and poverty.

2.3.2 Definition of Business Incubators
Incubation is simply a systematic way of providing assistance to start-ups with the aim of increasing survival rate and maximizing growth potential. According to Hackett and Dilts (2004), a business incubator can be defined as a shared office space facility which seeks to provide its tenants with a strategic, value-adding intervention system of monitoring and business assistance, and which controls and links resources with the aim of facilitating the successful development of new ventures, while simultaneously containing the cost of their potential failure. In its generic sense, business incubators can be defined as a wide range of organizations which help entrepreneurs in developing their ideas from inception through commercialization and the launching of the new enterprise (European Union, 2002).

Some definitions of incubator focus more on the physical dimension of incubator. Bergek and Norrman (2008), for example, assert that incubators are support facilities for fledgling businesses. They are places where newly founded firms are concentrated in a limited space with the aim of
improving rate of survival and growth rate by providing them with a modular building with common facilities and other support services (European Commission, 2002). However, other definitions view incubators more in terms of process, services and people rather than physical structure. According to O’Neal and Kulonda (2005), incubation can be defined as a dynamic process of business enterprise development which nurtures young firms, assisting them to survive and grow during the early stage when they are most vulnerable. An incubator is not just a physical office space but rather it involves a network of various individuals and organizations (Hackett & Dilts, 2004). These include the management and staff of the incubator facility, tenant companies and their employees, external communities, industry contacts and professional services providers. The beneficiaries of business incubation can be referred to as the incubatee, portfolio, client or the tenant companies (Hackett & Dilts, 2004).

2.3.3 The Role of Business Incubators
The European Union (2012) opines that business incubators place a high premium on the development of quality business support services such as technology support, entrepreneurship training and business advice. Most start-ups are unable to make it through their formative years due to numerous liabilities resulting from their being new in the ecosystem as well as being small; all of which reduce their chances of breaking through various obstacles along their path (Bollintoft, 2012). Start-ups are faced with lack of requisite knowledge, skills and competence; as well as lack of access to infrastructure, finance and other resources and commercialization capabilities which are critical to developing an idea into a product, and bringing a product to market (Lin et al., 2011; Somsuk et al., 2012). Despite the indispensability of these resources, new firms are often unable to gain access to them (Peters et al., 2004), and the role of incubators lies in bridging this lacuna. They fill the gap by providing young entrepreneurs with access to training, office space, networks, funding opportunities and other resources (Lesákova, 2012).

According to Al-Mubaraki and Busler (2010), business incubators provide a safe haven for new firms through a mixture of tangible and intangible services which are offered to them, and these include access to physical space and sharing, administrative assistance, coaching, consulting, training, networking and financing. By providing adequate support to firms at the early stage of development, incubators compensate for the deficiencies faced by these ventures, thereby helping to boost their survival rate and growth prospect (Lalkaka, 2003). This claim is supported by the
European Commission (2002) which asserts that incubation assists start-ups to maximise growth potential in a manner that is difficult for other SME support structures to achieve. However, as noted by Lesákova (2012), the main aim of business incubation is not to provide office facilities to tenants, although must incubators do this. Rather the primary role of business incubation is to provide certain services to newly founded companies. These services are as follows: marketing assistance; assistance with business basics, accounting and financial management; assistance with loan funds, guarantee programs, access to bank loans, access to angel investors and venture capitalists; providing links to higher education resources; help with presentation skills; links to mentors, advisory boards and strategic partners and technology commercialization assistance (Lesákova, 2012). Therefore, incubators provide a supportive or nurturing environment for start-ups by enhancing new firms’ access to relevant needed human, material and other forms of resources in order to accelerate the development of start-ups into successful business ventures. Figure 3 is a diagrammatic representation of the incubator-incubation concept, showing the process of incubation, beginning with the incubatee’s entrance to the successful development of incubated firms.

**Figure 3:** Incubator-incubation process

Source: Hackett and Dilts (2004, p57)
2.2.4 Characteristics of Business Incubators
Lesákova (2012) outlines some of the operational characteristics of business incubators. Firstly, incubators have certain admission criteria which should be met by the potential incubatee. An entrepreneur who wishes to join a business incubation programme must not only apply for admission but must meet the requirement or acceptance criteria set by the management of the incubator (Lesákova, 2012). Secondly, although tenants’ acceptance criteria do vary from one incubator program to another, incubators generally admit start-ups with feasible business ideas as well as a workable business plan (Lesákova, 2012). In the same vein, although the amount of time a tenant spends in an incubation program varies from one incubator to another, firms with a longer research and development cycle usually need more incubation time than service or manufacturing firms which can produce their products/service immediately. Nonetheless, rather than setting a specific time frame, many incubators set graduation requirements by developing benchmarks in the form of company revenue or staffing levels (Lesákova, 2012). Furthermore incubation services are usually rendered at a cost to the tenants, although most incubators’ charges are subsidized through grants from government and other stakeholders (Lesákova, 2012). However, some incubators provide the services/resources to the start-ups in exchange for equity ownership in the business.

2.3.5 The Historical Development of Business Incubators
A number of views exist regarding the history of business incubators. According to Rouach, Louzoun and Deneux (2010), the first business incubator in the world, Batavia Industrial Center (BIC), was established in 1959 by Joseph Mancuso. Mr. Mancuso was passionate about putting people to work (James, 2002). He pioneered the idea of incubation as a solution to extremely high unemployment and difficulty in finding a tenant for an empty industrial building in the small city of Batavia, New York (The Batavian, 2009). On realizing that no large company was going to occupy the empty space, he decided to sublet subdivided partitions of the building to a variety of tenants (James, 2002). However, Mr. Mancuso did not just offer empty office space to the tenants, he also offered them various kinds of services like shared office services, below-market rents, help with raising capital, maintenance of the building and business advice (James, 2002). Although Mr. Mancuso did not use the term incubator for the facility, he provided the tenants with services in a manner that very well characterises incubation (James, 2002).
Hackett and Dilts (2004) noted that incubation programs spread slowly in the 1960s and 1970s as government sponsored responses to the need for urban/Midwestern economic revitalization. The need for incubators stems from efforts targeted at enhancing entrepreneurship and innovation through innovation centres (Somsuk, et al., 2012). In the 1980s and 1990s, business incubation diffused significantly consequent upon three main factors: US Congress’ passage of the Bayh-Dole Act leading to the commercialization of university research; the increasing recognition of innovation and intellectual property rights protection by the US legal system; and the expansion of profit opportunities resulting from the commercialization of basic research (Somsuk, et al., 2012).

However, according to the European Union (2002), the history of incubators can be traced back to Western industrialised countries in the late 1970s and the early 1980s. The collapse of traditional industries and the concomitant rapid rise in unemployment, necessitated the need for new strategies for dealing with crisis sectors, communities and regions in Europe and USA. It was during this period that the business incubator became a tool for supporting innovation and technology transfer (Al-Mubaraki & Busler, 2010). According to Lalkaka (2001), the ‘first generation’ incubators in the 1980s basically provided affordable space and shared facilities to carefully selected groups. However, in the 1990s, it was realised that there was a need to supplement workspace with counselling, networking and skill enhancing services, as well as seed capital and professional support (Lalkaka, 2001). This gave rise to the ‘second generation’ incubator. Beginning from 1998, a there was an emergence of a new incubation model intended to mobilize ICT as well as provide a convergence of support, towards developing growth-potential, technology-based ventures (Lalkaka, 2001).

More recently, numerous countries have adopted incubation as a tool for promoting employment-creating innovative enterprises, so that business incubation is now a global phenomenon (Somsuk, et al., 2012). Incubators serve as catalysts for the commercialisation of outcomes of research and development, and provide a ‘laboratory’ of sorts in order to foster entrepreneurship (European Commission, 2002).

### 2.3.6 Typology of Business Incubators

According to Lesákova (2012), incubators differ in the manner in which they deliver their services, in the types of clients they serve and in their organizational structure. This is supported by Grimaldi
and Grandi (2005), who state that incubators provide a variety of distinct support services, thus giving rise to different incubation models. Nevertheless, despite the existence of different types of business incubators, their services and processes are generally similar (Ayawongs, Kanjana-Opas & Chayabutra, 2007). Different scholars have provided varied classifications of incubation. Nonetheless, this review will focus on a few of such classifications.

Booth-Jones (2012) identified four different types of business incubators based on sponsorship. These include: university technology business incubators, government incubators, multiple sponsored incubators and privately funded incubators. While university incubators offer support for nurturing new technology-based businesses as well as commercialisation of university innovations, the government incubators are those sponsored by the government in order to foster job creation and socio-economic development (Booth-Jones, 2012). However, most incubation programs are funded by public-private partnership (multiple sponsored incubators) in which the initial financial support comes from the government while the private sector participates from the time when the program starts yielding positive results (Booth-Jones, 2012). On the other hand, privately funded incubators are for high-potential new ventures which attract the interest of business investors (Booth-Jones, 2012). Businesses incubated by such incubators need to demonstrate that they have viable products and a significant market for their product.

On the other hand, the European Commission (2002) identifies nine types of business incubators with varying degrees of management support and level of technology. Figure 4 below is a diagrammatic representation of this incubator typology. Those positioned towards the bottom right-hand corner of the matrix provide tenants with a high degree of management support while industrial estates in the top left-hand corner usually have little or no management support and generally have no special criteria regarding technology content and business activities. On the other hand, incubators in the bottom right-hand corner (technology centres) have highly selective admission criteria and provide a high level of management support. They also have a highly specialised focus on technology (European Commission, 2002). However, as observed by Lesáková (2012), most business incubators serve high-tech as well as knowledge-based enterprises. This fact is supported by the European Commission (2002) which asserts that, incubators usually cater for technology-based businesses.
Adegbite (2001) identified two types of business incubators operating in Nigeria. The first is Industrial Business Incubators (IBIs) while the second is Technology Business Incubators (TBIs). The IBIs are generalised industrial nurseries for nurturing new business start-ups with the aim of promoting entrepreneurship and stimulating the emergence of industrial establishments at small-medium enterprise level. For such incubators, there are generally no restrictions on tenant admission apart from the minimum basic requirements stipulated in the admission procedure. On the other hand, the TBIs are primarily aimed at innovative, technology-oriented small and medium scale enterprises, desirous of commercialising research & development results, especially from the research institutions, with a view to promoting technological innovation and entrepreneurship development. Such incubators have well articulated admission criteria which must be met by the tenants before admission.
2.4 Empirical Studies on Business Incubators and Digital Entrepreneurship

Numerous scholars have undertaken empirical studies on business incubators in various countries (Al-Mubaraki & Busler, 2010; Chandra & Fealey, 2009; Elmansori, 2014; McAdam & McAdam, 2008; Somsuk et al., 2012; Voisey et al., 2006). Al-Mubaraki and Busler (2010) undertook a case study in order to identify the strengths, weaknesses, opportunities and threats of business incubator models, as well as their potential use in the United Kingdom and the United States. In the explorative research, which was the first to analyze business incubation using the SWOT technique, two international cases were studied: the first was the Maryland Technology Development Corporation (USA), and the second was the Coventry University Enterprise (UK). The study translated the goals and objectives of the incubators into specific key success indicators while assessing internal strengths and weaknesses, as well as external opportunities and threats of the incubators (SWOT). Data was collected by means of structured interviews with the incubators’ managing directors as well through examination of case studies. The results of the study highlight the similarities and differences between incubator models in the two countries. For both programmes, the strengths and opportunities of the incubators were much more than the weaknesses and threats. For the UK case, one of the weaknesses identified is: reduction in government’s support due to the global economic crisis which affected the implementation of the incubator’s annual plan. While lack of support and resources were some of the weaknesses identified in the UK case, the study further asserts that business incubator models help in the commercialization of new technologies, creation of employment, diversification of the economy, and wealth creation.

In another comparative study, Chandra and Fealey (2009) describe the landscape of incubation in three countries (United States, China and Brazil), noting the differences and similarities of incubation approaches between them, while focusing on sources of incubator funding and the financial services offered to their tenant firms. A total of 30 incubators (six from USA, 12 from China and 12 from Brazil), were involved in the study. The researchers conducted semi-structured, in-depth interviews with incubator management, incubator clients, trade association representatives, government officials and academics. Among other things, the study revealed that while the United States’ incubators focused on technology transfer / commercialization, the Chinese incubators focused on the social mission as mandated by the government. On the other
hand, the Brazilian incubators aim to foster entrepreneurship, technology commercialization and job creation. However, all the countries placed emphasis on economic development in their incubation programmes.

In another development, Voisey et al. (2006) examined the success of Graduate Teleworking Initiative (GTi), a business incubation project in Wales, in order to determine its impact on the participants, and on developing and supporting entrepreneurial activity within Wales. Using a single case study methodology, the research evaluated all aspects of the GTi project while engaging both qualitative and quantitative methods in capturing the aspiring entrepreneurs’ views. Thirty two individuals representing 30 enterprises participated in the study by responding to the questionnaire. Moreover, the study compared the progress of the entrepreneurs with methodologies developed by other EU programmes, and further considers additional approaches for measuring the success of similar projects. According to the research findings, 33% of the respondents agreed that the GTi project helped their business to grow quickly; 33% agreed that it made them more competitive while 17% agreed it served as a conduit for information and intelligence. However, 10% of the respondents (representing three enterprises) were of the view that the business incubator had no significant impact on the development of their business. The study went further to assert that in order for incubation facilities to continue to receive support, there is a need for a measurement of success which is broader than a mere set of statistical outputs.

In another European study, McAdam and McAdam (2008) explored the longitudinal use of resources of University Science Park Incubators (USIs) by High Technology Business Firms (HTBFs). Two USIs (one located in the Republic of Ireland and the other in the United Kingdom) and 18 HTBFs were involved in the study in which a series of longitudinal interviews and focus groups were conducted with their staff over a 36-month period. The results of the study show that the propensity of HTBFs to make effective use of an USI's resources and support increased as the company’s lifecycle stage progressed. Another study by Mas-Verdú, Ribeiro-Soriano and Roig-Tierno (2015) analyzed the impact of business incubators on the survival of firms. The study, which surveyed the CEOs and managing directors of 47 firms operating within the European Business and Innovation Centre of Elche in Spain, engaged fuzzy-set qualitative comparative analysis (fsQCA). The results show that a combination of incubators and other factors is needed for firm’s survival.
Furthermore, Elmansori, (2014) examined the impact of business incubation in fostering innovation and entrepreneurship in the Arab world. The exploratory study, which engaged both questionnaire and interviews, revealed that incubated businesses are far more likely to succeed in the long term than those who have not been through incubation. In a South African study, Booth-Jones (2012) assessed the effectiveness of training being offered by the Seda Nelson Mandela Bay ICT incubator. In the study, which engaged a qualitative approach, owners of 10 small businesses that were tenants of the incubator, were interviewed. Among other things, the study revealed that the incubator served as a bridging tool for the firms in moving the businesses from the informal sector to the formal. Furthermore, the content of training programmes was found to be effective when there is a mixture of both theoretical and practical dimensions. It also revealed that very specific training is needed at the start-up’s entrepreneurial phase so that there is a need to tailor the programme to the needs of the firms.

However, in Nigeria, studies or reports on business incubators are very few. Bubou and Okrigwe (2011) highlight the contribution of Technology Business Incubators to socio-economic development. Using a case study of Technology Incubation in Bayelsa State, Nigeria, the conceptual paper asserts the contributions of TBIs in promoting technological entrepreneurship, eradicating poverty, and boosting technological capability, thereby reducing Nigeria’s reliance on petroleum resources. Furthermore, Adegbite (2001) reviewed the development of business incubators in Nigeria. The study highlighted the operational status of the seven Nigerian incubators existing at the time of the research while identifying both the successes and shortcomings of the programmes. However, there is a lack of empirical research on business incubators in Nigeria, especially IT based business incubators. Moreover, no study has applied Sen’s capability approach to business incubation programmes. None of the studies engaged the approach in assessing the incubator’s contribution to enhancing the entrepreneurial capabilities of the tenants. This study therefore intends to bridge the lacuna as it focuses on examining the contribution of iDEA Nigeria to enhancing the capabilities of its participants.

2.5 Chapter Summary

The chapter has elucidated on the concepts of entrepreneurship and business incubators, with emphasis on how entrepreneurial activities could be enhanced using business incubators. Business incubators have been identified as effective instruments for enhancing the formation and
development of new business and the creation of employment. By making up for the shortage of resources faced by new firms, incubators help to increase their chances of survival and growth. The empirical studies reviewed in the chapter suggest that business incubation is widely acknowledged as an essential tool for boosting socio-economic development in various countries. The next chapter provides the relevant grounding for research through the discussion of the theoretical and conceptual frameworks adapted for the study.
CHAPTER THREE

THEORETICAL AND CONCEPTUAL FRAMEWORKS

3.1 Chapter Overview

This chapter deals with the theoretical and conceptual frameworks for the research. The increasing relevance of Sen’s capability approach among scholars and policymakers lies in its ability to bring to the table salient issues underlying development which many other frameworks tend to ignore. As a holistic approach to programme evaluation, the capability approach helps to point out certain important issues surrounding business incubation adoption for development. There is a general consensus that business incubators can be leveraged in accelerating the development of SMEs and consequently fostering employment generation and socio-economic wellbeing of the populace. It is therefore crucial to see how the capability approach can be used in assessing the effectiveness of business incubators in yielding the desired socio-economic goals.

The aim of this chapter is to provide the necessary grounding for the research through a thorough presentation of the theoretical and conceptual frameworks used for the study. It also aims to demonstrate the justification for using the capability approach as a holistic approach for assessing the performance of business incubators. The chapter begins with an exposition of the capability approach to development which represents the theoretical framework underpinning the research. Also, the chapter discusses various capability approach concepts like functioning, capability and conversion factors.

Moreover, it provides a critique of the capability approach while attempting to respond to the critiques. It also utilized the capability approach as a lens for understanding entrepreneurship and business incubation. The chapter ends with the conceptual framework, and an explanation of how relevant key variables are operationalised for this study. The sustainable livelihoods approach used as a conceptual framework for the study, is also discussed in the chapter.
3.2 Sen’s Capability Approach

The capability approach places intrinsic value on humans and argues that the ultimate aim of any developmental endeavor should be to expand the capabilities of people. The approach argues that an individual’s substantive freedom (to lead a life he/she has reason to value), should be the primary aim of development while economic measures should be seen as a mere means to this end. Thus, the approach strikes an analytical distinction between the means and the ends of well-being and development (Robeyns, 2005).

According to Robeyns (2005, p. 94), the capability approach is a normative framework for evaluating and assessing individual wellbeing and social arrangements, policy designs as well as proposals about social change. It offers a framework for analysing social issues like development, gender, poverty and well being, freedom, bias and inequality, justice and social ethics (Sen 1993, p. 30). The approach indicates important information which is needed for making judgment on social issues, and so rejects approaches considered normatively inadequate (Robeyns, 2000). It focuses on the available opportunities or freedoms (capabilities) for a person to achieve various beings and doings (functionings) which he/she has reason to value (Sen, 2011). Thus, capability approach serves as a theoretical perspective for understanding relevant developmental concepts, and can be used as a practical tool for evaluating services, institutions and social arrangements.

3.2.1 Historical Background to Capability Approach

The capability approach, in its current form, was pioneered by an Indian philosopher and professor of economics, Amartya Sen, who developed, refined and defended the framework (Robeyns, 2000). It was first articulated in Sen’s 1979 essay titled, “Equality of What?”, presented as the Tanner Lecture on Human Values (Clark, 2005; Sen, 1993). However, Sen’s work was influenced by a number of other thinkers. The foundation of the capability approach can be traced back to the works of Karl Marx, Aristotle, Adam Smith, Isaiah Berlin, John Stuart, Frances Stewart, Paul Streeter, John Rawls and the classical political economy (Clark, 2005; Robeyns, 2000; Sen, 1990). The development of Sen’s capability approach was influenced by Adam Smith’s works on the importance of economic growth in enhancing human development and his analysis of necessities and living conditions (Clark, 2005). Furthermore, the capability approach has a link with Karl Marx’s concern with freedom and human emancipation, and like Aristotle, Sen believes that wealth is not the end but merely a means to enhancing human development (Clark, 2005).
Furthermore Aristotle’s discussion on the imperative of freedom of choice for living a good life, his analysis of eudaimonia (human flourishing), and his theory of political distribution, also influenced Sen’s work (Clark, 2005). Other influences include Rawls’ theory of justice as well as his emphasis on access to primary goods and self respect, Isaiah Berlin’s (1958) classic essay known as “Two Concepts of Liberty”, and the Basic Needs approach of Frances Stewart and Paul Streeten (Clark, 2005).

The conceptual roots of the capability approach can be observed in its critiques of utilitarianism, with an aspect of traditional welfare economics. Amartya Sen observed the problem associated with the fact that welfare economics’ measures wellbeing by utility achievement or command of commodity. He criticized the welfare approach because it focused on what people derive from goods (i.e. utility e.g. happiness), and thus observes mental reactions which are adjustable and adaptable to different conditions (Cohen, 1993). Thus, the welfare approach is susceptible to the negative consequences of adaptive preference which connotes choices made less from one’s own reflection than from habituation/socialization or resignation. For example, a young woman living in a patriarchal society like Nigeria might have been socialised into thinking that entrepreneurship is only for men. She might have accepted the notion as an unchangeable reality, making her comfortable with just being a housewife or a subordinate worker.

On the other hand, Sen argued that a focus on primary goods does not take into cognizance the fact that different people may need different amounts of goods in order to satisfy the same basic needs (Cohen, 1993). For example, using the same training technique for both a visually impaired student and a sighted student might yield different results because they possess a varying ability to fully harness the benefits of the training. Thus, Sen intended to provide a framework that will offer a comprehensive view of the conditions of humans and the opportunities available to them. In order to develop a conceptual space for accessing social welfare other than utility or primary goods, Sen used the term functionings (combined with freedom to do and to be, also known as the capability of a person), as the fulcrum on which the capability framework rests, thus setting it apart from other approaches.

Before proceeding further, a brief biography of Amartya Sen might help contextualize the development of the capability approach since his life experience must have impacted on his work. Sen was born in 1933 in Dhaka, Bangladesh, and he witnessed the Bengal famine which cost the
lives of 2 to 3 million people, as well as the Muslim day labourers’ murder in the time of partition. He earned a PhD in economics from Cambridge University, has taught at a number of institutions, received the Nobel Prize in 1998 for his contribution to welfare economics, and is currently a professor of Economics and Philosophy at Harvard University (Alkire, 2009).

3.2.2 Functionings
Functionings are the various aspects of life that people value. According to Conradie (2013), functionings can be defined as anything that an individual can be or do. They are the various doings and beings which humans have reasons to value. The concept runs across the very many activities and situations which people consider important. Expanding the opportunity for these doings and beings is the focus of the capability approach. Some of the examples of functionings are: being able to succeed academically, being able to think innovatively, being creative, being able to launch an enterprise or being an entrepreneur, being able to ride a bicycle and being able to take part in a social debate. Sen’s capability approach argues that any effort to evaluate a person’s or a group of people’s wellbeing should be done with regards to their functionings and the freedom to achieve them (capabilities).

3.2.3 Freedoms or Capabilities
The achieved functionings of a person, at any given time refer to those functionings which the person has pursued and successfully actualized (Alkire, 2002, p. 120). For example, a student who is successfully running his own venture can be said to have achieved the functioning of being an entrepreneur. However, just like the utilitarian sole focus on utility, focusing on functionings alone only amounts to an impotent means of assessing human development. This is because functionings alone do not reflect one’s freedom to decide on which path to take, or even the freedom to actualize what one deems valuable, whether or not such achievements engender wellbeing or not (Alkire, 2002). For example, even though being an entrepreneur may be regarded as a functioning, it does not tell us whether the student really wanted to be an entrepreneur or was forced (against his will) due to the high unemployment in Nigeria, to start his/her own venture.

Sen (1992, p. 40) asserts that “capability is a set of vectors of functionings which reflects a person’s freedom to lead one type of life or another”. It refers to a person’s or a group of persons’ freedom to achieve or promote valuable functionings (Alkire, 2002, p. 121). Thus capability or freedom reflects the genuine opportunities which one has, and can use in one way or another. For example,
if one is given a gift of a million Rands without any condition attached, he or she can decide to buy a house, start a business venture, or buy an expensive car.

From the above elucidation, it is clear that both concepts (functionings and capabilities) are interrelated, although they also involve distinctive connotations. The following quote from Sen buttresses this conceptual relationship:

A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they are different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead. (Sen, 1987, p. 36)

Furthermore, Sen (2001) identifies five main freedoms which are instrumental in policy issues. The five freedoms (namely political freedom, social opportunities, economic facilities, protective security and transparency guarantees), complement one another and all contribute to a person’s general capability to live freely (Sen, 2001, p. 38-40). This study mostly deals with economic facilities which are the opportunities people have to use economic resources for production, consumption or exchange (Sen, 2001, p. 39). Availability or ownership of resources as well as conditions of exchange (defined by market and prices), are some of the factors which determine this freedom. In order to enhance economic facilities, the economic conditions of the entire population must be considered, and not just the national wealth of the country. This means that GDP does not indicate the level of economic facilities; neither does GDP per capita since it does not reflect fair distribution of wealth. According to Sen (2001, p.39) adequate distribution of wealth is needed in order to improve peoples’ quality of life.

3.2.4 Agency

Sen (1985a) sees people from both a well-being perspective and an agency perspective. Agency relates to the freedom one has to set and pursue his/her own interests and goals (Zheng, 2007). It can go beyond the pursuit of one’s own well-being to include values like furthering the well-being of others. According to Sen (1985a, p.203), a person’s ‘agency freedom’ refers to what the person is free to do and achieve in pursuit of whatever goals or values he or she regards as important. Thus a person’s agency cannot be assessed without consideration of his/her own conception of good. The good might have impact beyond the well-being of the agent. In this way, an ‘agent’ is differentiated from a ‘patient’ whose only concern is his/her own well-being (Robeyns, 2000).
Agency manifests as the ability and autonomy of a person to select those capabilities which he/she values, and to perform the activities required to turn those valued goals into actual beings and doings (Conradie, 2013). The assessment of agency achievement of a student would therefore focus on how well he/she had pursued the objectives previously decided on in a reasoned, evaluative process (Conradie, 2013). This focus on agency implies that any evaluation methods informed by the capability approach must take into account the aspiration and needs of the affected people. The consideration of aims, objectives, norms and obligations brings to bear issues of adaptive preferences and restricted agency, thus highlighting the link between a person’s social conditions and his/her preferences (Zheng, 2007). Sen (1984) explained adaptive preference by arguing that ‘the most blatant forms of inequalities and exploitations survive in the world through making allies out of the deprived and the exploited’ persons in situations when ‘people learn to adjust to the existing horrors by the sheer necessity of uneventful survival, the horrors look less terrible in the metric of utilities’. The assessment of adaptive preferences, aspirations, choice or agency helps to provide understanding as to whether people exercised choice freely or whether their choices were limited (Conradie, 2013). Thus, the role of restricted agency implies a caution against unconditional acceptance of whatever a person happens to perceive as valuable (Zheng, 2007). For example, in evaluating the agency of a housewife, caution should be taken against accepting her condition as a reflection of her true values since such might have been a product of a culture which applauds patriarchy and espouses relegation of women to domestic work.

Furthermore, Sen emphasised the role of conversion factors in a person’s bid to translate the characteristics of a particular resource(s) into achieved functioning. These include personal, social and environmental conversion factors; all of which will be elucidated upon at a later stage while discussing the application of the capability approach.

### 3.3 Critiques of the Capability Approach

Sen’s capability approach has invited a number of critiques. A major critique of the capability approach regards the lack of a specific set of capabilities (Nussbaum, 2003). Some scholars consider the approach as an unworkable idea while others accused the approach of being insufficiently specified (Robeyns, 2000). The consequence of the lack of a capability list is that any evaluative framework making use of the approach will need to do its selection of valuable
functionings. It is argued that the challenge also threatens the operationalization of the capability approach.

However, Sen argued that leaving the capability approach ‘incomplete’ rather than having it prescriptive and precise like most other development theories, is intentional, and that is so it could serve a wide range of purposes (Robeyns, 2005). He argued that there are two reasons for his decision not to endorse any list of functionings. Firstly, Sen intends the capability approach to be seen as a general approach for evaluating individual advantage and social condition rather than as a well defined theory (Robeyns, 2003). Therefore the capability approach is too general to endorse a particular list. The consequence is that any application or specification of the approach will require a combination with a particular social theories selection, and each case might produce a different selection of valuable functionings (Robeyns, 2003). This coupling of theories was achieved in this study by bringing in the sustainable livelihood approach, and other findings of previous studies.

Secondly, Sen placed emphasis on the choice process and the freedom to reason in any attempt to select relevant functionings. He argues that the identification of capability set for any group should be achieved through a democratic process entailing public deliberation, so as to ensure the participation of the people in the process of reaching valuable functionings and capabilities (Sen, 1985a). This means that when the capability approach is to be used for any policy work, for example, the people whose lives will be affected by the policies should be given the freedom to decide what should count as valuable capabilities. In this way, Sen intends to return the power of agency to the people, so that they become active participants in the process of deciding their fate. However, Robeyns (2005) argues that the public deliberation processes (suggested by Sen), are rarely perfectly democratic as some members of the group tend to have more power than others. In any social situation, it is virtually impossible to provide a perfectly equal representation of everybody’s view. This is because some people are usually more powerful than others in any group, and thus their voice tend to overshadow that of the other members. Even a democratic process effectively favours the majority group in many cases, and leaves the minority to acquiesce to the majority.

Nevertheless, in this study, while a preliminary list of capabilities were developed from the literature research, the researcher also engaged Sen’s notion of democratic process in developing
a list of relevant capabilities for digital entrepreneurship. This was achieved by giving the participants the opportunity to identify various factors and situations which influence success in digital entrepreneurship.

Furthermore, scholars like Nussbaum have tried to make the capability approach more applicable by generating a list of basic capabilities (Nussbaum, 2000, 2003). Sawyer (2007) found that Nussbaum’s list was helpful for analyzing complex problems, but noted that a gap still exists for identifying specific functionings for international, and even national comparisons. Robeyns (2003), on the other hand, criticized Nussbaum for claiming that Sen ought to endorse a specific list. According to Robeyns (2003), Sen’s capability approach is not a theory but a framework, and considering the under-specification of the approach, it is not feasible to have a definite all-purpose list. A list of capabilities ought to be context dependent. The advantage of the broad nature of the capability approach is that it can be applied to diverse fields, and so can be activist, academic or policy oriented. This under-specification of the approach makes it applicable, for example, in the assessment of both poverty and business incubation.

Another criticism that has been raised by scholars is that the capability approach is too individualistic, and thus pays insufficient attention to groups and social structures (Corbridge, 2002; Devereux, 2001). According to Robeyns (2003), such critics argue that any good theory ought to regard the individual as part of a larger social environment and not treated in isolation. Stewart and Deneulin (2002), for example, have followed the line of this criticism, arguing that agents should be seen as socially embedded and interconnected to others, rather than as isolated humans. In defence of the capability approach, this paper will differentiate between ethical individualism; and methodological and ontological individualism. Ethical individualism claims that individuals should be the unit of moral concern in any evaluative endeavor (Robeynes, 2003). Therefore, whenever one is to evaluate the state of social affairs, the focus ought to be on the impact of such situation on the individuals (whether directly or indirectly). Ontological and methodological individualism, on the other hand, claims all social phenomena ought to be explained wholly and exclusively in terms of individuals and their properties (Bhargava, 1992).

Using the previously mentioned example of women in Nigeria, ethical individualism will urge that the impact of lack of freedom to choose a career should be assessed, based on how it affects the individual women and not just the community in general. The community might perceive any
attempt to empower women, careerwise, as a threat to social cohesion. They might argue that leaving wives with the full right to decide what career to choose will not only jeopardize their culture but will also affect the wellbeing of the husbands and children negatively. However, ethical individualism, considers of paramount importance, the wellbeing of the individual, in this case the individual women. In this way, the good of the individual takes precedence over that of the community. The capability approach, being a humanitarian-oriented approach, seeks to provide an evaluative framework that will help uncover social ills that are being perpetrated (against the marginalized) in many societies by providing a paradigm that is based on giving a fair chance to each and every single member of society. In that manner, assessment of wellbeing must be evaluated at an individual level, and not just at a group level. This ethical individualism was considered in this study by giving the participants of iDEA programmes the opportunity to express their perceptions regarding the programmes qualitatively through interviews.

3.4 Application of the Capability Approach

3.4.1 Previous Application of the Capability Approach

A number of scholars have been inspired by Sen’s work to further develop the capability approach, but most prominent is Martha Nussbaum (1995; 2000). Inter alia, Nussbaum developed a list of essential capabilities (Nussbaum, 2000). Her works were significantly influenced by John Rawls’ “idea of the citizen as a free and dignified human being” (Garrett, 2008). Moreover, there have been several attempts to apply the capability approach to the assessment of poverty and well-being (Balestrino, 1996; Martinetti, 1994; Klasen, 2000; Clark & Qizilbash, 2002; Majumdar & Subramanian, 2001). Some studies have investigated the links between expenditure (or income) and various capabilities. Examples of such studies are Sen (1985b), Laderchi (1997), Balestrino (1996) and Klasen (2000). The results of most of these studies suggest that capabilities and income do not always go together, thereby giving credence to Sen’s claim about the limitation of the income-based assessment of quality of life. The works of other scholars have highlighted gross inequalities that exist along gender, race, age caste and class lines in terms of nutrition, literacy, and life expectancy.

The capability approach has also been applied in assessing small-scale development projects. Alkire (2002) developed a capability analysis of three poverty alleviation projects in Pakistan. More recently, Ruswa, Chikobvu and Walker (2014), in a case study on South Africa, assessed
the impact of human capabilities on the wellbeing of students. Conradie (2013) applied the approach in her study on a group of women in Khayelitsha. Her focus was on the relationship between aspiration and capabilities and how such might help to reduce poverty. Also, the capability approach has also been applied in assessing quality of education. For instance, Vermeulen (2013) applied the approach in the assessment of the quality of public primary education in rural Uganda.

Furthermore, Sen’s capability approach is considered the theoretical foundation of the human development approach, initiated by Mahbub ul Haq, and which is an approach that aims at providing a policy framework for development based on human development dimensions and indicators (Conradie, 2013). Just like the capability approach, the human development approach acknowledges the importance of money, economic growth and the market, but also sees them as a means, not as ends in themselves.

However, there are very few empirical and theoretical applications of the capability approach to entrepreneurship and ICT development. Zheng (2007) drew upon the approach in providing theoretical reflections on ICT development. An extensive search has not revealed any application of the capability approach to business incubation programmes. Thus as far as could be ascertained, Sen’s capability approach is yet to be applied in the assessment of business incubation, thus necessitating the need for this study:

3.4.2 Application of the Capability Approach to Entrepreneurship Programmes

This paper argues that Sen’s capability approach can serve as a lens for viewing various entrepreneurship programmes. Firstly, the entrepreneurship programme can be conceptualized as a means of expanding the capabilities of people to be able to achieve the functionings of being a successful entrepreneur. Secondly, it can be used as a normative framework, to evaluate entrepreneurship programmes in Nigeria while recognizing social, personal and environmental issues which other assessment approaches would ignore. Lastly, the capability approach can serve as an evaluative framework to access the success of entrepreneurship programmes by assessing the capabilities or opportunities participants (having gone through the programme), have for entrepreneurial success.
3.4.3 Agency and Entrepreneurship

In the case of entrepreneurship, a person’s agency can be reflected in his/her ability to choose and pursue the goal of setting up and running his/her own enterprise. The role of entrepreneurship programmes would therefore be to aid its participants in the pursuit of these valued goals by providing them with skills and knowledge required for making the decision as well as for successfully starting and running the venture. Moreover, a person’s capability set represents his/her freedom to achieve well-being (quality of life) and agency (acts which are in their own interest and which go beyond self-interest). Therefore, as an ‘agent’, an individual, having gone through an entrepreneurship programme, may choose entrepreneurship rather than wage-labour for the purpose of providing employment opportunities for others, or for contributing to the economic and social development of his/her community as well as for his/her own benefit.

3.4.5 Expanding Capabilities through Business Incubation

One of the objectives of this study is to conceptualise business incubation using the capability approach paradigm. As stated before, the capability approach focuses on the effective opportunities which people have to do and to become what they value. Goods and services are considered important only in the light that their characteristics enable people to do and to be what they value, that is, in the light of the capabilities which one can generate from these goods and services (Robeyns, 2005). Through the lens of the capability approach, business incubation is deemed important only to the extent to which it contributes to increasing its tenants’ entrepreneurial capabilities. This capability set includes certain entrepreneurial and managerial competencies (Morris, Webb & Singhal, 2013), as well as adequate access to relevant physical, information, financial and other resources needed for entrepreneurial success (Van Aardt et al., 2008). As noted by Lalkaka (2003), business incubation is a means of providing adequate support to newly founded firms, thereby helping to boost their survival rate and growth prospects. In this way, incubation expands the opportunities that the Nigerian youth have by providing them with requisite entrepreneurial skills, knowledge and resources which give them an alternative to job seeking. With this capability set in place, an aspiring entrepreneur can be said to have the effective freedom or opportunity to start and run a successful business venture. This business venture, if successful, can provide a means of livelihood as well as help him/her lead the type of life he/she values. It is this expansion of effective and real opportunities that Sen’s capability approach is
concerned with. How can a country expand the opportunities that its youth have in navigating their livelihood? Business incubation is said to serve that purpose.

3.4.6. Business Incubators as Providers of Goods and Services

Sen’s capability approach made a clear distinction between goods and services on the one hand, and the functioning and capabilities on the other hand (Robeyns, 2005). Provision of business incubation is a service that is of special interest to its tenants because it equips them with relevant skills, knowledge, attitudes and resources which will help to increase their capabilities (as in opportunities, and not mere competence). However, it should be noted that the delivery of an incubation service may not automatically translate to the functioning of being a successful entrepreneur. This is due to what Sen called conversion factors which affect the translation of goods and services into functionings.

3.4.7 Conversion factors in Business Incubation and Entrepreneurship Development

The extent to which people can translate the characteristics of goods and services (like incubators) into capabilities (like opportunities for successfully running an enterprise), are influenced by three conversion factors: personal, social, and environmental characteristics (Robeyns, 2005; Sen, 1992).

3.4.7.1 Personal Conversion Factors

An aspiring entrepreneur may be unable to maximize the learnings from his/her entrepreneurship training due to hearing impairment which can affect his/her maximum participation in the learning environment. Such personal limitation affects the student’s ability to convert the resources (entrepreneurship lecture) to functionings of being entrepreneurially knowledgeable. Robeyns, (2000) noted that personal characteristics (like physical/mental condition, metabolism, reading skills, etc), affect how a person is able to convert the features of a commodity into a functioning. This line of thought is supported by Morris et al. (2013) who assert that individual differences can lead to variation in how participants are affected by an entrepreneurship programme. Therefore, although entrepreneurship training is offered in the iDEA incubation programme, the students may not be able to fully utilize the service if they lack the necessary personal/individual conversion factors. Furthermore, the opportunity which a student has to undertake entrepreneurship education can also be seen as a personal conversion factor, since the knowledge and skills acquired can affect how he/she is able to convert other resources (like ideas, technology and finance) into the
functioning of being an entrepreneur. Okorie and Adali (2013) noted this crucial role of entrepreneurship education in inculcating in the students the skills, knowledge and attitudes required for being an entrepreneur.

3.4.7.2 Social Conversion Factors

Social conversion factors also play a significant role in the conversion of goods and services to functionings. According to Robeyns (2000), social characteristics (like institutions, public policies, power relations, society hierarchies, etc) play a significant role in the conversion of a good’s characteristics to individual functioning. Conradie (2013) emphasized that social issues like race, culture, class and gender can be regarded as social conversion factors. As a mainly patriarchal society, gender discrimination is pervasive in Nigeria (Charles & Ikenna, 2009). A study by Okpara et al. (2011) on the business and social profiles of 67 women entrepreneurs in Nigeria, revealed that family responsibilities are among the constraining factors which affect female entrepreneurship engagement. Running one’s own business requires an enormous investment of time and resources. If women are expected to be preoccupied with housework, then such may inhibit their chances of starting their own enterprises. Furthermore, a culture that sees women as mainly housekeepers will not be a conducive environment for creating the right mindset necessary for female entrepreneurship activities. This is in line with the social learning theory which argues that social environments like family, culture and ethnicity influence entrepreneurial intentions (Henderson & Robertson, 1999), Bird (1988) noted the impact of the external environment on thoughts, which in turn shape attitudes and intentions, which consequently leads to action while Morrison (1999) argues that the entrepreneurial spirit needs a conducive social and cultural background to initiate motives for venture creation. Furthermore, Dyer (1994) asserts the influence of cultural factors on entrepreneurial decisions. However, the constraints facing female entrepreneurs go beyond cultural perceptions, so that lack of access to resources (which might be linked to cultural and social issues), poses a great challenge for them. Nwoye (2007) highlighted that women in Nigeria have been historically disadvantaged, making access to material resources (like property and credit), education, market information and modern technology difficult, thus crippling their entrepreneurial engagement.

Therefore, as Conradie (2013) argues, it is crucial to analyze how gender discrimination and cultural issues can constrain people (especially women), in the pursuit of their goals. These cultural
values, when internalized as personal perception, become part of the person, and therefore influence their judgment and choice Conradie (2013). The impact of socio-cultural factors on entrepreneurship engagement is best articulated by Lee and Peterson (2000) who argue that great entrepreneurs do not develop by themselves, but are rather the products of entrepreneurship-oriented societies and cultures. Furthermore, Lee, Chang and Lim (2005) assert that “entrepreneurs are cultivated during their lifetime, and that social and cultural environment, personal experience, and education are very important to building entrepreneurship”.

Thus, the capability approach emphasizes the need for the transformation of social situations so as to enhance the freedom of individuals to live the life they have reason to value. It highlights the need for comprehensive entrepreneurship policies and programmes which can be used to alter negative cultural belief systems that are inimical to entrepreneurial development. Such social and cultural issues, if unchecked, have the tendency and capacity to sabotage the efforts which the government and other stakeholders put into entrepreneurial development. Considering the high percentage of females in Nigeria (over 50% according to World Bank, 2013), the country would be robbing itself of immense human capital, and thus doing itself a great disservice if women are not given an equal chance to participate in the country’s quest for economic development through entrepreneurship. Creating an enabling environment for equal participation of men and women should be a focus of all entrepreneurship enhancement strategies.

3.4.7.3 Environmental Conversion Factors

Environmental conversion factors deal with infrastructural limitations like inadequate infrastructure, inadequate teaching and learning environment, entrepreneurially unfriendly fiscal/monetary policies, poor library facilities, and lack of access to loans and start-up funds etc. Isaacs et al. (2007) asserts that exogenous factors like access to finance, infrastructure and favourable business environments affect the translation of entrepreneurial intentions, knowledge and skills into entrepreneurial activities. For example, it has been noted that the poor state of infrastructure in Nigerian universities cannot support the newly introduced entrepreneurship education (Nwekeaku, 2013; Oviawe, 2010). It should be noted that, unlike ordinary entrepreneurship education programmes, business incubators help to provide its participants with better access to environmental conversion factors. This is achieved by providing tenants with access to relevant infrastructure like internet, office space, funding etc. However, incubators may
not be able to deal with environmental conversional factors like fiscal/monetary policies, political instability and currency volatility.

**3.4.8 Human Diversity in Business Incubation**

According to Robeyns (2005), one of the strengths of the capability approach lies in its ability to make provision for the diversity of humans. “The consideration of interpersonal variations among human beings sets the capability approach apart from other theories in that it explicitly distinguishes different spaces of equality” (Zheng, 2007). Providing the same quality of incubation service to a group of tenants may deliver varying results based on various interpersonal differences. For example, the males in the group may have a better chance than the females in utilizing the benefits of the education provided due to the cultural, social and economic advantages which men tend to have over women in Nigeria. Thus the approach highlights that individual variations and structural differences in society are important factors to be taken into account in evaluating development initiatives (Zheng, 2007).

**3.4.9 Business Incubators and Capability Approach Perspective**

The table below highlights the limitations of incubation programmes and how the capability approach can be used to remedy such limitations.

**Table 1: Business Incubators and Capability Approach Perspective**

<table>
<thead>
<tr>
<th>Limitations of Business Incubator (BI)</th>
<th>Capability Approach (CA) Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Well-being &amp; Capability</strong></td>
<td></td>
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<tr>
<td>- Regards development of enterprises as an end, thus focuses on the contribution of BI to new venture creation.</td>
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<tr>
<td>- Only concerned with capability to acquire the knowledge, skills etc, delivered through BI.</td>
<td>- Considers enterprise creation as a means to an end (substantive individual freedom).</td>
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<tr>
<td></td>
<td>- Essentially concerned with BI’s contributions to people’s capabilities to achieve a life of value.</td>
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<tr>
<td></td>
<td>- Concerned with effective opportunities for people to fully exploit the benefits of BI.</td>
</tr>
<tr>
<td>Goods and Services</td>
<td>• The focus is on providing BI to the participants as mandated by the government/stakeholders with the hope that such will help to boost entrepreneurial engagements</td>
</tr>
<tr>
<td>Human Diversity</td>
<td>• Tendency to apply universal criteria to using BI as developmental instruments.</td>
</tr>
</tbody>
</table>

Source: Adapted from Zheng (2007)

### 3.4.10 Conceptual Model of Capability Approach and Business Incubator

Figure 5 below is a diagrammatical representation of a student’s capability set as it relates to entrepreneurship (adapted from Robeyns, 2005, p.98). It shows how external and internal influences affect the students’ conversion of the resource of business incubation into an achieved functioning of entrepreneurship. It should be noted that a person’s choice of entrepreneurship as a career option is affected by not only by the skills, knowledge and attitudes acquired via entrepreneurship training but also by personal, historical and psychological factors interacting with social and environmental factors. The actual achievement of functioning (entrepreneurship) is a result of the personal choice of the participant to select from the capabilities available, and that is...
subject to personal preferences and other factors of decision-making mechanisms (Zheng, 2007). This act of choosing is also affected by the student’s social and environmental characteristics, such as personal history and social influences (Zheng, Y. 2007).

However, it should be noted that the conversion factors are not static, but rather they are constantly undergoing changes. For example, the exploitation of the benefits of entrepreneurship training provided in incubators can contribute to changes in personal characteristics (like entrepreneurial interests), and this will in turn feed back to the conversion factors and decision making mechanisms. This conceptual model is one of the significant contributions of this research to the field of entrepreneurship.
Figure 5: Conceptual Model of Capability Approach and Entrepreneurship Development through Business Incubation

Social context:
- Social, cultural and legal norms (e.g. gender discrimination etc)
- Other people’s behaviour and characteristics

Environmental factors:
- Fiscal policies, monetary policies, availability of infrastructure etc

Goods & Services (Business Incubator)
- Entrepreneurial training
- Coaching and mentoring
- Access to office space, Access to internet, Access to reliable power etc

Individual conversion factors:
- Physical condition, condition of health, gender, intelligence quotient, perseverance, aspiration, interests etc

Capability set: Vectors of Potential Functionings
- Opportunity for self-employment/self-reliance through starting one’s own enterprise and opportunities for lifestyle and livelihood

Preference formation, adaptive preference, reflection and other decision-making mechanisms

Choice

Personal history and psychology

Vector of Achieved Functionings:
- Entrepreneur, gainfully employed, job-creator, respected citizen, well-being and agency achieved, improved standard of living for self and others, etc

Means to Achieve

Freedom to Achieve

Achievement

Source: Adapted from Robeyns (2005, p.98)
3.5 Conceptual Framework

For the purpose of this study, the sustainable livelihoods approach and findings in literature will serve as the conceptual framework. This will help in assessing the effects of iDEA Nigeria programmes on the entrepreneurial and employment capabilities of its tenants.

3.5.1 The Sustainable Livelihoods Approach (SLA)

The sustainable livelihood approach is becoming increasingly associated with poverty alleviation efforts in developing countries (Adelzadeh, Alvillar & Mather, 1998). Like the capability approach, the SLA is also people-centred, and is concerned with what the people have and what they do, thus moving attention away from what they lack and, in doing so enabling the strengthening of their capabilities (UNDP, 1999; Bebbington, 1999). A livelihood consists of the capabilities, assets and activities which are required for a means of living. As Chambers and Conway (1992:6) state, livelihood refers to:

The capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable and can cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation; and which contributes net benefits to other livelihoods at the local and global level in the long and short term.

The definition is inspired by Sen’s capabilities and entitlement approach and understands a livelihood as the capabilities, assets (both material and social resources) and activities required to support the life of an individual (Chambers and Conway, 1992). These resources are made up of social, human, financial, natural and physical assets which people have access to, and which they can use to cope with life’s risks. For the purpose of this study, both the capability approach and the SLA were used to assess how iDEA Nigeria helps in expanding the entrepreneurial capabilities of its participants.

3.5.2 Operationalisation/Measurement of Key Variables

Operationalisation refers to the final specification of how the different characteristics of a given variable in the real world will be recognised (Babbie & Mouton, 2001). Variables that are in line with the conceptual and theoretical framework presented above were used to assess how iDEA Nigeria programmes have contributed to the enhancement of the entrepreneurial capabilities of its participants.
3.5.3 Entrepreneurial Capabilities and Measurement of Variables

A list of capabilities necessary for entrepreneurship was identified through literature. According to Van Aardt et al. (2008), entrepreneurs need to possess both entrepreneurial and managerial skills in order to be successful. Also, Morris, Webb and Singhal (2013), identified thirteen core entrepreneurial competencies while Nieman and Neuwenhuizen (2009) highlighted certain success factors of entrepreneurship. In the same vein, Rasmussen, Mosey and Wright (2011) have identified three competencies which are crucial for the ventures to gain credibility. Possession of these skills and competencies by aspiring entrepreneurs can be regarded as intermediate functionings which enhance entrepreneurial capabilities. Furthermore, Van Aardt et al. (2008) identified resources required for entrepreneurial success - these include: physical, human, information and financial resources. Based on the literature search, a number of these skills, competencies and resources were selected as preliminary digital entrepreneurial capabilities for this study. The twenty capabilities making up the sets are further categorized into four groups of assets (in alignment with the sustainable livelihood approach). They are listed in the table 2 below.

In this study, the iDEA Nigeria programme is considered as the independent variable while the participants’ entrepreneurial capabilities will be considered the dependent variables.

Table 2: Digital Entrepreneurial Capabilities Set

<table>
<thead>
<tr>
<th>S/N</th>
<th>Digital Entrepreneurial Capabilities</th>
<th>Categories</th>
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<tbody>
<tr>
<td>1</td>
<td>Entrepreneurial mindset</td>
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<td>2</td>
<td>Entrepreneurial motivation</td>
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<td>3</td>
<td>Awareness of the market for your products/services</td>
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<td>4</td>
<td>Ability to identify business opportunities</td>
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<td>5</td>
<td>Creativity and innovation</td>
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<td>6</td>
<td>Ability to acquire new customers</td>
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<tr>
<td>7</td>
<td>Ability to develop business solutions and create new products</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Negotiation skills</td>
<td>Human Assets</td>
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<tr>
<td>9</td>
<td>Risk-taking knowledge and skills</td>
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<tr>
<td>10</td>
<td>Business management knowledge and skills</td>
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<tr>
<td>11</td>
<td>Improved access to entrepreneurial training and educational opportunities</td>
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### Chapter Summary

The chapter has provided the necessary grounding for the research through a thorough presentation of the theoretical and conceptual frameworks used for the study. It demonstrated the justification for using the capability approach as a holistic approach for assessing the performance of business incubators. Beginning with an exposition of the capability approach to development, which represents the theoretical framework underpinning the research, the chapter further discussed various capability approach concepts like functioning, capability and conversion factors.

Moreover, it provided a critique of the capability approach while attempting to respond to the critiques. It utilized the capability approach as a lens for understanding entrepreneurship and business incubation. The chapter ended with an explanation of how relevant key variables are operationalised for this study while highlighting the use of the sustainable livelihoods approach as a conceptual framework for the study.

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<tbody>
<tr>
<td>12</td>
<td>Technical knowledge and skills</td>
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<tr>
<td>13</td>
<td>Access to conducive office space for business activities</td>
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<td>14</td>
<td>Access to reliable power supply for business activities</td>
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<td>15</td>
<td>Access to high-speed reliable internet for business activities</td>
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<td>16</td>
<td>Improved access to funding opportunities for business</td>
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<td>17</td>
<td>Improved access to networking opportunities with other budding entrepreneurs</td>
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<tr>
<td>18</td>
<td>Improved access to networking opportunities with established and successful entrepreneurs</td>
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<tr>
<td>19</td>
<td>Improved access to customers/clients for products/services</td>
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<tr>
<td>20</td>
<td>Credibility of business/products/services when dealing with potential customers/clients</td>
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**Source:** Own Compilation

#### Table 3.6

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<td>Physical Assets</td>
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<td>Access to conducive office space for business activities</td>
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<td>Access to reliable power supply for business activities</td>
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<tr>
<td>15</td>
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<tr>
<td>16</td>
<td>Improved access to funding opportunities for business</td>
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**Social Assets**

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**Financial Assets**

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<td>16</td>
<td>Improved access to funding opportunities for business</td>
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**Source:** Own Compilation

http://etd.uwc.ac.za/
CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter outlines the methodology adopted for the research while explaining the research processes engaged throughout the study. The research methodology is crucial since it helps to highlight systematic ways of providing answers to research questions and solving the research problem.

The chapter begins with an elucidation of the research design. It further discusses the sampling techniques, data collection methods, data analysis process and the ethics statement which guided the conduct of the research. The aim of this chapter therefore is to offer a strong foundation for the subsequent chapters.

4.2 Research Design

According to Mouton and Babbie (2001, p.74), research design provides a blueprint on how a particular research project is to be conducted. It refers to a procedural plan which is implemented by the researcher in order to answer research questions validly, accurately, objectively and economically (Kumar, 2010). The function of research design is to explain how a researcher will find answers to his or her research questions. It deals with four issues: what questions to study, what data are relevant, what data are to be collected, and how data are to be analysed (Philliber, Schwab & Samloss, 1980). Being that this research focused on iDEA Nigeria, a case study design was employed and as such is associated with an investigation of a particular community, setting, place or organization (Patton, 1990). Both quantitative and qualitative data were collected, using questionnaires and semi-structured interviews respectively from iDEA Nigeria’s staff and tenants in order to assess the how iDEA programmes enhance the tenants’ capabilities.

4.3 Research Methodology

According to Firestone (1987), in the field of social sciences, two major traditions of research methodology exist. They are the quantitative and qualitative research methodologies. Quantitative research methodology is concerned with redefining concepts into numeric language that will allow the researcher to draw trends and relationships between them. It is an inquiry into social or human
problems, based on testing a theory composed of variables, measured with numbers and which are analysed using statistical procedures, in order to determine if the predictive generalisations of the theory holds true (Creswell, 1994, p.2). On the other hand, in qualitative research, as Patton (1990) noted, the researcher aims to get in-depth and detailed information and knowledge regarding the issues or case under investigation. It involves interpreting respondents’ narratives and utilises a more library approach (Leedy, 1997). Thus, whereas in the quantitative approach, the data generated is reduced into numbers and results are presented statistically so as to disseminate research outcomes; the qualitative approach emphasizes an insider’s perspective of a particular social phenomenon (Babbie & Mouton, 2001).

According to Yin (1984), the choice of methodology to be engaged in any research endeavour should be primarily based on the objectives and nature of the research as well as on the type of data available. This study engaged both qualitative and quantitative methodologies (mixed approach). Such triangulation helps to boost the research rigour. Through a survey questionnaire, the study assessed the relationship between participation in iDEA programmes and an increase in the capabilities of the tenants. Surveys are used to generate quantifiable data which could be analysed statistically, with the purpose of aggregating, measuring, modelling and predicting behaviour and relations (Gambarino and Holland, 2009).

However, the qualitative data collection and analysis offers the advantage providing, in-depth understanding of how iDEA programmes expand the capabilities of participants. As observed by Blackstock et al. (2007), qualitative methodology allows for a detailed and in-depth study of cases, thus providing for the explanation and description of cause and effect, rather than proving cause and effect. Moreover, due to the small sample size (70 tenants) engaged in the study, the qualitative approach offers a significant advantage by helping to retrieve as much information as possible from the small group (Merriam, 1998). The qualitative approach was used to provide a detailed explanation of the relationships observed through the quantitative method so that it helped to deepen understanding of the tenants’ experience at iDEA Nigeria. After a thorough review of literature on entrepreneurship success factors as well as meetings with iDEA staff and tenants, a list of entrepreneurial capabilities indicators was developed. This was used to develop the survey questionnaire and the interview questions engaged in the study.
4.4 Sampling Procedure

Sampling is simply the process of selecting observations from a given population (Babbie & Mouton, 2001). A sample therefore is a representation of a study population which has been drawn out for the purpose of eliciting information regarding the research problems. Considering the small number of iDEA tenants, the entire population was used as the sample size for questionnaire administration. Information obtained from the iDEA management indicated that there were about 70 entrepreneurs in both incubation and acceleration programmes which were the focus of this study. The decision to engage the entire population is in line with Israel (1992) who asserts that the whole population (a census) should be used when dealing with small population (less than 200). Therefore all the iDEA tenants were selected as the sample, so that the questionnaire was administered to 70 respondents. However, only forty (40) respondents from the sample agreed to take part in the research. Therefore 40 questionnaires were returned and this constituted the responses which made up the analysis.

For the semi-structured interviews, purposive sampling was used to select the respondents. According to Babbie and Mouton (2001), a purposive sample is selected on the basis of the knowledge of a population and the purpose of the study. In such sampling, a sample is selected based on certain features. Therefore, for this study, a group of respondents who were perceived to be knowledgeable about the iDEA programmes were selected for the semi-structured interviews. A total number of ten respondents comprising three iDEA staff members and seven iDEA programmes’ beneficiaries were interviewed. Participant one (P1), Participant two (P2) and Participant three (P3) are the iDEA CEO, iDEA technical advisor and iDEA centre manager respectively. Participants four (P4), five (P5), six (P6) seven (P7), eight (P8), nine (P9) and ten (P10) were all tenants at the iDEA centre who had been there long enough to be able to provide valuable insight into the contribution of iDEA programmes to entrepreneurs’ capabilities.

4.5 Methods of Data Collection

Data collection, for this research, was conducted from November 2015 to March 2016. The study engaged both primary and secondary data. The primary data was collected using semi-structured interviews and questionnaire surveys. On the other hand, the secondary data was gathered through a review of relevant literature including: journal articles on ICT, entrepreneurship and business incubators; iDEA programme documents and Nigerian government documents.
Both primary and secondary data collection revolved around the following major themes: (1) socio-economic and demographic characteristics of Nigeria, (2) entrepreneurial capabilities, (3) contribution of iDEA programmes towards expansion of its participants’ capabilities, (4) challenges faced by digital entrepreneurs in Nigeria, (5) factors affecting digital entrepreneurship in Nigeria. The study used the following instruments during the course of the research:

**4.5.1 Questionnaire Survey**

Questionnaire administration is a valuable means of data collection from a large number of respondents for the primary aim of statistical analysis (Langdrige & Hagger-Johnson, 2009). It is a systematic tool for collecting data from a population of interest. For this study, a questionnaire was used with closed and open-ended questions in order to elicit relevant information from iDEA programme beneficiaries. After a pre-study meeting with some of the iDEA entrepreneurs, it was clear that engaging in an online survey would yield better responses than a hard copy survey. This is because it was realized that these digital entrepreneurs find it easier or more fun to work on computers than having to write on hard copy questionnaires. Therefore, the researcher developed the questionnaire with Google Survey, and such was emailed through the iDEA email database to the respondents.

**4.5.2 In-depth Interviews**

Interviews were conducted with three iDEA staff and seven iDEA tenants with the main purpose of obtaining information on the contribution of iDEA programmes towards boosting the tenants’ capabilities. These ten people were interviewed using a digital recorder and semi-structured check list in order to enhance flexibility, iteration and continuity as supported by (Rubin & Rubin, 1995, p. 43). This approach helped in identifying digital entrepreneurial capabilities from iDEA entrepreneurs and experts. It was also aimed at providing elucidation on how iDEA programmes have impacted the participants’ entrepreneurial journey and challenges of digital entrepreneurship in Nigeria. Purposive sampling was used to select three iDEA staff members and seven tenants who were considered knowledgeable in order to offer relevant information on the themes. This approach is supported by Leedy and Ormrod (2005) who stated that it is crucial for researchers to select respondents based on their ability to provide the most relevant information for the research.
4.5.3 Observation
Observation helps in providing depth to the phenomenon under investigation in a research study (Neuman, 2000). Through observation, non-verbalised data (like the physical characteristics of the iDEA center, non-verbal communication and actions of respondents, and surrounding environment) are gathered to further deepen understanding of the iDEA programmes. As such, participants were observed during iDEA training workshops, as they perform their entrepreneurial tasks within the space provided by iDEA. Furthermore, the researcher participated in some of the training sessions at the iDEA center. According to Patton (1990), participant observation offers a special vantage point for the researcher to observe the many issues and situations that would otherwise not be revealed in an interview. Therefore, for about three weeks, the researcher was mostly at the iDEA center during working hours, observing the various events while also participating in the discussion and training.

4.5.4 Literature Review
According to Mouton (2001), the literature review helps the researcher in building upon the existing body of knowledge while avoiding duplication. The review of relevant literature was crucial since it helped the researcher to place the study in a research context while demonstrating the engagement of the appropriate theoretical and conceptual framework. It also helped in addressing the issues and concepts relating to the topic. In this study, potential entrepreneurial capabilities were identified through an extensive search of the literature. The literature review focused on literature drawn from academic (like books and journal articles) and non-academic sources as well as relevant documentation from iDEA, government and various stakeholders.

4.6 Data Analysis and Presentation
Data analysis is crucial in that it provides a platform for the transformation of data into information (Kultar, 2007). It helps to reduce the data size to controllable proportions, and to identify various themes and patterns in the data (Majeskey, 2008).

4.6.1. Quantitative Data Analysis
Data generated in this study was statistically analysed so as to describe the phenomena being studied while identifying and examining relationships between variables. The study made use of the Statistical Package for the Social Sciences (SPSS) Version 24 which is considered an effective
tool for quantitative data analysis. Both descriptive and inferential statistics were engaged in the study. While descriptive statistics were used to describe, explain or summarise the data, inferential statistics were used to infer about the population from which the sample had been drawn (Singh, 2007). Moreover, the descriptive statistics were presented using graphical representations, charts, tables, and frequency distributions as well as the computation of index scores to measure the perception of iDEA beneficiaries with regard to capabilities enhancement.

According to Babbie (2007), indexes represent composite measures of variables, and they serve as efficient data analysis and data reduction devices which allow for the summarization of several indicators into a single numerical score. The Human Development Index (UNDP, 2013), and the modified Consumer Price Index (Bryan & Cecchetti, 1993) are some of the many examples of index usage. This study patterned after Wharton and Baron (1987), who developed an index measure to assess work satisfaction among workers, in order to develop the Capabilities Enhancement Perception Index (CEPI) used in assessing the contribution of iDEA programmes to enhancing tenants’ capabilities.

The indexes were computed by first assigning values from one to five to the ordinal responses (Likert’s scale responses) of the iDEA tenants, with a higher value signifying stronger agreement to the question that made up the variable while a lower value signifies disagreement with the question. The total weight value for each of the variables (SWV) was computed through the summation of the product of the number of respondents to each rating of a specific variable and the respective value.

Mathematically, this can be expressed as:

$$SWV = \sum_{i=1}^{5} P_i V_i [1]$$

Where:

- $SWV = \text{summation of the total weight value}$;
- $P_i = \text{number of respondents to rating } i$;
- $V_i = \text{weight assigned to a response}$.

The index (I) to a variable was determined by dividing the SWV by the total number of respondents to each of the five ratings of the variable. This can be expressed as:
Moreover, the mean index, denoted as $\bar{I}$, was derived by summing up the index for each variable and then dividing it by the number of the identical variables. It is represented mathematically by:

$$\bar{I} = \frac{\sum I}{n}$$

[3]

Where $n$ = total number of identical variables.

Moreover, Cronbach’s alpha, which is a measure of internal consistency, was used to estimate reliability of the items. Cronbach Alpha values of 0.7 and above are considered acceptable (George & Mallery, 2003; Santos, 1999) offering assurance that items could be relied upon. Furthermore, a One Sample Chi Square analysis was conducted so as to prove that the observation made was not by chance. According to Berg (2014), one-sample chi-square test is used to test if a single categorical variable follows a hypothesized population distribution. It is used when undertaking hypothesis testing of a discrete outcome variable in a single population. It helps to ascertain that the observation made was not by chance and that the participants’ choice could not have been due to happenstance. In this case, iDEA tenants make up the single population, since the survey was only administered to iDEA tenants. The test was carried out at a significant level of 0.05 and confidence interval of 95.0%.

4.6.2. Qualitative Data Analysis

Thematic content analysis was applied to the data obtained through the semi-structured interviews so as to draw out relevant patterns and common themes, while at the same time deepening the understanding of identified relationships. According to Anderson (2007), the thematic content analysis is a descriptive presentation of qualitative data showing the thematic content of interview transcripts by the identifying common themes. For this research, a manual process of analysis was undertaken. Transcripts from the entire interviews were afterwards read and re-read so as to get a holistic picture of the issues narrated by the participants. The researcher thereafter engaged manual coding on all the transcripts, and the emerging quotes were grouped together to form categories. According to Sundewall (2009), categorization entails grouping the outcomes of data so as to reach a conclusion. Themes were thereafter generated through the analysis of the relationships and
patterns connecting the categories. Moreover, this process was reiterated for each of the transcripts after which cross analysis of the entire transcripts was done, thus providing a clear picture of the commonalities in the transcripts. After making sense of emerging themes, the researcher presented recurring themes and commonalities in the form of text and narratives in the relevant sections of the research.

4.7 Ethics Statement

This study was carried out in accordance with the ethical standards for research at the University of the Western Cape. The research only commenced after approval was granted by the relevant authorities at the University of the Western Cape Senate, EMS Faculty, and the Institute for Social Development. Moreover, the researcher sought the permission of the iDEA Hub management, staff and tenants before undertaking the fieldwork. The study did not intend to cause any harm to any of the parties involved, the respondents’ participation was voluntary, and they could also withdraw at any time. At all the stages of data collection, the researcher made clear the purpose and objectives of the study to all the study participants. Furthermore, the researcher ensured anonymity and confidentiality, and used all data only for the intended purposes.

4.8 Chapter Summary

The chapter has offered an elucidation on the research methodology engaged in this study. After the initial preliminary data was sourced through a literature search and meetings with the entrepreneurs, the entire population was sampled as respondents for the quantitative approach while purposive sampling was used to sample interviewees for the qualitative section. Moreover, a combination of descriptive and inferential statistics was utilised in analyzing the quantitative data while the qualitative analysis was conducted using thematic content analysis. The chapter concludes with an ethics statement which was a crucial requirement for conducting the research. This empirical study was based on the methodologies and tools discussed above, and the next chapter(5) provides the findings of the research which is an assessment of the contribution of iDEA programmes in enhancing the entrepreneurial capabilities of participants.
CHAPTER FIVE

ASSESSING THE CONTRIBUTION OF iDEA NIGERIA TO THE EXPANSION OF ITS BENEFICIARIES’ ENTREPRENEURIAL CAPABILITIES: EMPIRICAL FINDINGS

5.1 Chapter Overview

This chapter presents an analysis of the collected data and further attempts to provide a discussion on the analysed data and fact findings. In doing so, the chapter responds to the research questions and aims to fulfil the set objectives of the research as outlined in chapter one.

The primary aim of this study is to examine the contribution of iDEA Hub’s programmes towards the expansion of the tenants’ capabilities and consequently entrepreneurship development in Nigeria, and this examination is underpinned by the theoretical and conceptual frameworks presented earlier. This was achieved through both quantitative and qualitative methodologies using a survey questionnaire, semi-structured interviews, observation and document review.

The following sections comprise (a) a quantitative analysis and discussion of respondents’ socio-economic and demographic characteristics; (b) entrepreneurship as a functioning; (c) quantitative and qualitative assessment and discussion of digital entrepreneurship capabilities; (d) the quantitative and qualitative assessment of iDEA Hub’s contribution to the tenants’ entrepreneurship capabilities.

5.2 Quantitative Analysis

According to Babbie (2007) and Thomas (2005), quantitative analysis techniques include the conversion of data to a numerical form which is then analysed statistically. For this study, the quantitative data were analysed and presented using both descriptive and inferential statistics as presented in the following sections.

5.2.1 Socio-Economic and Demographic Characteristics of Respondents

According to Sen’s capability approach, an individual’s ability to translate the characteristics of goods and services (like incubators) into the capabilities of functionings (like opportunities for successfully running an enterprise), is influenced by three conversion factors: personal, social, and environmental characteristics (Robeyns, 2005; Sen, 1992). Socio-economic and demographic characteristics, inter alia, reflect the personal and social conversion factors of the participants, thus
making their examination crucial to the theme of this research. These include gender, ethnicity, age and educational status.

5.2.1.1. Ethnicity

Analysis of the respondents by ethnicity as shown in Figure 6 indicates that 23 of the respondents (57.5%) belong to the Yoruba tribe, 12 (30%) accounts for the Igbo tribe while 2 of the respondents (5%) were Hausa/Fulani. For the other 3 respondents (7.5%), each was from a minority tribe (Igede, Edo and Igala). A study by Wilson, Marlino, and Kickul (2004) revealed that ethnic identity is an important factor in dealing with entrepreneurial aspiration. Fairlie and Meyer (1996) found that the rate of entrepreneurial activities differ substantially across racial and ethnic groups in the United States. As observed by Aldrich and Waldinger (1990), in navigating livelihood, ethnic groups adapt to the resources which are available in their environment. Since these resources (e.g. cultural), differ significantly across various ethnic groups and societies, some groups may exhibit stronger proclivity to self employment than others, and may even possess more entrepreneurial skills and knowledge than others.

In the case of Nigeria, the Igbo people are often referred to as the most entrepreneurial ethnic group in the country (LeVine, 1966; Olutayo, 1999; Chukwuezi, 2001). Igbo culture encourages property ownership, money, diligence, achievement, loyalty to kinsmen, and honesty; and these qualities are emphasised in a child’s upbringing. According to LeVine (1966), the Igbo people placed a premium on occupational skills initiative and enterprise. Thus the cultural norms of the Igbo provide a conducive atmosphere for entrepreneurship to thrive. However, Olutayo (1999) warned that the booming entrepreneurial activities of the Igbo tribe does not mean that they are better entrepreneurs than other tribes in Nigeria, but that such an entrepreneurial edge is due to a certain historico-sociological position that the group occupied within Nigeria. In the same vein, Nnadozie (2002) asserts that in spite of the Biafran War that severely affected the Igbo people, the growth in entrepreneurial activities among them is consequent upon certain factors inherent in the Igbo culture and society as well as the political and economic realities facing the tribe. The above elucidation gives credence to the fact that entrepreneurial activities can be influenced by certain cultural, social, historical and political factors. These can be regarded as conversion factors acting from the collective vantage point but filtering down to individual entrepreneurial capabilities.
Nevertheless, in this research, the Igbo entrepreneurs were not found to dominate digital entrepreneurship at the iDEA centre. Many of the respondents (57.5%) were from the Yoruba tribe while the Igbo respondents account for only 30%. This may be due to the fact that iDEA, Nigeria is located in Lagos, a major city in South-Western Nigeria, which is a Yoruba dominated region.

**Figure 6: Ethnicity of Respondents**

![Ethnicity of Respondents](http://etd.uwc.ac.za/)

Source: Field Survey, 2016

5.2.1.2. Gender

With regards to the gender of participants, 33 respondents (82.50%) were male while only 7 respondents (17.50%) were females, as indicated in Figure 7. Thus, the digital entrepreneurship space within iDEA is by far dominated by males. This particular finding is well aligned with the evidence in literature, asserting gender disparity in entrepreneurship across various societies (Wilson et al., 2004; Carter & Shaw, 2006; Bosma & Levie, 2010). As a mainly patriarchal society, gender discrimination is pervasive in Nigeria (Charles & Ikenna, 2009), and overwhelming household responsibilities stifle female entrepreneurial engagement (Okpara et al., 2011). Furthermore, Nwoye (2007) highlighted that Nigerian women have been historically disadvantaged, making access to material resources (like property and credit), education, market information and modern technology very difficult, thus hampering female entrepreneurial engagement. Even in Europe, Muravyev, Talavera and Schäfer (2009) found that female entrepreneurs are less likely to obtain loans and are charged higher interest rates than their male counterparts.
In light of this blazing disparity, it is crucial to proactively investigate how gender discrimination and cultural norms constrain women in the pursuit of their goals (Conradie, 2013). As observed by Shinnar, Giacomini and Janssen (2012), cultural values help to shape societal gender roles and stereotypes in terms of occupations which are considered appropriate for men or women. These cultural values, when internalized as personal perception, become part of the persons, and therefore influence their judgment and choice Conradie (2013). Cultures which view women as a domestic appendages and housekeepers stymie female entrepreneurial aspiration. Consequently, in almost all societies, women tend to do much of the household and care work while men do more paid work (Robeyns, 2008). In USA, for example, it has been shown that there is a significant gender disparity in entrepreneurial interest, with girls less likely than boys to be interested in entrepreneurship (Wilson et al., 2004). In the same way, Marlino and Wilson (2003) revealed strong evidence showing that generally girls rate themselves lower than do boys in entrepreneurial skills.

Figure 7: Gender of Respondents

Source: Field Survey, 2016

5.2.1.3. Age
With regards to the age of respondents, 17 (42.5%) fell between the 21-25 age bracket and 12 (30%) respondents fell between the 31-35 bracket, while 8 (20%), 2 (5%) and 1 (2.5%) fall into the 26-30, above 40, and 15-20 age brackets respectively. From this analysis, it is clearly evident
that most of the respondents were either in their early twenties or early thirties, and only one respondent was below 20 years of age. Thus, it can be argued that iDEA tenants mostly fall between the Nigeria youth bracket (18-35) as defined by the Nigerian National Youth Policy (2009). Suffice it to say that the youth population is mostly affected by the high unemployment rate in Nigeria (Omoh, 2015; Salami, 2013). Figure 8 below indicates the respondents’ ages.

**Figure 8: Age of Respondents**

Source: Field Survey, 2016

**5.2.1.4. Highest Educational Qualification**

As indicated in Figure 9, 28 respondents (70%) have only a first degree while 9 (22.5%) went on to further their postgraduate studies. Only 3 respondents (7.5%) have a diploma. It is clear that all the respondents have adequate formal education since none of them has less than a diploma. Education is a crucial factor in determining one’s success in entrepreneurship. Robinson and Sexton (1994) found that there is a positive relationship between the number of years of formal education and the probability of becoming self-employed. The study also revealed that self-employed people have more years of formal education than wage workers. Furthermore, Dickson, Solomon and Weaver (2008) assert that education benefits the entrepreneur’s performance by enhancing business survival, firm growth, or the firm’s return on investment.
Robeyns, (2000) noted that personal characteristics (like mental condition, learning and reading skills, etc.) affect how a person is able to convert the characteristics of a commodity into a functioning. Education is one major means of enhancing one’s mental capability and increasing productivity. Consequently, an entrepreneur’s level of education can serve as a conversion factor by affecting his/her ability to convert the resources provided by iDEA (like ideas, technology and finance) into the functioning of being a digital entrepreneur.

**Figure 9: Highest Educational Qualification of Respondents**

![Educational Qualification of Respondents](http://etd.uwc.ac.za/)

Source: Field Survey, 2016

**5.2.1.5. Already Established Businesses**

While 57.5% of the respondents have already established their business ventures, 25.00% are yet to establish theirs. Also, 17.50% did not respond to the item. Thus, most of the respondents already have an existing business while others are preparing to launch theirs. However, one ought to be wary of using a number of established ventures as the only yardstick for measuring incubator successes. Voisey et al. (2006) distinguished between soft and hard measures in assessing business incubators. While soft measures include benefits such as increased business knowledge and skills, increased client networking and more business awareness, hard measures include benefits like number of business ventures, profitability and sales turnover (Voisey, 2006). These soft measures help in assessing ‘intermediary entrepreneurial functionings’ which are required for starting and successfully running a business ventures. They are intermediary in the sense that they are on the
path towards the functioning of being an entrepreneur. The main focus of this study is how iDEA programmes improve these soft measures which are the capabilities needed for achieving entrepreneurial functioning (business establishment).

**Figure 10: Established Business Ventures**

<table>
<thead>
<tr>
<th>Percentage of Established Businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>57.50%</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

**5.2.2 Programme Characteristics**

**5.2.2.1 Incubation Duration**

Figure 11 indicates how long the respondents have been with the iDEA programmes. While 12 respondents (30.00%) have only been in iDEA for three months or less, 11 (27.50%) have been there for more than one year. Moreover, 8 (20.00%), 4 (12.50%) and 5 (10.00%), have spent 4-6 months, 7-9 months and 10-12 months respectively. Thus, 50% of the respondents had not been with iDEA for more than six months.
5.2.2.2 Programme Involvement

This section deals with the particular iDEA programme in which the various entrepreneurs are currently enrolled. Out of the 40 respondents, 29 (72.50%) were solely involved with the Incubator Programme, and 5 (12.50%) with the Accelerator Programme. However, only 4 (10.00%) graduated from the Incubator Programme into the Accelerator Programme while 2 (5.00%) of the respondents did not indicate their programme. It is important to mention, at this juncture, that although iDEA Nigeria accepts tenants directly into both programmes, they are currently working out a modality for ensuring that most of their Accelerator entrepreneurs come directly from the Incubation Programme. Figure 12 indicates the various programmes which the respondents are involved with.
Functionings are the various beings and doings which people value and have reasons to value (Alkire, 2008). In light of Sen’s capability approach, digital entrepreneurship can be regarded as a functioning only if the entrepreneur has reason(s) to value it. ‘Being’ a digital entrepreneur involves a form of ‘doing’ that people value. This value may stem from the need to make a difference in society by providing employment for others. It can also be based on the monetary gains, social recognition and other benefits accruable from entrepreneurship. In order to assess digital entrepreneurship as a functioning among iDEA entrepreneurs, the respondents were asked to identify their motivation(s) for engagement in digital entrepreneurship according to a list of motivations from which they could select more than one option. Out of the 40 respondents, 39 responded to the item, meaning that one respondent made no selection. Twenty nine of them selected ‘spotted a market gap’ as their motivation while 26 respondents identified ‘turn my business idea into reality’ as their motivation. ‘Earn more money’, ‘lack of other employment opportunities’ and ‘other reasons’ were selected by 15, 1, 10 respectively, while none (0) identified ‘pressure from family/friends’ as their entrepreneurial motivation. Thus, the majority of the
respondents cited ‘spotted a market gap’ (74.4%) and ‘turn my business idea into reality’ (66.7%) as their motivation.

According to Dawson and Henley (2012), entrepreneurs may be pushed towards self-employment as a result of negative external forces, such as a layoff from work and subsequent lack of available paid employment. On the other hand, entrepreneurial motivation may stem from pull factors, like when an individual perceives an opportunity or desires to turn his/her idea into reality (Hakim, 1989). Thus, a distinction can be made between push (necessity) entrepreneurs and pull (opportunity-based) entrepreneurs (Dawson & Henley, 2012). However, it should be noted that entrepreneurial motivation can affect the financial profitability of a venture. According to Amit and Muller (1995), entrepreneurs with push motivations have been found to be less financially successful than pull entrepreneurs (Amit & Muller, 1995). Nonetheless, based on the findings of this study, it is clear that many of the respondents can be considered pull entrepreneurs or opportunity-based entrepreneurs rather than necessity entrepreneurs.

Table 3: Entrepreneurial Motivation of Respondents (part 1)

<table>
<thead>
<tr>
<th>Entrepreneurial Motivation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spotted a market gap</td>
<td>29</td>
<td>74.4</td>
</tr>
<tr>
<td>Want to earn more money</td>
<td>15</td>
<td>38.5</td>
</tr>
<tr>
<td>Want to turn my business idea into reality</td>
<td>26</td>
<td>66.7</td>
</tr>
<tr>
<td>Lack of other employment opportunities</td>
<td>1</td>
<td>2.6</td>
</tr>
<tr>
<td>Pressure from family and friends</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other reasons</td>
<td>10</td>
<td>25.6</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016

Furthermore, it could be deduced that many of the respondents have non-pecuniary motivation for entrepreneurial engagement. Only 15 respondents (38.5%) cited pecuniary value (more money) as the reason for their involvement in digital entrepreneurship. This non-pecuniary entrepreneurial motivation is corroborated by the fact that only 12.82% of the respondents agreed that if offered a well paid job they would no longer want to be entrepreneurs (see figure 13).
Figure 13: Entrepreneurial Motivations of Respondents (part 2)

Source: Field Survey, 2016

Nevertheless, in light of the capability approach, entrepreneurship loses its place as a valued functioning in a situation where people are compelled into business, against their wishes due to certain factors beyond their control. As noted by Gries and Naudé (2011), being an entrepreneur cannot be regarded as a functioning in a situation where people are forced by certain circumstances into entrepreneurship in which case they lose their agency. Since only 2.6% and 0.0% of the respondents cited lack of employment opportunities and external pressures respectively as their entrepreneurial motivation, it can be argued that digital entrepreneurship is a valued functioning for almost all of the iDEA tenants.

5.2.4 iDEA Programmes and Entrepreneurial Capabilities of Participants

The main objective of this research is to assess the contribution of iDEA programmes towards enhancing the entrepreneurial capabilities of its tenants. In achieving this objective, questions were asked to obtain the respondents’ view on the extent to which iDEA programmes have positively affected their entrepreneurial capability variables. Their responses, measured on a Likert scale from strongly disagree to strongly agree, were captured and analysed statistically. Values were assigned to the responses from 1 to 5 in the following format: strongly disagree (SD)=1, disagree (DA)=2, neutral (NT)=3, agree (AG)=4, and strongly agree (SA)=5. Moreover, Cronbach's alpha, which is a measure of internal consistency, was used to estimate reliability of the items. Cronbach
Alpha values of 0.7 and above are considered acceptable (George & Mallery, 2003; Santos, 1999), offering assurance that items can be relied upon. As indicated in Table 4, the Cronbach Alpha value obtained was 0.929 which is high above the acceptable level of 0.7. Although, the table (derived from SPSS output) also indicates the mean and the standard deviation of the capabilities variables, the researcher decided to undertake a manual calculation of the mean and mean deviation under Capability Enhancement Perception Index (CEPI) section. This would help to clearly indicate the frequencies of each of the responses as well as the steps taken in arriving at the CEPI.

**Table 4: Cronbach’s Alpha Reliability Testing**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Contribution of iDEA towards Enhancing Entrepreneurial Capabilities Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Entrepreneurial mindset</td>
<td>4.25</td>
<td>0.707</td>
</tr>
<tr>
<td>2</td>
<td>Entrepreneurial motivation</td>
<td>4.1</td>
<td>0.982</td>
</tr>
<tr>
<td>3</td>
<td>Awareness of the market for your products/services</td>
<td>4.03</td>
<td>0.832</td>
</tr>
<tr>
<td>4</td>
<td>Ability to identify business opportunities</td>
<td>3.8</td>
<td>0.853</td>
</tr>
<tr>
<td>5</td>
<td>Creativity and innovation</td>
<td>3.53</td>
<td>0.905</td>
</tr>
<tr>
<td>6</td>
<td>Ability to acquire new customers</td>
<td>3.65</td>
<td>0.921</td>
</tr>
<tr>
<td>7</td>
<td>Ability to develop business solutions and create new products</td>
<td>3.7</td>
<td>0.966</td>
</tr>
<tr>
<td>8</td>
<td>Negotiation skills</td>
<td>3.35</td>
<td>0.77</td>
</tr>
<tr>
<td>9</td>
<td>Risk-taking knowledge and skills</td>
<td>3.48</td>
<td>0.784</td>
</tr>
<tr>
<td>10</td>
<td>Business management knowledge and skills</td>
<td>3.63</td>
<td>0.774</td>
</tr>
<tr>
<td>11</td>
<td>Technical knowledge and skills</td>
<td>3.53</td>
<td>1.037</td>
</tr>
<tr>
<td>12</td>
<td>Access to conducive office space for your business activities</td>
<td>4.45</td>
<td>0.677</td>
</tr>
<tr>
<td>13</td>
<td>Access to reliable power supply for your business activities</td>
<td>4.63</td>
<td>0.628</td>
</tr>
<tr>
<td>14</td>
<td>Access to high-speed reliable internet for your business activities</td>
<td>4.58</td>
<td>0.636</td>
</tr>
<tr>
<td>15</td>
<td>Improved access to funding opportunities for your business</td>
<td>3.53</td>
<td>0.933</td>
</tr>
<tr>
<td>16</td>
<td>Improved access to networking opportunities with other budding entrepreneurs</td>
<td>4.33</td>
<td>0.656</td>
</tr>
<tr>
<td>17</td>
<td>Improved access to networking opportunities with established and successful entrepreneurs</td>
<td>4.18</td>
<td>0.747</td>
</tr>
<tr>
<td>18</td>
<td>Improved access to entrepreneurial training and educational opportunities</td>
<td>4.03</td>
<td>0.862</td>
</tr>
<tr>
<td>19</td>
<td>Improved access to customers/clients for your products/services</td>
<td>3.4</td>
<td>0.928</td>
</tr>
<tr>
<td>20</td>
<td>Credibility of your business/products/services when dealing with potential customers/clients</td>
<td>3.7</td>
<td>0.823</td>
</tr>
</tbody>
</table>

_Cronbach’s Alpha = 0.929, No of items = 20, Valid cases = 40(100.0%), Excluded cases = 0, Total = 40_  
_Scale: 1(strongly disagree); 2(disagree); 3(neutral); 4(agree); 5(strongly agree)_

Source: Field Survey, 2016
5.2.4.1 Capabilities Enhancement Perception Index (CEPI)
The procedure for the computation of the sum of the total weight value (SWV), Capabilities Enhancement Perception Index (CEPI) and the Mean Capabilities Enhancement Perception Index (\(\overline{CEPI}\)), is well explained in chapter 4. The CEPI for each variable takes the value of between 1 and 5 and the closer the CEPI of a variable is to five, the higher the level of capability enhancement of the respondents by the iDEA programmes.

Table 5: Calculation of the Capability Enhancement Perception Index

<table>
<thead>
<tr>
<th>S/N</th>
<th>Entrepreneurial Capabilities Measures</th>
<th>Rating and Weight Value</th>
<th>Rating and Weight Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SD</td>
<td>D</td>
</tr>
<tr>
<td>1</td>
<td>Entrepreneurial mindset</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Entrepreneurial motivation</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Awareness of the market for your products/services</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Ability to identify business opportunities</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Creativity and innovation</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Ability to acquire new customers</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Ability to develop business solutions and create new products</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Negotiation skills</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Risk-taking knowledge and skills</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Business management knowledge and skills</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Technical knowledge and skills</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>Access to conducive office space for your business activities</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>13</td>
<td>Access to reliable power supply for your business activities</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14</td>
<td>Access to high-speed reliable internet for your business activities</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>15</td>
<td>Improved access to funding opportunities for your business</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>Improved access to networking opportunities with other budding entrepreneurs</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Improved access to networking opportunities with established and successful entrepreneurs

17 improved access to networking Opportunities with established and successful entrepreneurs - - 8 17 15 167 4.18 0.28

Improved access to entrepreneurial training and educational opportunities

18 improved access to entrepreneurial training and educational opportunities 1 - 8 19 12 161 4.03 0.13

Improved access to customers/clients for your products/services

19 improved access to customers/clients for your products/services 1 5 15 15 4 136 3.40 -0.5

Credibility of business/products/services your potential customers/clients

20 credibility of business/products/services your potential customers/clients 1 1 12 21 5 148 3.70 -0.2

Total CEPI = 77.90, \( \overline{CEPI} = 3.895 \) (3.90 Approximated)

Source: Field Survey, 2016

The average CEPI, denoted as \( \overline{CEPI} \), is approximately 3.90, representing the aggregate level of respondents’ perception of the extent to which iDEA programmes have enhanced their entrepreneurial capabilities. From the above analysis, it is clearly evident that the capabilities enhancement perception is above ‘neutral’ (rated “3” on the Likert’s scale). Therefore, taking 3.0 to be the average rating (calculated as \((1+2+3+4+5)/5\)), it can be concluded that the beneficiaries perceived that iDEA programmes have enhanced their entrepreneurial capabilities.

Furthermore, looking at the mean deviation (CEPI - \( \overline{CEPI} \)), it can be observed that 11 of the variables have a negative deviation about \( \overline{CEPI} \) while nine variables have a positive deviation about \( \overline{CEPI} \). Also while access to power supply (0.75) and reliable internet (0.68) have the highest positive deviations, negotiation skills (-0.55) and access to customers/clients (-0.5) have the highest negative deviation. It can therefore be concluded that the participants in iDEA programmes mostly benefited in the areas of access to reliable electrical power and internet while the contributions of iDEA programmes to the participants’ negotiation skills and access to customers/clients were limited.

5.2.4.2 Non-Parametric Analysis (Frequency and median of Responses)

It should be noted that there is a debate surrounding whether Likert scale items can be subjected to parametric analysis (e.g. analysis of mean values as done above). While some scholars (e.g: Glass, Peckham & Sanders, 1972; Lubke & Muthen, 2004; Singletary, Emm & Hill, 2011) argued that in certain situations, parametric tests can be used on Likert scale items, others (e.g: Jamieson,
2004), argued that applying numerical operations to the Likert scale is not valid since there is no equal interval between the scales. As a result of this debate, the researcher decided to corroborate the findings by also subjecting the data to non-parametric statistical analysis.

As evident in Table 6, the non-parametric test correlates with the parametric test undertaken initially. The majority of the respondents agree, though in varying degrees, that iDEA programmes have contributed to enhancing their entrepreneurial capabilities. Moreover, the table shows that iDEA has the most effect on the respondents’ access to power and high speed internet (92.5% agreement for both). This is followed by access to the entrepreneurial mindset, and access to networking with other budding entrepreneurs, all of which have 90.0% of the respondents in agreement. iDEA programmes have the least effect on the respondents’ negotiation skills and improved access to customer/clients (40.0% and 47.5% respectively). These findings adequately corroborate the outcome of the CEPI analysis. Furthermore, the proportion of the participants that chose ‘disagree’ were very few for all the measures, with technical skills (17.5%) being the highest. Unsurprisingly, the variables with the highest agreement percentage also have 0.0% disagreement percentage, thus giving credence to the validity of these findings.

**Table 6: Analysis of Contribution of iDEA towards Enhancing Entrepreneurial Capabilities Variables**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Entrepreneurial Capabilities Measure</th>
<th>DA (%)</th>
<th>NT (%)</th>
<th>AG (%)</th>
<th>Median</th>
<th>Sig</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Entrepreneurial mindset</td>
<td>2.5</td>
<td>7.5</td>
<td>90.0</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Entrepreneurial motivation</td>
<td>5.0</td>
<td>12.5</td>
<td>82.5</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Awareness of the market for your products/services</td>
<td>2.5</td>
<td>17.5</td>
<td>80.0</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Ability to identify business opportunities</td>
<td>5.0</td>
<td>25.5</td>
<td>70.0</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Creativity and innovation</td>
<td>10</td>
<td>37.5</td>
<td>52.5</td>
<td>Agree</td>
<td>0.04</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>Ability to acquire new customers</td>
<td>10</td>
<td>27.5</td>
<td>62.5</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>Ability to develop business solutions and create new products</td>
<td>7.5</td>
<td>27.5</td>
<td>65.0</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>Negotiation skills</td>
<td>7.5</td>
<td>52.5</td>
<td>40.0</td>
<td>Neutral</td>
<td>0.02</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>Risk-taking knowledge and skills</td>
<td>7.5</td>
<td>40.0</td>
<td>52.5</td>
<td>Agree</td>
<td>0.02</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>Business management knowledge and skills</td>
<td>5.0</td>
<td>32.5</td>
<td>62.5</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>11</td>
<td>Technical knowledge and skills</td>
<td>17.5</td>
<td>20.0</td>
<td>62.5</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>12</td>
<td>Access to conducive office space for your business activities</td>
<td>0.0</td>
<td>10.0</td>
<td>90.0</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
<tr>
<td>13</td>
<td>Access to reliable power supply for your business activities</td>
<td>0.0</td>
<td>7.5</td>
<td>92.5</td>
<td>Agree</td>
<td>0.00</td>
<td>40</td>
</tr>
</tbody>
</table>
Access to high-speed reliable internet for your business activities | 0.0 | 7.5 | 92.5 | Agree | 0.00 | 40

Improved access to funding opportunities for your business | 15.0 | 32.5 | 52.5 | Agree | 0.015 | 40

Improved access to networking opportunities with other budding entrepreneurs | 0.0 | 10.0 | 90.0 | Agree | 0.00 | 40

Improved access to networking opportunities with established entrepreneurs | 0.0 | 20.0 | 80.0 | Agree | 0.00 | 40

Improved access to entrepreneurial training and educational opportunities | 2.5 | 20.0 | 77.5 | Agree | 0.00 | 40

Improved access to customers/clients for your products/services | 15.0 | 37.5 | 47.5 | Agree | 0.036 | 40

Credibility of your business/products/services | 5.0 | 30.0 | 65.0 | Agree | 0.00 | 40

Source: Field Survey, 2016

Furthermore, a One Sample Chi Square analysis was conducted so as to prove that the observation made was not by chance. According to Berg (2014), one sample chi-square test is used to test if a single categorical variable follows a hypothesized population distribution. It is used when undertaking hypothesis testing of a discrete outcome variable in a single population. It helps to ascertain that the observation made was not by chance and that the participants’ choice could not have been due to happenstance. In this case, iDEA tenants make up the single population, since the survey was only administered to iDEA tenants. The test was carried out at a significant level of 0.05 and confidence interval of 95.0%. It is evident (also from Table 6), that the P values for each of the measures are less than the test’s level of significance (0.05). Hence, the null hypothesis is rejected, so it can thus be concluded that iDEA programmes enhance the entrepreneurial capabilities of participants. Looking at the individual variables, the only exception will be the negotiation skills variable in which more respondents were indecisive (52.5% chose neutral while 40% chose agree). However, considering the composite measures of variables (CEPI), it can be concluded that iDEA programmes enhance the entrepreneurial capabilities of their participants. The programmes achieve this by equipping the participants with requisite skills, knowledge, attitudes and resources for a successful entrepreneurial journey. These skills, knowledge, attitudes and resources are encapsulated in the set of 20 capabilities selected for this study.
5.2.5 Assessing the Degree of Importance of Various Capabilities

The respondents responded to questions assessing the degree of importance of the various capabilities to their digital entrepreneurial functioning. The responses were in Likert scale-type form: extremely unimportant (EU), unimportant (UI), somewhat important (SI), important (IP) and extremely important (EI). Cronbach's alpha, which is a measure of internal consistency, was used to estimate the reliability of all the items. Cronbach Alpha values of 0.7 and above are considered acceptable (George & Mallery, 2003; Santos, 1999), offering assurance that items can be relied upon. As indicated in Table 7, the Cronbach Alpha value obtained was 0.910 which is high above the acceptable level of 0.7.

Table 7: Degree of Importance of Various Entrepreneurial Capabilities (part 1)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Importance of Entrepreneurial Capabilities Variables</th>
<th>Mean</th>
<th>Std. D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Access to mentoring and coaching opportunities</td>
<td>4.46</td>
<td>0.65</td>
</tr>
<tr>
<td>2</td>
<td>Access to networking opportunities with other budding entrepreneurs</td>
<td>4.46</td>
<td>0.65</td>
</tr>
<tr>
<td>3</td>
<td>Access to networking opportunities with established entrepreneurs</td>
<td>4.49</td>
<td>0.692</td>
</tr>
<tr>
<td>4</td>
<td>Access to reliable power supply</td>
<td>4.76</td>
<td>0.76</td>
</tr>
<tr>
<td>5</td>
<td>Access to conducive office space</td>
<td>4.41</td>
<td>0.865</td>
</tr>
<tr>
<td>6</td>
<td>Access to reliable high-speed</td>
<td>4.7</td>
<td>0.939</td>
</tr>
<tr>
<td>7</td>
<td>Adequate awareness of the market</td>
<td>4.62</td>
<td>0.758</td>
</tr>
<tr>
<td>8</td>
<td>IT knowledge/skills</td>
<td>4.11</td>
<td>0.843</td>
</tr>
<tr>
<td>9</td>
<td>Entrepreneurial motivation</td>
<td>4.51</td>
<td>0.804</td>
</tr>
<tr>
<td>10</td>
<td>Creativity/innovation</td>
<td>4.46</td>
<td>0.767</td>
</tr>
<tr>
<td>11</td>
<td>Business management knowledge/skills</td>
<td>4.46</td>
<td>0.836</td>
</tr>
<tr>
<td>12</td>
<td>Product development knowledge/skills</td>
<td>4.24</td>
<td>0.83</td>
</tr>
<tr>
<td>13</td>
<td>Risk-taking ability</td>
<td>4.14</td>
<td>0.855</td>
</tr>
<tr>
<td>14</td>
<td>Negotiation skills</td>
<td>4.27</td>
<td>0.804</td>
</tr>
<tr>
<td>15</td>
<td>Access to new customers</td>
<td>4.57</td>
<td>0.801</td>
</tr>
<tr>
<td>16</td>
<td>Ability to identify opportunities</td>
<td>4.57</td>
<td>0.801</td>
</tr>
<tr>
<td>17</td>
<td>Access to funding opportunities</td>
<td>4.41</td>
<td>0.725</td>
</tr>
</tbody>
</table>

Cronbach’s Alpha = 0.910, No of items = 17; Valid cases = 37(92.5%), Excluded cases = 3, Total = 40; Scale:1(extremely unimportant); 2(unimportant); 3(somewhat important); 4(important); 5(extremely important)

Source: Field Survey, 2016
Descriptive statistics (percentage of frequency) was carried out as indicated in Table 8. 87.5% of the respondents considered high-speed internet extremely important while 85% considered reliable power supply extremely important. Only 35% considered risk-taking ability extremely important. Juxtaposing this finding with the earlier finding that iDEA programmes mostly affect participants’ access to reliable power and internet; it can be argued that iDEA is contributing significantly to the enhancement of critical entrepreneurial capabilities aspects (power and internet). Despite the indispensability of these resources, Nigeria still experiences an erratic electrical power supply and weak internet infrastructure. Thus iDEA incubators helps in dealing with these crucial environmental conversion factors (power and internet), which will enable the participants to achieve entrepreneurial functionings.

Table 8: Degree of Importance of Various Entrepreneurial Capabilities (part 2)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Importance of Various Entrepreneurial Capabilities</th>
<th>EU (%)</th>
<th>UI (%)</th>
<th>SI (%)</th>
<th>IP (%)</th>
<th>EI (%)</th>
<th>Missing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Access to mentoring and coaching opportunities</td>
<td>0.0</td>
<td>0.0</td>
<td>10.0</td>
<td>37.5</td>
<td>50.0</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Access to networking opportunities with other budding entrepreneurs</td>
<td>0.0</td>
<td>0.0</td>
<td>7.5</td>
<td>37.5</td>
<td>50.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Access to networking opportunities with established entrepreneurs</td>
<td>0.0</td>
<td>0.0</td>
<td>10.0</td>
<td>30.0</td>
<td>55.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Access to reliable power supply</td>
<td>0.0</td>
<td>0.0</td>
<td>2.5</td>
<td>7.5</td>
<td>85.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Access to conducive office space</td>
<td>0.0</td>
<td>0.0</td>
<td>7.5</td>
<td>30.0</td>
<td>57.5</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>Access to reliable high-speed Internet</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>7.5</td>
<td>87.5</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>Adequate awareness of the market</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>25.0</td>
<td>70.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>IT knowledge/skills</td>
<td>0.0</td>
<td>0.0</td>
<td>12.5</td>
<td>47.5</td>
<td>35.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>Entrepreneurial motivation</td>
<td>0.0</td>
<td>0.0</td>
<td>2.5</td>
<td>30.0</td>
<td>62.5</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>Creativity/innovation</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>40.0</td>
<td>55.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>11</td>
<td>Business management knowledge/skills</td>
<td>0.0</td>
<td>0.0</td>
<td>5.0</td>
<td>30.0</td>
<td>60.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>12</td>
<td>Product development knowledge/skills</td>
<td>2.5</td>
<td>0.0</td>
<td>7.5</td>
<td>45.0</td>
<td>40.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>13</td>
<td>Risk-taking ability</td>
<td>0.0</td>
<td>0.0</td>
<td>12.5</td>
<td>45.0</td>
<td>35.0</td>
<td>3</td>
<td>40</td>
</tr>
</tbody>
</table>
Source: Field Survey, 2016

To further streamline the analysis, the five response categories (extremely unimportant, unimportant, somewhat important, important, and extremely important), were combined into three categories (unimportant, somewhat important, and important). The result (Table 9) reveals that market awareness (92.5%), creativity/innovation (92.5%), power supply (90.0%), high speed internet (90.0%), entrepreneurial motivation (90.0%), access to new customer (90.0%), and ability to identify opportunities (90.0%), were considered important by the highest number of respondents. Worthy of note is the fact that innovation/creativity is considered important by 92.0% of the respondents although, as observed in the previous analysis, only 52.5% agreed that iDEA programmes have contributed to enhancing their capability in that domain.

### Table 9: Degree of Importance of Various Entrepreneurial Capabilities (part 3)

<table>
<thead>
<tr>
<th>S/N</th>
<th>Importance of Various Entrepreneurial Capabilities</th>
<th>Unimportant (%)</th>
<th>Somewhat Important (%)</th>
<th>Important (%)</th>
<th>Missing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Access to mentoring and coaching opportunities</td>
<td>0.0</td>
<td>10.0</td>
<td>87.5</td>
<td>1</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Access to networking opportunities with other budding entrepreneurs</td>
<td>0.0</td>
<td>7.5</td>
<td>87.5</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Access to networking opportunities with established entrepreneurs</td>
<td>0.0</td>
<td>10.0</td>
<td>85.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Access to reliable power supply</td>
<td>2.5</td>
<td>2.5</td>
<td>90.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Access to conducive office space</td>
<td>2.5</td>
<td>7.5</td>
<td>85.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>Access to reliable high-speed</td>
<td>0.0</td>
<td>5.0</td>
<td>90.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>Adequate awareness of the market</td>
<td>0.0</td>
<td>2.5</td>
<td>92.5</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>IT knowledge/skills</td>
<td>2.5</td>
<td>12.5</td>
<td>80.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>Entrepreneurial motivation</td>
<td>2.5</td>
<td>2.5</td>
<td>90.0</td>
<td>2</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>Creativity/innovation</td>
<td>0.0</td>
<td>2.5</td>
<td>92.5</td>
<td>2</td>
<td>40</td>
</tr>
</tbody>
</table>
11 Business management knowledge/skills 2.5 5.0 87.5 2 40
12 Product development knowledge/skills 2.5 7.5 85.0 2 40
13 Risk-taking ability 2.5 12.5 77.5 3 40
14 Negotiation skills 2.5 5.0 87.5 2 40
15 Access to new customers 2.5 2.5 90.0 2 40
16 Ability to identify opportunities 2.5 2.5 90.0 3 40
17 Access to funding opportunities 0.0 12.5 82.5 3 40

Source: Field Survey, 2016

5.2.6 Functionings Derivable from the Functioning of Entrepreneurship

Participants were also asked to identify ways in which the income from their entrepreneurial activities contributes to lives. Their responses, as indicated in Table 10, revealed that 42.9% of the respondents agreed that their business income helps in the provision of shelter and basic family needs while 35.7% agreed that income from their businesses serves towards saving purposes. However, no respondents selected the provision of land option. This is an interesting finding considering the fact that acquisition of land and landed property is emphasised in Nigerian culture. However, it can be agreed that business income helps idea entrepreneurs in achieving certain valuable functionings like family provision and being able to save.

Table 10: Functionings Derivable from the Functioning of Entrepreneurship

<table>
<thead>
<tr>
<th>Functionings Derivable from Entrepreneurship Earnings</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support educational needs of children/siblings</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>Provision of shelter and basic needs of family</td>
<td>12</td>
<td>42.9</td>
</tr>
<tr>
<td>Provision of land</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Provision of Transport means</td>
<td>8</td>
<td>28.6</td>
</tr>
<tr>
<td>Own educational support</td>
<td>3</td>
<td>10.7</td>
</tr>
<tr>
<td>Savings</td>
<td>10</td>
<td>35.7</td>
</tr>
<tr>
<td>Contributions to social programmes (e.g. church etc)</td>
<td>6</td>
<td>21.4</td>
</tr>
<tr>
<td>Others</td>
<td>7</td>
<td>25.0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016
5.3 Qualitative Analysis

According to Blackstock et al. (2007), qualitative methodology allows for a detailed study of phenomena and thereby helps to provide a deep understanding of the issues at hand. This is supported by Yin (2011) who asserts that the approach allows for the conduct of in-depth studies on an extensive array of topics in plain language. Therefore an important feature of qualitative research is its ability to provide an in-depth analysis of phenomena.

In this section of the study, the qualitative research methodology will be used to provide a deeper understanding of the research question. For the data collection, a purposive sampling method was engaged in selecting 10 interviewees comprising 3 iDEA staff and seven beneficiaries of the iDEA programme. Thus, unlike the previous section which focused only on the beneficiaries, this section attempts to examine the views of both iDEA staff and beneficiaries of iDEA programmes as a way of eliciting multiple perspectives and richer information on how iDEA programmes enhance the capabilities of its participants. After the data collection, the semi-structured interviews were transcribed and analysed using thematic content analysis, the results of which are presented below.

5.3.1 Examining iDEA Programmes and Digital Entrepreneurial Capabilities Expansion

This research endeavour centres on capabilities for digital entrepreneurship. The capability approach provides a framework for examining opportunities people have to make choices to live a life which they value (Robeyns, 2005; Sen, 1999). Using the capability approach therefore, this study examines the real opportunities which iDEA tenants (entrepreneurs) have in order to live their valued life of entrepreneurship. Firstly, this study acknowledges the existence of a variety of issues (conversion factors) which affects one’s journey towards entrepreneurial functioning. The identification and optimization of these multifarious factors can therefore be considered an effective and comprehensive approach to creating an enabling environment in which each entrepreneur can thrive and fulfil his/her aspirations. Since this study focuses on the enhancement of these capabilities for success in digital entrepreneurship, it was necessary to elicit responses from the entrepreneurs and iDEA staff on the ways in which iDEA programmes affect tenants’ capabilities. The respondents were asked to reflect on the perceived contribution of iDEA programmes towards enhancing their opportunities for success in digital entrepreneurship. There was a consensus among the respondents that iDEA programmes have enhanced their capabilities in the manner outlined below.
Firstly, iDEA provides office space for the aspiring and emerging entrepreneurs to carry out their business activities. The centre does not only provide a conducive physical space with basic amenities (e.g. electrical power supply) but it also provides access to high speed internet. As one of the participants explained:

*iDEA being so kind, they provide office arrangement, power, water is provided, there is security, internet...if you have to source for those things on your own, you may not be able to afford them as a start-up...in Nigeria basic infrastructure is non-existent...for a digital entrepreneur, the most important things are office space, internet and power, and in that regard, iDEA has provided the three basic things needed (P5: iDEA tenant).*

Another respondent explained:

*iDEA provides infrastructural support...power is no longer an issue when you come to iDEA because for the entire day, I will have power... in my house, even when you have money to buy fuel (petrol) for generator, you may not find fuel...but when you come to iDEA, there will be light (electricity), that gives you a little bit of balance to work...you have stable reliable internet...these two major issues are cut out of lines of worries (P7: iDEA tenant).*

It is clearly evident that despite the fact that office space, electrical power and internet are indispensable resources for any digital entrepreneurs, the Nigerian entrepreneurial environment suffers severely from the lack of these basic amenities. The deficiency of these environmental conversion factors can impede the translation of entrepreneurial desire, skills and knowledge into the functioning of running a successful tech business. These quotes are not only indicative of the indispensability of these resources but also give credence to the fact that iDEA enhances access to them, and as such is in tandem with the findings in section 5.2.

However, the offices provided by iDEA do not only serve as a working space for the tenants, but they also serve as a stamp of authenticity and credibility for the emerging entrepreneurs who use iDEA as their official business address. As noted by one of the respondents:
...all my cards and marketing materials have iDEA hub as address...Nigerians will not want to do business with you if they can’t see any legit (legitimate) address...

(P6: iDEA tenant).

Furthermore, it was also noted that a significant proportion of iDEA’s annual budget is spent on providing these basic resources, and this shows that the iDEA management understands the crucial role they play in the lives of the entrepreneurs.

...It is money-intensive to run it...we burn through about 70 million Naira a year.
And about 40% of that goes to rent and bandwidth (internet). We do about 30 million Naira for bandwidth and rent of this place. (P1: iDEA staff).

In spite of the huge cost of these resources, iDEA makes it accessible to the entrepreneurs at a very subsidized rate which is charged in the form of an entry fee. As one of the participants narrated:

...and what you pay (at iDEA) is a very little amount compared to what you will spend on your own...you have everything that you want...there is office space, there is internet, and there is light (electricity). And we all know that light is a major thing because outside there, you have to run on gen (generator) and that is very expensive (P8: iDEA tenant).

Considering that Nigeria suffers massively from an infrastructural deficiency (Adenikinju, 2005), it is not surprising that the respondents attached great significance to these resources provided by iDEA. Part of the capability approach’s aim is to emphasize contextual differences since they have a significant effect on a person’s opportunity to achieve valuable functionings. For example, having a reliable electricity supply may be a non-issue for a start-up located in New York City, but for a business in Lagos, it is a big challenge.

Secondly, the iDEA environment enhances networking among budding entrepreneurs in a mutually beneficial manner. By bringing together in one place, a pool of varying talents, knowledge and abilities, iDEA enhances skills complementation among its tenants. As one of the respondents recounted:

P5) ...it gives you access to an exclusive group of talents...we have start-ups here that are very exceptional in one thing or the other...programming, graphic design,
so you can say I need help with this...they might not charge you, they may charge you very little compared to what you get outside... so you have access to the best talents here...also they are encouraging you...giving you something to look up to, giving you reasons to work harder...it’s like a family here (P5: iDEA tenant).

From this account it is clear that the iDEA environment encourages various forms of symbiotic relationships and beneficiation among its tenants. In this way, they are able to both complement and motivate each other towards their entrepreneurial goals. This enhanced access to networking opportunities with other emerging entrepreneurs is well aligned with the finding of section 5.2.

Thirdly, iDEA provides training to the entrepreneurs as a way of equipping them with requisite skills and knowledge for developing digital products and services. As recounted by one of the iDEA staff:

...we run our tech training here. And we have tech clinic to check the quality of the product. Everything starts with product. If you have a good entrepreneur and bad product, it doesn’t really help you...(P1: iDEA staff).

However, some of the respondents were of the view that iDEA programmes did not have much direct impact on their technical skills, thus corroborating the finding in section 5.2 that the effects of iDEA programmes on the IT skills of participants is roughly average. Nevertheless, by providing a space where people of varying skills and talents work together, tenants are able to learn from one another. This indirect contribution via networking is encapsulated in the accounts of the two respondents below:

...in terms of technical knowledge no...I have not learnt any additional technical skills from iDEA...but there is one thing, challenge, you know when you are in the midst of other people that are doing similar thing as you, you are challenged to do more, and then you can have one or two discussion with other entrepreneurs...spark you up to do something that you might not even have thought about if you were outside the programme...two is better than one anyway... and then bringing ten in one place...they tend to mingle and share ideas and they build an empire that would not have built outside (P4: iDEA tenant).
ideA can help with imparting knowledge...even if not directly through ideA but by interacting with fellow start-ups, you hear what they are doing, you see what they are doing, you see how they are solving their own problems, and you know that you can borrow one or two ideas from them, and incorporate one or two strategies they have done, and it helps you to minimise your risks and your losses (P9: ideA tenant).

Fifthly, beyond enhancing networking among budding entrepreneurs, ideA also links their tenants with established external entrepreneurs through their mentoring programmes and special events. The benefits of such network expansion, inter alia, include access to human capital, access to potential clients/customers and degree of credibility, as evident in one of the respondent’s accounts below:

...they have a very vast network which I am still trying to tap into...that network allows you access to a lot of potential clients, a lot of mentors, a lot of people you can work with at affordable prices...they have a very vast network that is useful to every start-up...being with ideA Hub makes the journey fifty percent easier at least...they gave me something that I could not have found elsewhere and that is the credibility, so now I have big clients...when we first started, people will do business with you even when they don’t know you because they know that you are with a reputable government organization...we had a client that paid us off front up to a million Naira when we started because the credibility was coming from ideA...so it gives a lot of credibility to the start-ups (P5: ideA tenant).

Another respondent narrated:

...by being in ideA, you have unimpeded access to other businesses, and ideA can refer you to very big companies...ideA has access to the top CEOs in the business, and being that ideA is government sponsored, we somehow have indirect access to the Ministry of ICT and Ministry of Science and Technology... (P9: ideA tenant).

By learning from these established businesses, the tenants are equipped with knowledge gleaned from years of experience so that they are better prepared to make informed decision. For some of
the tenants, access to valuable networks is the one of most important capabilities they gain from iDEA, and this is in consonance with the findings in section 5.2.

...the benefits are more on the exposure to opportunities, networking and knowledge...bringing very experienced people who come...they share real information that applies to your market...we also have access to mentors who answer your questions and help you by sharing valuable experiences... in the second week of December for example, the CEO of Etisalat, which is the fourth biggest telecom company in Nigeria was here in iDEA with his top executives...we met with him and he team and he was giving us feedback and connecting us with their team since our product is telecom based (P10: iDEA tenant).

For the iDEA management, this facilitation of networking and collaboration within the technology ecosystem is a major goal of the organization:

What we do...is strengthening the ecosystem; making sure that everybody in the system is collaborating and working together. That is what we see as one of our main...?. (P1: iDEA staff).

Sixthly, iDEA also provides access to funding opportunities so as to enable entrepreneurs with promising ideas to turn them into reality.

...trying to get the entrepreneur open to sources of capital...the president of Lagos Angel Network is also the chairman of iDEA board which is quite good for us, and the biggest issue is we have money but the ventures are not investment ready, so our job is to make sure they are investment ready and then connect them to the money so we have a strong relationship with LAN. We are also trying to expose them to all sorts of competitions that will enable them with all sorts of grants and prizes and a couple of them within the Hub have gotten $5,000 here, $10,000 here to help them as they continue to grow their product. We are also trying to expose them to partnership with corporate... (P1: iDEA staff).

It is evident from the account above, that iDEA has access to various funding opportunities. However, the challenge remains that of assisting the tenants to develop viable products and
services which are worthy of investment, and this explains why only about half of the respondents agreed that iDEA has improved their access to funding opportunities.

Moreover, the respondents were of the view that iDEA programmes have improved their business skills in various dimensions. As explained by one of the respondents:

*IDEA entrepreneurship booth camp opened my eyes...it made me to know how to identify customers...it made me to start asking questions...study your market very well...and that was how the whole journey began (P8: iDEA tenant).*

One member of the iDEA staff noted:

*IDEA is doing a great job in providing them with access to relevant updated information on how to go about successful digital entrepreneurship (P2: iDEA staff).*

These findings corroborate the outcome of section 5.2 on the contribution of iDEA programmes towards business related capabilities of the participants. In concluding this section, it can be argued that iDEA programmes have contributed positively towards the expansion of participants’ entrepreneurial capabilities. This result is also in consonance with works of numerous scholars (Al-Mubarak & Busler, 2010; Bergek and Norrman, 2008; Bubou & Okrigwe, 2011; Lesákova, 2012) which assert that business incubators provide a conducive environment for new firms to thrive through an array of resources and services being offered to them.

**5.3.2 Assessing Gender as a Conversion Factor for Digital Entrepreneurship**

Studies have shown that female entrepreneurs have less opportunities for fulfilling their entrepreneurial aspiration than their male counterparts (Muravyev, et al., 2009; Nwoye; 2013). It is therefore not surprising that in many societies, males tend to dominate the entrepreneurship sphere (Carter & Shaw, 2006; Bosma & Levie, 2010, Robeyns, 2008). During the interviews the respondents, (consisting of males and females), were asked to identify the reasons for low female entrepreneurial participation observed at the iDEA Hub. There was a consensus among the respondents that gender disparity in digital entrepreneurship stems from cultural beliefs and social norms. As explained by one of the respondents:
...in every five entrepreneurs, you can find one woman, because of our cultural background...a woman is nurtured to be a homekeeper, and you see that from gender roles when children are growing up...the female helps the mother in the kitchen...the man is the breadwinner...a woman should be at home and quiet... (P8: iDEA tenant).

This statement corroborates the findings in section 5.2 regarding low female participation in iDEA programmes. The idea expressed is supported by scholars like Shinnar et al. (2012) who assert that cultural values help to shape societal gender roles and stereotypes in terms of which occupations are considered appropriate for men or women. The internalization of these values influences the judgment and choice of females (Conradie, 2013), and this explains why women trail far behind men in entrepreneurial participation in almost all countries (Robeyns, 2008).

However, some of the respondents were of the view that the digital entrepreneurship space may be too tough for females to thrive and succeed in:

...the entrepreneurship space is a tough space... sleepless nights, you will have confusion...it is a tough space that a man might be able to endure more than women...things like that can make it very difficult for women to take part (P4: iDEA tenant).

It is important to note that views like this may still have their roots in social norms and values which go unquestioned. Thus, the perception of women as not tough enough may have their roots in stereotypical assumptions of people in the society. According to Conradie (2013), cultural values, when internalized, influence how people view situations.

Furthermore, some scholars have noted that women have suffered from a historical deprivation of relevant resources, hence their low entrepreneurial participation (Nwoye, 2013). However, some of the respondents were of the view that even if all the cultural issues are resolved and women are provided with relevant resources, they may still not be interested in entrepreneurship

...even if you remover the cultural barriers, a woman might say what is the point? Why do I even need to stress myself when a man can take care of me? Please let him do it... (P8: iDEA tenant).
This condition might be due to adaptive preference; a situation in which people, after prolonged exposure to deprivation, resign themselves to accepting their condition with seeming satisfaction (Sen, 1984). It is not surprising therefore, that girls have been found to be less likely than boys to be interested in entrepreneurship (Wilson et al., 2004). However, Conradie (2013) argues that it is crucial to analyse how gender discrimination and cultural issues can constrain women in the pursuit of their goals. Developing and implementing strategies to curtail gender disparity is undoubtedly an effective way of ensuring inclusivity and greater collective performance in entrepreneurship.

5.3.3 Assessing Digital Entrepreneurship as a Valued Functioning

In light of Sen’s capability approach, digital entrepreneurship can be regarded as a functioning only in a situation in which the entrepreneur has reason(s) to value it (Alkire, 2008). Therefore, in situations where people are forced by situations (e.g. lack of other employment opportunities), into starting a business, then entrepreneurship ceases to be a valued functioning. The participants were asked to reflect on their motivation for entrepreneurial engagement. Firstly, it was gathered that the respondents entered digital entrepreneurship voluntarily and had other opportunities. As one of them noted:

...digital entrepreneurship is what I wanted to do... I had a lot of other opportunities that I could have taken...a top tech company gave me an offer, blank offer that I could pick my salary because they wanted me to work with them, and I turned that down because I wanted to run my own company...I resigned from a very good paying job...(P4: iDEA tenant).

Secondly, the findings also revealed that digital entrepreneurship can be considered an avenue by which people give expression to their sense of agency. Agency is the ability and autonomy of a person to select valued capabilities, and to perform the activities required to turn those valued goals into actual beings and doings (Conradie, 2013). It can go beyond the pursuit of one’s own well-being to include values like furthering the well-being of others. Digital entrepreneurship offers the participants opportunities to contribute towards the well-being of others through employment creation.
I resigned from a decent job to pursue this...because I am concerned about the fact that young people finish from school they look for job, make money retire and start living on pension...but there are so tons of problems to be solved... so I started business to solve the problems. (P5: iDEA tenant).

Other respondents recounted:

When I finished school I worked as an engineer...but I have always felt that there was more to my existence than just working...it is not that there is anything wrong with working, but there are lots of problems to solve...so I wanted to play my own part in solving those problems (P5: iDEA tenant).

I left my job as an engineer in the UK because I wanted to make impact...I want to help create jobs in Nigeria and to touch lives of people beyond me and my family. Even if it is ten people that I employ to help deal with unemployment...so the idea is that if I start something and make it, the result is that I will have a job and some people will be able to have job through it (P10: iDEA tenant).

The repeated use of ‘I’ in these statements reflects the participants’ aspiration and agency to pursue a valued course which will contribute towards the wellbeing of others. As noted by Sen (1985a, p.203), a person’s ‘agency freedom’ refers to what the person is free to do and achieve in pursuit of whatever goals or values he or she regards as important. In fact, for some of them, the essence of their lives revolves around digital entrepreneurship, so that it gives meaning to their existence.

It can’t just go away...I have tried my hand on high paying job...all those things do not interest me...every time I feel like going for something else, I feel like I am letting go of my life, my future...I feel like I am coming suicide... (P4: iDEA tenant).

Thirdly, it was revealed that engaging in tech entrepreneurship can help entrepreneurs achieve other valued functioning like independence, happiness and fulfilment.

I wanted something fulfilling ...something that I wake up in the morning and I am happy about, and energetic to go to work... (P4: iDEA tenant).
Others, however, saw wealth creation value in digital entrepreneurship; so that starting an IT business would help them reach their goal of being wealthy. By developing valuable IT goods and services, they aim to access financial remuneration in return. As one of the respondents noted:

But it is about creating value...once you create value for the people the money comes automatically (P10: iDEA tenant)

However, it begins with identifying opportunities which one can exploit in wealth creation.

I noted that the ICT sector creates the youngest sort of rich people, and ever since I understood that I have always been fascinated by that...I have always looked to join that sector...so immediately the internet sector started booming in Nigeria, I decided to jump in, and take advantage of it...in Nigeria, over one trillion Naira is spent every year importing vehicles and over billion Naira is spent importing spare parts. So that is a huge market. If I can get just a fraction of that through online...that is a big money... (P9: iDEA tenant).

This ability to identify opportunities is considered one of the core entrepreneurial competencies (Morris et al, 2013; Ardichvili, Cardozo & Ray, 2003; Stevenson, Roberts & Grousbeck, 1985). In concluding this section, it is clear that digital entrepreneurship can be regarded as a valued functioning, and this is in line with the findings in section 5.2. Moreover, it is also evident that digital entrepreneurship can serve as an intermediate functioning and capability towards the achievement of other functionings.

5.3.4 Examining the Achieved Functionings of the Entrepreneurs

The achieved functionings of a person, at any given time, refer to those functionings which the person has pursued and successfully actualized (Alkire, 2002, p. 120). These achieved functionings are different from capabilities which reflect what is achievable. Moreover, although being a digital entrepreneur is in itself a functioning, it can also be regarded as a intermediary functioning or even a capability towards the achievement of other functionings. One of those functionings identified among iDEA tenants is independence or autonomy. As one of the respondents narrated:

As an entrepreneur, my time is now more in my own hands, I have control over my time... (P10: iDEA tenant).
This desire for autonomy has been found to be a primary motive for the large majority of small business starters (Van Gelderen & Jansen, 2006). Another achieved functioning observed among respondents involves digital entrepreneurship as a means of livelihood. This is encapsulated in the following accounts:

*It has heavily changed my life in terms of my being self-sustained. I used to live under my parents...I am now depending on my business for sustenance...from there I get my accommodation, transport, clothes to wear, food to eat everything... (P4: iDEA tenant).*

*I stay in a three bed room apartment...I am planning to start building my own house this year...I am married...I have been able to invest into a couple of other things in my life... (P7: iDEA tenant).*

It is evident that entrepreneurship through iDEA, has improved the livelihoods of participants, as described above, and this is in line with the findings in section 5.2 which identified functionings derivable from digital entrepreneurship. However, some of the respondents have not started earning income through entrepreneurship as their business is still under development. Such emerging entrepreneurs rely on previous savings and/or assistance from family and friends. As one respondent said:

*The money I am still using is the one I saved from my internship as a pharmacist and the money I raised from family and friends (P9: iDEA tenant).*

This discovery supports the findings in section 5.2 that some of the entrepreneurs are yet to launch their businesses. It was also why the researcher did not look into the specific income earnings of these young entrepreneurs since a significant number of them are yet to start earning from their business. Nonetheless, it can be argued that digital entrepreneurship can be financially profitable, and can help the entrepreneurs to meet their financial obligation. Another achieved functioning observed among the respondents relates to the sense of fulfilment and satisfaction with one’s life and career.

*I remember my first two jobs in the UK (United Kingdom) where I was heavily paid but also heavily stressed, and not fulfilled. I remember many times I asked myself:*

http://etd.uwc.ac.za/
what are my even doing here?...so you are being paid very well but no satisfaction... as opposed to this one (entrepreneurship), the thought of what are my doing has never flashed my mind... (P7: iDEA tenant).

Furthermore, a number of the tenants have been able to create employment for others. For such entrepreneurs, employment creation has moved from the realm of aspiration to achieved functioning. The following respondents’ accounts attest to this:

Today, I have been able to employ two people to join my team, and I am taking a number of remote staff and we are still looking out to add more people... (P4: iDEA tenant).

We have employed four people...month to month we do payroll for our employees (P7: iDEA tenant).

One of the iDEA staff recounted that so far iDEA has created about 250 jobs:

In two years, we have been able to create 250 jobs. That is not a lot. We can do more. However, let us not take for granted the impact of our baby steps on every entrepreneur that works through the door. So some people that come here with no knowledge, they are now able to build their businesses. Some of them have even failed. So maybe that is why we don’t have so many jobs created. But then what we have seen is that they have been able to bounce back to use the knowledge they have gathered in the last venture to create new businesses. (P3: iDEA staff).

The above statement further highlights the fact that although job creation is iDEA’s mandate, the steps involved in reaching it deals with expanding the entrepreneurial capabilities of people. In line with Voisey et al. (2006)’s assertion on the difference between soft and hard measures in assessing business incubators, it can be said that iDEA has had significant influence on its tenants’ soft measures. While soft measures include benefits such as increased business knowledge and skills, increased client networking and more business awareness, hard measures include benefits like number of business ventures, profitability and sales turnover (Voisey et al., 2006). However, the main focus in this study was how iDEA programmes improve these soft measures which are the capabilities needed for achieving entrepreneurial functioning (business establishment).
5.3.6 Challenges and Opportunities for Digital Entrepreneurship in Nigeria

It was deemed crucial to explore the challenges and opportunities within the IT ecosystem in Nigeria. Providing a deeper understanding into such reality will help to inform IT stakeholders on how best to boost entrepreneurship performance. Firstly, the participants were asked to identify the challenges they face along their entrepreneurial journey. Evidently, most of the challenges revolve around infrastructural deficiencies and unsupportive government policies.

*If you are saying you want to sell on ecommerce, you actually have to put a structure for the customer on how he is going to pay, how you are going to deliver...issues that in more robust economies there are already organizations clearly sorted out so that you just plug into their operation...here, a lot of the times, you have to build your own infrastructure to solve that problem...so you have to deal with your core primary problem, but you also have to identify other problems associated with it and deal with them (P7: iDEA tenant).*

*The infrastructure is not in place, in Nigeria. Everything is growing simultaneously...in the developed countries, for example, before they started online shopping, they have their logistics companies well catered for. So they were sending mails, sending packages and deliver stuff... so when the online business guys came in, they already have the infrastructure in place...they have a courier company...in Nigeria, the businesses have to build their own courier services because they were not in place when they started (P9: iDEA tenant).*

It is evident from the account above that due to infrastructural and institutional inadequacies, the Nigerian environment does not properly support digital entrepreneurs in their endeavours. Although the iDEA centre enhances a conducive environment in which digital entrepreneurship can thrive, the fact remains that there are still external factors which impede the progress of entrepreneurs. For example the narrative above deals with the lack of a logistics support system which is needed for ecommerce to thrive. This finding is supported by Mitra et al. (2011) who noted that Nigeria and other developing economies suffer from poor institutional structures which are required for opportunity creation and realization.
Another challenge observed was that of unfavourable government policies, especially monetary policies which affects international transactions. Many of the entrepreneurs depend on digital products and services from other countries in order to thrive. However, the unpredictability of government policies and the volatility of the Naira gravely affects their ability to afford such products and services. This situation is encapsulated in the following narratives:

...government policies...a policy that affects your potential customers negatively might also affect their adoption of your product...especially when you have a government that wakes up one morning and policy has changed all of a sudden (P7: iDEA tenant).

The CBN (Central Bank of Nigeria) made access to forex (foreign exchange) very difficult...you need access to dollars to pay for Facebook adverts...even hosting for those people that host abroad...you have to pay in dollars...(P9: iDEA tenant).

...we used to do 160/170 now it is 300 Naira per dollar (P4: iDEA tenant).

This observation is supported by the Global Entrepreneurship Monitor (2012) which summed up the Nigerian entrepreneurial landscape as an abundance of willing and able entrepreneurs encouraged by internal market openness, but constrained by government regulations.

Another challenge that was noticed deals with the unwillingness of Nigerians to do online transactions. This is because many people do not consider such a medium safe enough. Since many technology businesses (especially ecommerce) require online payment, it limits the number of customers they are able to close a sale with, although some of them are able to find their way around it through a pay and delivery approach.

...less than 1 million people use cards online...we need to have awareness for people to feel safe about using their cards online...if you look at ecommerce businesses in Nigeria, they are all doing pay on delivery because people don’t feel confident enough to use their cards online (P4: iDEA tenant).

Finally, lack of funding opportunities was also identified as a challenge. As noted by this respondent:
We need angel investors...who will invest in businesses that are still at idea stage...Nigerian start-ups can’t afford to develop their ideas to minimum viable products (P9: iDEA tenant).

Thus, although there are investors in Nigeria, they are usually venture capitalists whose target is businesses that are already doing well. The problem with this is that these emerging entrepreneurs need funding in order to attain that level of minimum viable product. These multifaceted challenges point to the fact that incubation alone cannot guarantee success in digital entrepreneurship. There are external factors which must be tackled for IT business to survive and thrive in Nigeria, and this is tandem with the findings of Mas-Verdú et al. (2015). However, the IT ecosystem in Nigeria has significant opportunities for the emerging entrepreneurs to tap into. The main opportunity is that IT businesses are new on the Nigerian market so the market is far from being saturated. This is coupled with the fact that the Nigerian population is large, with internet penetration of over 97 million. Therefore, in order to fully harness these opportunities and boost digital entrepreneurship in Nigeria, it is important to develop and implement comprehensive programmes and projects which will help mitigate the effects of the challenges.

5.4 Chapter Summary

This chapter delved extensively into the contribution of iDEA programmes towards the enhancement of its participants’ entrepreneurial capabilities, using both quantitative and qualitative analysis. Through quantitative analysis, the study established that iDEA programmes have a significant positive effect on the entrepreneurial capabilities of the participants. The result showed that iDEA has the most effect on the respondents ‘access to power and high speed internet, and the least effect on negotiation skills and improved access to customer/clients. The relative importance of various capabilities were also ascertained with market awareness, creativity/innovation, power supply, high speed internet, entrepreneurial motivation, access to new customers, and the ability to identify opportunities, deemed most important.

This contribution of iDEA programmes towards participants’ entrepreneurial capabilities was substantiated by the qualitative analysis, which revealed that respondents were unequivocal about the positive impact iDEA has in enhancing their access to resources like office space, networking opportunities and reliable high speed internet. Furthermore, entrepreneurial functionings and
challenges facing digital entrepreneurship in Nigeria were identified while the effects of gender as a conversion factor was also looked into. The next chapter presents the summary of study findings and provides the conclusion, limitations and recommendations for the research.
CHAPTER SIX

SUMMARY OF FINDINGS, RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

6.1 Chapter Overview

This chapter is the concluding part of this research, and is divided into four sections. The first section provides a summary of the empirical findings from the research. Based on these findings, the second section proposes recommendations that will help to enhance the iDEA programmes in particular and related programmes in general. The third section outlines the limitations of the study, and the fourth section presents a relevant conclusion for this research.

6.2 Summary of Findings

The focus of this study has been on the assessment of iDEA programmes’ contribution towards the expansion of participants’ entrepreneurial capabilities. Beginning with identifying certain entrepreneurial capabilities from the literature, the study went further to ascertain how iDEA incubation has helped to enhance those capabilities for its tenants. It also examined digital entrepreneurship as a valued functioning and as an intermediate functioning leading to other valuable functioning. Furthermore, the degree of relevance for those identified capabilities was examined, while the influence of gender as a conversion factor was also looked into. Also, the challenges facing digital entrepreneurship in Nigeria were identified. The foregoing was achieved through the engagement of both qualitative and quantitative analytical approaches to social science research.

Most of the respondents were males, and mostly in their early twenties or early thirties. Also, all the participants had significant formal education, and most of them had bachelor degrees and above. With regards to the specific iDEA programme in which the respondents were enrolled, most of them were in the incubation programme. It was also discovered that half of the sample had not been with iDEA for more than six months, at the time of the fieldwork.

Furthermore, the study developed indexes to measure the perception of the respondents, on how iDEA programmes have enhanced their entrepreneurial capabilities. The Capabilities Enhancement Perception Index (CEPI) which was computed indicated that the respondents
believed that iDEA programmes enhance their entrepreneurial capabilities. While access to power supply and reliable internet have the highest positive deviations around mean, negotiation skills and access to customers/clients have the highest negative deviation. Thus, it can be concluded that the participants of iDEA programmes mostly benefited in the areas of access to reliable electric power and internet while the contribution of iDEA programmes to the participants’ negotiation skills and access to customers/clients, were limited. These conclusions were well supported by the findings of the qualitative analysis in which the participants unequivocally narrated how the resources provided by iDEA aided them in their entrepreneurial endeavours. It was also found that iDEA programmes have an affirmative effect on the tenants’ access to networking opportunities, both with other emerging entrepreneurs and established entrepreneurs. It can be argued that iDEA programmes have contributed positively towards the expansion of participants’ entrepreneurial capabilities, and this is in tandem with Al-Mubaraki and Busler (2010), who assert that business incubators provide a safe haven for new firms through an array of resources and services which are offered to them.

While assessing gender as a conversion factor, it was discovered that there was very low female participation within the digital entrepreneurship ecosystem, and this is in line with the findings of numerous scholars (Carter & Shaw, 2006; Bosma & Levie, 2010; Robeyns, 2008). The root cause of this gender disparity was found in unquestioned cultural beliefs and social norms which relegate women to subservient position and household duties. This finding is supported by scholars like Shinnar et al. (2012) who assert that cultural values help to shape societal gender roles and stereotypes in terms of which occupations are considered appropriate for men and women.

While examining digital entrepreneurship as a valued functioning, the participants were asked to identify their motivation for engaging in entrepreneurship. The majority of the respondents cited ‘spotted a market gap’ and ‘turn my business idea into reality’ as their motivation. The findings also showed that many of the entrepreneurs could be considered opportunity-based entrepreneurs rather than necessity entrepreneurs, and that digital entrepreneurship is a valued functioning for almost all of the iDEA tenants. Moreover, it was found that digital entrepreneurship offers the participants opportunities to contribute towards the wellbeing of others through employment creation while for others; it was considered a tool for wealth creation.
Some of the achieved functionings observed among the entrepreneurs include: autonomy or independence, means of livelihood as well as sense of fulfilment and happiness. However, this varied across the group since some of the respondents have launched their businesses while others are yet to do so. Furthermore, with regards to the challenges which digital entrepreneurship faces in Nigeria, infrastructural/institutional inadequacies, lack of funding opportunities, and unfavourable government policies, were considered inimical to entrepreneurial capabilities in the country. Figure 14 provides a diagrammatical summary of the experiences of the participants of iDEA programmes.

**Figure 14: A Summary of the Entrepreneurial Journey of Tenants at iDEA Incubation**

Source: Own Compilation

### 6.3 Recommendation

This study revealed that the effects of iDEA programmes are impressive in certain areas but minimal in other areas. Thus, iDEA needs to put measures in place to tackle areas of minimal effect. For example, this study revealed that innovation/creativity was considered important by an extremely high proportion of the respondents (92.0%), and such is well corroborated by previous studies of Morris et al (2013) who identified creative problem solving as one of the entrepreneurial core competencies. However, this research found that iDEA programmes have minimal effect in boosting its tenants’ innovation/creativity (52.5%). Thus, iDEA should working towards bridging such gaps so as to make their programmes comprehensive enough to enhance the needed capabilities.
Furthermore, the participants were asked to offer ideas for improving the iDEA programmes. Many of them attest that there is a need to reduce iDEA’s entry fees. This means that there is need for greater involvement of the public sector. It was noted that the previous government, which established iDEA, helped to subsidize the entry fee. However, owing to the fact that the centre has not been able to secure the involvement of the current administration; there has been over 1000% increase in the entry fee. Also, there is a need to establish more technology incubators across different states in Nigeria, especially areas with high technology potentials. This will help to duplicate the positive results of iDEA programmes in different parts of the country, thereby enhancing national entrepreneurship performance.

Also, since the Nigerian government recently made entrepreneurship education a compulsory course for all higher education students, there is a need to ensure that all institutions have business incubators. One of the differences between entrepreneurship training and incubation is that the latter takes a more holistic approach by not only imparting knowledge and skills but also proactively enhancing access to the relevant services and resources. Establishing incubators in schools will not only provide the students with the basic resources needed to develop and run their business but it will also serve as a laboratory for the commercialization of research outcomes.

6.4 Limitations

It is important to note that this research engaged a very small sample population thus foreclosing the possibility of generalization. Furthermore, this study relied on self-report measures which can potentially lead to subjective bias among the respondents who were asked to assess their entrepreneurial capabilities. Moreover, the study made use of a mono group sample so that there was no control group; hence there was no comparison of capabilities between groups. Also, the study could not include the earnings of the respondents in the analysis due to the fact that most of them have not started receiving revenue.

6.5 Original Contribution, Future Research and Conclusion

Sen’s capability approach brings to light the fact that great ideas do not guarantee great businesses. Neither does entrepreneurial knowledge alone guarantee success in entrepreneurship. In the same vein ‘great’ entrepreneurship programmes do not guarantee improved entrepreneurship performance of a country owing to a multiplicity of interacting factors. For entrepreneurship to
thrive, not only is there a need for relevant support structures, but the implementation of these structures must take into cognizance the diversity of societies and individual entrepreneurs. Beyond entrepreneurship education, the iDEA incubator provides access to relevant resources which can serve as conversion factors along the journey towards entrepreneurial functionings. The center provides critical and significant resources and services to aspiring and emerging digital entrepreneurs. Bearing in mind that these resources and services are deficient in Nigeria, one cannot deny the contribution of iDEA towards the development of digital enterprises in Nigeria.

The Hub serves as a laboratory for boosting technology entrepreneurship capabilities in Nigeria.

There are few original contributions in this research. Firstly, the study is a debut of research endeavours which assess entrepreneurship programmes via the capability approach lens. It developed a conceptual model for assessing business incubation using the capability approach, as illustrated by the means of a diagram (see Figure 6) adapted from Robeyns (2005:98). Secondly, through the review of relevant literature and empirical analysis, the study provides a list of capabilities required for entrepreneurial success while highlighting certain functionings derivable from digital entrepreneurship. It is important to note that the list is not exhaustive so that more factors can be included; also bearing in mind that capabilities ought to be context dependent. By developing a tool for the assessment of business incubation, the study aims to broaden understanding of the outcomes of incubation programmes. It is hoped that it would stimulate future research examining business incubators and other entrepreneurship programmes through the capability approach lens.

Since business incubation aims to improve the survival and growth rate of fledgling businesses, it may be important for future research to look into how these capabilities interact in the process of achieving this aim, as well as which capabilities make the most difference. It may also be pertinent to undertake a comparative research in which the capabilities of at least two groups (including a control group) are compared so as to ensure more rigour in the work. Moreover, the relationship between these capabilities, profit generation and employment creation deserves investigation. Furthermore, it is also hoped that the result of this research will inform the development of more effective and holistic entrepreneurship development programmes.
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APPENDICES

Appendix 1: Beneficiary Questionnaire

Expanding Entrepreneurial Capabilities Through Business Incubators: A Case Study of the Idea Hub Nigeria

Good day,

My name is Kenechukwu Maduka Ikebuaku, a student at the University of Western Cape in South Africa, and I am currently undertaking a case study research on iDEA-Nigeria, of which you are part of.

It is envisaged that the results of this study will assist government policy makers, development practitioners and other interested stakeholders with information regarding entrepreneurship programmes. In this regard, I am inviting you to participate in this research project as your ideas and opinions will be of great value to this study. Please respond to the survey items by checking the appropriate response next to each question/item and filling in the forms. All information is confidential. It will take you about 10 minutes to complete this questionnaire. Your co-operation is needed and will be greatly appreciated.

What will I be asked to do if I agree to participate?

If you agree to participate in this research project, you will be asked to answer questions that provide information about your involvement with iDEA-Nigeria and your entrepreneurial journey.

If you have any questions feel free to contact Kenechukwu Maduka Ikebuaku, the researcher, at 0-204 Dos Santos, UWC, Bellville, 7535, Cape Town, South Africa. My phone number is +27719549193 and my e-mail address is 3166774@myuwc.ac.za

Consent Form

Please read the following and select the relevant option

I confirm that I understand that my participation in this study is voluntary. I am free not to participate and have the right to withdraw from the study at any time, without having to explain myself. I am aware that this interview might result in research which may be published, but my name may not be used. I understand my response and personal data will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that the information derived from this research is confidential and treated as such. I agree that the data collected from me can be used for future research. Lastly, I agree to take part in the above research project.

I agree [ ] I disagree [ ]
Demographic Information

1. What is your nationality?
   - Nigerian [ ] Other [ ]

2. How would you describe the environment in which you were raised?
   - Rural [ ] Semi-Urban [ ] Urban [ ] Other [ ]

3. How would you describe your current residential environment?
   - Rural [ ] Semi-Urban [ ] Urban [ ] Other [ ]

4. Please indicate your ethnicity
   - Hausa [ ] Igbo [ ] Yoruba [ ] Other [ ]

5. What is your gender?
   - Male [ ] Female [ ]

6. Please indicate your age:
   - 15-20 [ ] 21-25 [ ] 26-30 [ ] 31-35 [ ] 36-40 [ ] Above 40 [ ]

7. Please indicate your highest educational qualification:
   - Below SSSE [ ] SSCE [ ] Diploma [ ] First Degree [ ] Post-graduate [ ]

8. What did you study for your first degree? (if not applicable move to the next question)

Information on Involvement with iDEA-Nigeria

9. Are/were you part of the iDEA-Nigeria programme?
   - Yes [ ] No [ ]

10. How long have you been or were you with iDEA-Nigeria?
    - 3 months or less [ ] 4-6 months [ ] 7-9 months [ ] 10-12 months [ ]
    - More than 1 year [ ]

11. Are you still part of iDEA-Nigeria?
    - Yes [ ] No [ ]

12. Which iDEA-Nigeria's programme(s) have you been involved with?
Involved with only Incubator Programme [     ]
Involved with only Accelerator Programme [     ]
Moved from Incubator Programme to Accelerator Programme [     ]
Moved from Accelerator Programme to Incubator Programme [     ]

13. List other entrepreneurship organisations or programmes you are/were involved with:

**Assessing Digital Entrepreneurship as a Valued Functioning**

14. What is/are your motivation(s) for engagement in entrepreneurship? (Mark all relevant responses)

- Spotted a market gap [     ]
- Want to earn more money [     ]
- Want to turn my business idea into reality [     ]
- Lack of other employment opportunities [     ]
- Pressure from family and friends [     ]
- Other: [     ]

15. If you are offered a well paid job which meets all your financial needs, would you still want to be an entrepreneur?

Yes [     ]
No [     ]

16. Give reasons for the response selected in question 15 above:

**Assessing the Contributions of iDEA-Nigeria to Expanding Beneficiaries' Entrepreneurial Capabilities**

17. Do you agree that being part of iDEA-Nigeria has helped to enhance your entrepreneurial mindset?

Strongly disagree [     ]
Disagree [     ]
Neutral [     ]
Agree [     ]
Strongly agree [     ]

18. Do you agree that being part of iDEA-Nigeria has helped to enhance your entrepreneurial motivation?

Strongly disagree [     ]
Disagree [     ]
Neutral [     ]
Agree [     ]
Strongly agree [     ]

19. Do you agree that being part of iDEA-Nigeria has helped to enhance your awareness of the market for your products/services?

Strongly disagree [     ]
Disagree [     ]
Neutral [     ]
Agree [     ]
Strongly agree [     ]

20. Do you agree that being part of iDEA-Nigeria has helped to enhance your ability to identify business opportunities?
21. Do you agree that being part of iDEA-Nigeria has helped to improve your creativity and innovation?

22. Do you agree that being part of iDEA-Nigeria has helped to enhance your ability to acquire new customers?

23. Do you agree that being part of iDEA-Nigeria has helped to improve your ability to develop business solutions and create new products?

24. Do you agree that being part of iDEA-Nigeria has helped to enhance your negotiation skills?

25. Do you agree that being part of iDEA-Nigeria has helped to enhance your risk-taking knowledge and skills?

26. Do you agree that being part of iDEA-Nigeria has helped to improve your business management knowledge and skills?

27. Do you agree that being part of iDEA-Nigeria has helped to enhance your technical knowledge and skills?

28. Do you agree that being part of iDEA-Nigeria has given you improved access to conducive office space for your business activities?
29. Do you agree that being part of iDEA-Nigeria has given you improved access to reliable power supply for your business activities?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

30. Do you agree that being part of iDEA-Nigeria has given you improved access to high-speed reliable internet for you business activities?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

31. Do you agree that being part of iDEA-Nigeria has given you an improved access to funding opportunities for your business?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

32. Do you agree that being part of iDEA-Nigeria has given you improved access to networking opportunities with other budding entrepreneurs?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

33. Do you agree that being part of iDEA-Nigeria has given you improved access to networking opportunities with established and successful entrepreneurs?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

34. Do you agree that being part of iDEA-Nigeria has given you improved access to entrepreneurial training and educational opportunities?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

35. Do you agree that being part of iDEA-Nigeria has given you improved access to customers/clients for your products/services?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

36. Do you agree that your participation in iDEA-Nigeria has helped to enhance the credibility of your business/products/services when dealing with potential customers/clients?

Strongly disagree [ ]  Disagree [ ]  Neutral [ ]  Agree [ ]  Strongly agree [ ]

37. iDEA-Nigeria provides the following services/facilities to its beneficiaries: training, office space, internet, coaching, mentoring, funding, meeting room, breakout space. Which three of these
services have contributed most significantly to your entrepreneurial success? List them according to their level of significance starting with the most beneficial: 

38. Do you agree that being part of iDEA-Nigeria has contributed significantly to enhancing your entrepreneurial knowledge, skills and opportunities?

Strongly disagree [ ] Disagree [ ] Neutral [ ] Agree [ ] Strongly agree [ ]

39. In which other ways has your participation with iDEA-Nigeria contributed towards your entrepreneurial journey?

Assessing the Significance of the Various Factors for Entrepreneurial Outcomes

Answer the following questions based on your perception as to how important the listed factors are for success in digital entrepreneurship.

40. How important is access to mentoring and coaching opportunities in digital entrepreneurship?

Extremely unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]

Extremely important [ ]

41. How important is access to networking opportunities with other budding entrepreneurs in digital entrepreneurship?

Extremely unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]

Extremely important [ ]

42. How important is access to networking opportunities with established entrepreneurs in digital entrepreneurship?

Extremely unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]

Extremely important [ ]

43. How important is access to reliable power supply in digital entrepreneurship?

Extremely unimportant [ ] Unimportant [ ] Somewhat important [ ] Important

Extremely important [ ]

44. How important is access to conducive office space in digital entrepreneurship?

Extremely unimportant [ ] Unimportant [ ] Somewhat important [ ] Important

http://etd.uwc.ac.za/
Extreme important [ ]

45. How important is access to mentors and coaches in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

46. How important is access to reliable high-speed internet in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

47. How important is adequate awareness of the market in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

48. How important is IT knowledge/skills to digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

49. How important is entrepreneurial motivation in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

50. How important is creativity/innovation in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

51. How important is business management knowledge/skills in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extreme important [ ]

52. How important is product development knowledge/skills in digital entrepreneurship?
Extreme unimportant [ ] Unimportant [ ] Somewhat important [ ] Important [ ]
Extremely important [  ]

53. How important is risk-taking ability in digital entrepreneurship?
Extremely unimportant [  ] Unimportant [  ] Somewhat important [  ] Important [  ]
Extremely important [  ]

54. How important are negotiation skills in digital entrepreneurship?
Extremely unimportant [  ] Unimportant [  ] Somewhat important [  ] Important [  ]
Extremely important [  ]

55. How important is access to new customers in digital entrepreneurship?
Extremely unimportant [  ] Unimportant [  ] Somewhat important [  ] Important [  ]
Extremely important [  ]

56. How important is the ability to identify opportunities in digital entrepreneurship?
Extremely unimportant [  ] Unimportant [  ] Somewhat important [  ] Important [  ]
Extremely important [  ]

57. How important is access to funding opportunities in digital entrepreneurship?
Extremely unimportant [  ] Unimportant [  ] Somewhat important [  ] Important [  ]
Extremely important [  ]

58. What other qualities and facilities are required for success in digital entrepreneurship? List them

59. What other social/economic/political/environmental factors can affect one's success in digital entrepreneurship?
List them........

Information on Business, Employment, Income and Livelihood

60. Do you currently have a business? (if your response is 'No' please move to question '71')
Yes [  ] No [  ]

61. On which of the following areas is your business focusing? Check all that apply.
Mobile Application [   ] Enterprise Application [   ] Financial Services [   ]
E-Commerce [   ] Healthcare [   ] Other [   ]

62. How long has your business been in operation? Give timespan options
63. Were you already running your business before joining iDEA-Nigeria?
   Yes [   ] No [   ]

64. On average, how many customers were you serving (monthly) before joining iDEA-Nigeria?
1-5 [   ] 6-10 [   ] 11-20 [   ] 21 and above [   ] None [   ]

65. On average, how many customers are you currently serving (monthly)? Mark only one oval.
1-5 [   ] 6-10 [   ] 11-20 [   ] 21 and above [   ] None [   ]

66. On average, how much (in Naira) were you making from your business per month before joining the iDEA-Nigeria programme?.....give differing amounts to tick..

67. On average, how much (in Naira) are you currently making from your business per month?........give differing amounts to tick

68. To what extent do you agree with the following statement: Participation in iDEA-Nigeria Programme has helped to increase my income earning ability?
   Strongly disagree [   ] Disagree [   ] Somewhat agree [   ] Agree [   ]
   Strongly agree [   ]

69. In what ways has this income contributed to your life? (Mark all that apply)
   Provision of education needs for the children/siblings [   ] Provision of shelter and basic needs for the family [   ] Provision of land [   ] Provision of means of transport [   ] Support my own education [   ] Saved at the bank [   ] Contribution to social programmes (church and community fundraising etc) [   ] Other [   ]

70. How many people have been employed in your business since you joined iDEA-Nigeria?
1-3 [   ] 4-6 [   ] 7-9 [   ] 13 and above [   ] None [   ]

Future Projections of Beneficiaries
71. If you have not started your business, when do you plan to start it? (Skip to question '72' if you already have a business)

72. Considering the level of support which you are being given in the iDEA-Nigeria programme, what is your projected monthly income (in Naira) for the next two years?

**Challenges Facing Digital Entrepreneurs in Nigeria**

73. What are the current challenges that you are facing in your business? List them........

74. What one thing, if achieved, can have the most effect in boosting digital entrepreneurship in Nigeria?.........................

75. In your opinion, how can the iDEA-Nigeria programme be improved for better results? List them......................

Thank you for your cooperation.
Appendix 2: Interview Questions

Expanding Entrepreneurial Capabilities Through Business Incubators: A Case Study of the Idea Hub Nigeria

A. Exploring iDEA Nigeria organization and its programmes (For iDEA staff)

- Tell us about yourself and how you came to work with iDEA Nigeria?
- What is your role at iDEA and how does your role relate to other roles in the team?
- What are the goals and objectives of iDEA Nigeria?
- What are the strategies iDEA uses in achieving its goals and objectives?
- What are your tenants’ admission criteria?
- What are the challenges facing iDEA?
- Where do you see iDEA in the next five years?

B. Examining Digital Entrepreneurial Capabilities in Nigeria (For iDEA staff and tenants)

- What do you think are the critical success factors for digital entrepreneurship in Nigeria?
- Do you think that the Nigerian ecosystem is a conducive atmosphere for digital entrepreneurship?
- What are the challenges facing digital entrepreneurship in Nigeria?

C. Assessing the outcome of iDEA programmes on tenants (For iDEA staff)

- To what extent do you think that iDEA is achieving its goals and objectives?
- What services and resources does iDEA provide to tenants and how are those aiding their entrepreneurial activities?
- How is iDEA helping to reduce the youth unemployment rate in Nigeria?

D. Assessing the outcome of iDEA programmes for tenants (For tenants)

- Can you briefly describe your entrepreneurial journey and how you came to join iDEA Nigeria?
• How are iDEA programmes contributing towards your entrepreneurial growth and development?
• Do you think iDEA is doing enough in assisting its tenants with the needed services/resources?
• In what areas do you think iDEA programmes could be improved for better services to its tenants?

D. Examining Gender as a Conversion Factor in Digital Entrepreneurship (For iDEA staff and tenants)
• Why do you think there is low female participation in digital entrepreneurship ecosystem?
• What could be done to enhance female entrepreneurial engagement in Nigeria?

E. Examining Digital Entrepreneurship as a Valued Functioning (For iDEA tenants)
• Tell me about your journey as an entrepreneur and how you came to join iDEA Nigeria?
• Why did you decide to become a digital entrepreneur?
• In what ways do your entrepreneurial activities impact on your life?
• Where do you see your business in the next five years?