

Incubation to Commercialization:

An investigation into the optimal service needs of nascent entrepreneurs within the Integrated Business Incubation System (IBIS) programme

Brian L. James

DBA Thesis

2020

Abstract

The study explored the role of the Integrated Business Incubation System (IBIS) in addressing the business and technical services needs of new nascent entrepreneurs. It is the desire of the Government of Trinidad and Tobago's to provide a comprehensive nurturing environment for new Small and Micro enterprises (SMEs) while acting as a vehicle for growth and development. They envisaged this will enhance the link between entrepreneurship and development, supporting and encouraging the emerging entrepreneur and driving economic growth.

The researcher conducted twelve interviews with incubated clients of the IBIS programme, to explore the global best practices of incubators of their service needs and to investigate if they can adequately facilitate new nascent entrepreneurs in Trinidad and Tobago. The qualitative approach used allowed for direct interface with the incubatee and provided a rich source of evidence of key services required providing a mix of business and technical services that sought to expand the service reach of the IBIS programme.

It was concluded from the study, that there should be more structured recruitment of clients towards sector specific areas, developing an entrepreneurial culture and greater technology innovation support. Jones & Parry (2011) wrote about this and share similar views. The new evidence helped shape the development of a conceptual framework of services that can guide the new entrepreneurial client along a development path that proposed to be more efficient and effective than what was obtainable in the past.

The key practice contribution of this research is the opportunity it may provide to improve the operational effectiveness of the IBIS programme through the expansion of services. The prospective conceptual framework could provide a more structured approach to incubating clients, as it takes into consideration all types of entrepreneurs whether the business is product or services oriented, introducing a new technology process area that carries the entrepreneur through different stages of development. The significance of this is the progress of the entrepreneur can be measured in their growth and success and this can help to instigate less chances of failure occurring.

Acknowledgements

It is with extreme gratitude that I express sincere thanks to my family: my wife Michelle, my daughter Brinnelle and son Zachary, for the tremendous support given during the last three years in working towards the development of this Thesis. Particular thanks goes to my daughter Brinnelle who has been my main proof reader and assisted with editing my various class assignment and now this thesis. Their love and support has helped to carry me through this passage from the initial fears I had to embark on this journey to sometimes the daunting feelings you get on whether you can achieve such a lofty goal.

I could not have done this body of work without the tremendous support I got from my supervisors along this journey. Dr. Gerri Matthews-Smith and Dr. Janice Mc Millan, both have made learning a joy and pleasure. Their charismatic nature made my learning fun and helped to build my confidence level that I can achieve my DBA.

Many others have aided me in the preparation of this thesis. Of particular mention is Ms. Patrice Lightbourne who assisted with the transcription of the voice recordings from interviews and putting together the majority of the referencing list, a task that I do not envy any one doing.

Finally, this thesis is dedicated to my mother, Phyllis James (1928 - 2016). The source of my being and the continued source of inspiration I get on reflection of her support towards me in growing up. She was always reminding me to take my education seriously and sternly ensuring that I went to school and got an education. I am eternally grateful for her shaping my intrinsic characteristics and values for who I have become today, as this value system is what sets the impetus for my continued learning and development and striving for excellence in life.

Declaration

I declare that this Doctorate of Business Administration is my own work and that all critical and other sources (literary and electronic) have been properly acknowledged, as and when they occur in the body of the text.

Signed

A solid black rectangular box used to redact the signature of the author.

Brian James

29th September, 2019

Table of Contents

Abstract	.....I
Acknowledgements	.....II
Declaration	.....III
List of Figures	..... VIII
List of Tables	..... VIII
Acronyms and Abbreviations	.....IX
Chapter 1 Introduction	.....1
1a Global Outlook	.....1
1b The Government Approach and Way Forward	.....4
1.1 Context and Background of the Study	.....5
1.2 Research Aim and Objectives of the DBA	.....7
1.3 Researcher Profile	.....8
1.4 Research Gap and Interest	.....9
1.5 Research Approach	.....10
1.6 Research Focus	.....11
1.7 Thesis Outline	.....12
1.8 Summary	.....14
Chapter 2 Literature Review	.....16
2.1 Introduction	.....16
2.2 Business Incubators	.....16
2.2.1 Types and Models of Incubators	.....23
2.3 Incubator Services	.....30
2.4 Incubation	.....35
2.4.1 Incubation and Performance	.....38
2.5 The Entrepreneur	.....40
2.5.1 Entrepreneur Education, Training and Learning	.....43
2.5.2 Entrepreneurial Learning Through Mentorship	.....48
2.5.3 Entrepreneurial Education Through Clubs and Societies	.....49
2.5.4 Entrepreneurial Innovation	.....51
2.6 Entrepreneurship	.....54
2.7 Entrepreneurial Ecosystem	.....58
2.7.1 Common Attributes of an Entrepreneurial Ecosystem	.....62
2.7.2 Organizational Sponsorship	.....62
2.8 Incubator Policy and Development	.....63
Chapter 3 Methodology	.....69
3.1 Introduction	.....69

3.1.1 The Aim.....	69
3.1.2 The Research Question.....	69
3.1.3 Objectives of the Study:	70
3.2 Rationale for the Philosophical Approach Adopted.	73
3.2.1 Research Philosophy	73
3.2.2 Opposing Philosophical View (Positivism)	73
3.3 Contemplation in Methodological Design and Approach	74
3.3.1 Multi-Method Approach:.....	75
3.3.2 Mixed Method Approach:	75
3.4 Philosophical Views	77
3.4.1 Ontology	77
3.4.2 Interpretivism.....	78
3.4.3 Epistemology	79
3.4.4 Axiology	80
3.5 Research Chain	81
3.6 Research Strategy and Design	82
3.6.1 Introduction	82
3.6.2 Research Design.....	83
3.6.3 Research Choice Using an Interview Approach	83
3.7 Pilot Study	85
3.7.1 Methodological Issues when Conducting the Pilot Study	85
3.7.2 Justification of Interview Guide.....	86
3.7.3 Interview Guide Template Design:	87
_____Interview guide: Section I.....	87
_____Interview guide Section II	87
_____Interview guide Section III	89
3.8 Method of Data Collection	89
_____Step I. Selection of candidates	90
_____Step II. Making arrangements for candidate to participate at the interview	90
_____Step III Conducting the interview	90
_____Step IV Post interview transcription	91
3.9 Ethical Considerations During the Conduct of the Study.	91
3.10 Data Analysis	92
3.10.1Transcribing the Data	92
3.10.2Coding the Transcribed Data.	92
3.10.3Evolved Themes.....	93
3.11 Conclusion.....	94

Chapter 4	Analysis and Findings	95
4.1	Introduction - Overview of the Chapter	95
4.2	Section (1) Profile of the Entrepreneur/Business	98
4.3	Section two (2) Theme 1: Entrepreneur Experiences in the IBIS Programme	100
4.3.1	Motivation and Confidence	102
4.3.2	Application Process: Registration and Enrolment	103
4.4	Theme 2: IBIS Programme - Business Support Services	105
4.4.1	Training and Development	107
4.4.2	Mentorship	109
4.4.3	Funding	110
4.4.4	Marketing and Networking	112
4.5	Theme 3: IBIS Programme - System Challenges	113
4.5.1	Inadequacy of Services	114
4.5.2	Incubator Facilities Challenges	115
4.6	Section (3) Theme 4: IBIS programme – Clients’ Suggestions for Improvements	116
4.6.1	Government	118
4.7	Theme 5: Service Gap Analysis	120
4.7.1	Standards in Business	122
4.7.2	Research and Development	124
4.7.3	Use of Modern Technology	125
Chapter 5	Discussion	127
5.1	Introduction	127
5.2	IBIS Programme Model Inadequacies	127
5.2.1	Incubatee/Business Profile	127
5.2.2	Structured Recruitment	129
5.2.3	Certification	130
5.2.4	Entrepreneurial Mindset	132
5.2.5	Facilities Inadequacy	134
5.2.6	Technical Support Inadequacy	134
5.3	IBIS Programme Support Services - Training Inadequacies	135
5.3.1	Quality of Training	136
5.3.2	Mentors Inadequacy	136
5.3.3	Knowledge Transfer	137
5.3.4	Project-Oriented Training	137
5.3.5	Use of Technology in Training	138
5.3.6	Marketing and Networking	138

5.4	Entrepreneur Funding Inadequacies	139
5.4.1	Inflexible Funding Arrangement	139
5.4.2	Entrepreneur Loans	140
5.4.3	Draw Down from Loans Approved	140
5.4.4	Incubator Funding	141
5.5	Summary	142
Chapter 6	Conclusions and Recommendation	143
6.1	Introduction	143
6.2	Best Practices in Incubator Services and Management	145
6.3	Limitations of the Study	148
6.4	Implication of the Study Results	151
6.4.1	Introduction	151
6.4.2	Implications for Operational Effectiveness	152
6.4.3	Implication to Stimulate More Successful Businesses.	153
6.4.4	Implication to Drive Economic Impact	153
6.4.5	Implication for Policy Change	155
6.4.6	Implication for Providing a Map of Services	155
6.5	Transitioning from the Gap in Services to a Conceptual Model	156
6.5.1	Conceptual Framework:	157
6.5.2	Contribution to Knowledge:	158
6.5.3	New Proposed Conceptual Framework of Incubation Process Flow from Entry to Graduation of Entrepreneur in Trinidad and Tobago.	161
6.6	Recommendations for Policy Makers:	163
6.7	Suggestion for Future Research:	167
References		170
Appendices		187
	Appendix 1: Letter seeking approval to conduct study (CEO, IBIS)	187
	Appendix 2: Edinburgh Napier University Research Consent Form	188
	Appendix 3: Participant Information Sheet	189
	Appendix 4: Interview questions guide template (reformatted)	190

List of Figures

- 3.1 Research Onion Layered Model.
- 4.1 IBIS Incubation Process Diagram.
- 4.2 Gender 4.3 Marital Status 4.4 Education Level
- 4.5 Business Orientation 4.6 Market Type 4.7 Business Type
- 4.8 Business Sector Type
- 6.1 New proposed Conceptual Framework for incubation of IBIS clients.
- 6.2 Recommended Public, Private Partnership (PPP) model.

List of Tables

- 2.1 Provision of services in incubation according to incubator sizes (%)
- 2.2 Common incubator services (2008-2020)
- 3.1 Research design road map
- 4.1 Theme 1: Entrepreneur experience in IBIS
- 4.2 Theme 2: IBIS business support services
- 4.3 Summary data of services identified by interviewees from IBIS – compiled by researcher.
- 4.4 Theme 3: Incubator system challenges.
- 4.5 Theme 4: Suggested organizational improvements by interview participants.
- 4.6 Gap in services – summary findings.
- 4.7 Theme 5: Services gap acknowledged by participants.
- 6.1 Services offered by IBIS
- 6.2 Gap in services areas identified
- 6.3 Common global best practices in services vs IBIS services – effectiveness analysis

Acronyms and Abbreviations

BPL	Barrels per litre
CAMI	Centre for Advanced Manufacturing and Innovation
CARICOM	Caribbean Community
CARIRI	Caribbean Research Institute
CEO	Chief Executive Officer
CSO	Central Statistical Office
FDI	Food and Drug Inspectorate
GDP	Gross Domestic Product
GoTT	Government of Trinidad and Tobago
IBIS	Integrated Business Incubation Centre
IMF	International Monetary Fund
MIC-IT	MIC Institute of Technology
NBIA	National Business Incubation Association
NEDCO	National Enterprise Development Company
OSH	Occupational Safety and Health
PAEC	Public Accounts Committee
PNM	Peoples National Movement
PSED	Panel Study of Entrepreneurial Dynamics
R&D	Research and Development
SMEs	Small and Micro Enterprises
STOW	Safe to Work
TIC	Technology Incubation Centre
TTMA	Trinidad and Tobago Manufacturers Association
UK	United Kingdom
UTT	University of Trinidad and Tobago
UWI	University of the West Indies
WTI	West Texas Intermediate

Chapter 1 Introduction

This chapter provides an introduction and an overview of the study. Firstly, it describes the economic challenges and outlook faced by the Government of Trinidad and Tobago and the means by which it attempted to use an incubation system as a countervailing mechanism to drive economic growth. The chapter then explores the research aim and objectives and gave some insights into the researcher's work and interest in why he embarked on this study. Further, this chapter served to identify some of the gaps in the literature and to support decisions on the research approach adopted in the study. The chapter goes on to outline the context and background as it positioned the research area within the study and finally, it details clearly the thesis chapters which provided an overview of the thesis structure to help guide the reader through the thesis development.

1a Global Outlook

According to the 2016, 2017 and 2018 Review of the Economy Report, Trinidad and Tobago has been experiencing economic challenges caused mainly by the reduction in the prices of oil and gas worldwide. This reality led to a collapse of West Texas Intermediate (WTI) oil prices in 2015, 2016 and further in 2017 internationally which fell from approximately US\$100 barrels per litre (bpl) to approximately US\$40 per (bpl). Growth of global output was expected to remain at 2015 levels of 3.1 percent according to the International Monetary Fund (IMF) World Economic Outlook. Growth was anticipated in advanced economies, while negative growth was forecasted for Latin America and the Caribbean at negative 0.4 percent. In 2016, economic growth in the United States was expected to decrease marginally to 2.2 percent, down from 2.4 percent in the previous year. For the Eurozone, GDP growth rate was expected to be 1.6 percent.

Based on economic projections, difficulties existed in the economic horizon. This recent phenomenon has globally impacted, and continued to impact global oil and gas outcomes and has caused a drastic reduction in revenues from the petroleum sector in Trinidad and Tobago. This sector contributed in excess of sixty (60) percent of Trinidad and Tobago's Gross Domestic Product (GDP), according to the Central Statistical Office (CSO), a state enterprise charged with providing statistical data on country performance.

In this chapter, the economic strengths and weaknesses of the country are portrayed, highlighting the heavy reliance that Trinidad and Tobago has on oil and gas and how lower sales have impacted the economy. In the exploration of the literature the study has demonstrated how incubators can be an objective response to assembling alternative revenue generating sources to oil and gas. The study further explored incubation and entrepreneurship, illustrating how these play a key role in the process and the potential impact that they can have on the economic growth. Further, although the use of incubators can be a successful strategy for economic development, an alternative perspective from Scillitoe & Chakrabarti, (2010) suggest there are contradictory results of incubator success which maybe as a result of the limited understanding of the incubation process.

The Government in its 2019 Midterm Review Report highlighted some of the challenges in the economic outlook going forward and envisaged that they would have an adverse impact on public financing. In 2016, the finance minister of the GoTT postulated when he read the national budget that there was no economic growth in 2015, suggesting a flat economy and there would be a projected decline of approximately 1.4 percent of GDP in 2016 and further decline in years to come. This pronouncement raised concerns in many quarters of the country due to the economy's heavy reliance on oil and gas

revenues for sustaining its economy and generating economic activity. Following this revelation, the oil and gas sector took high prominence on the Government agenda for developing countervailing mechanisms.

Trinidad and Tobago is an oil-producing nation that relies mainly on oil and gas for driving its economy. With oil and gas on the decline, the Government was then forced to look to alternative sources of revenue generation in order to meet its needs. Some of the sources articulated by the Prime Minister Dr. The Honourable Keith Rowley in his speech to the Trinidad and Tobago Manufacturers' Association at their Annual Awards 2016 was for focused diversification towards Agriculture, Manufacturing, Tourism and Financial Services. This was also stated in his address to the nation (December 2015) with respect to the state of the economy. This was further supported in the GoTT Manifesto, (2015), where Small Business Development and Entrepreneurship was identified as one of many alternative solutions towards achieving its diversification mandate.

Following this, the Government of Trinidad and Tobago has put forward countervailing measures to propel economic growth, which is denoted in its National Strategic Plan: Vision 2020, revised in 2015 to Vision 2030. The National Strategic Plan was created in 2004 as a framework for the country's development towards first world status and proposed the establishment of business incubators to facilitate new entrepreneurs and innovative ideas (Vision 2020; Framework for action, p.242). In a rapidly changing global economy, competing in the global environment, small and medium sized enterprises (SMEs) are increasingly a force for enhancing national economic growth for both developing and developed countries (Muhammad et al., 2010). The report on Advanced Manufacturing Technology in China - A road map to 2050 by Feiyue et al., (2012), states that "dwindling oil and gas reserves have put back the focus

on diversification to manufacturing as a viable and alternative source for achieving economic growth and prosperity”.

This vision articulated by the Government is the main purpose of this research investigation into exploring all aspects of incubators and entrepreneurship in its thrust towards manufacturing. It outlined how to create an enabling environment in the services as well as how incubators can provide relevant support services to entrepreneurs (Enabling Competitive Business Strategy Report, 2011-2014). In this report, the role of governments in supporting the development of small and medium enterprises has been well documented and showcases the key role that governments play in the incubation process.

1b The Government Approach and Way Forward

In the literature small and medium-sized enterprises (SMEs) represent approximately 60 percent of employment growth in economies across the globe. In the writing of Burns (2016) on Entrepreneurship and Small Business, and Yusuf (2010) they cite that small businesses are good for economic development and the nurturing of small business should be an appropriate focus. Accordingly, SMEs were responsible for the creation of a high percentage of jobs globally. This was seen by some from the study as an escape from poverty and in raising the living standards, further linking poverty reduction with entrepreneurship and the impact this has on economic development. The aforementioned literature highlighted this type of phenomenon occurred with scholars reporting the huge socioeconomic benefits that entrepreneurship can have on a country in promoting living standards and reducing poverty. The Government of Trinidad and Tobago has indicated similar views, in that they foresee with investments in SMEs

development with strong support into the establishment of incubation systems that these initiatives can help to promote the development of alternate sectors.

For small businesses to develop, it is suggested that governments execute well-articulated strategic policies for creating economic activities in business. The People's National Movement (PNM) is currently the governing political party. One of their key policy initiatives was the inclusion of entrepreneurship and innovation in schools' curriculum, creation of business clusters and strengthening all state institutions that play a role in funding, training and developing markets for the Small and Medium Enterprise sector (PNM Manifesto 2015, p. 56). The ever-changing global economy can have a debilitating effect on Trinidad and Tobago if the Government and people do not proactively implement new, innovative initiatives to keep pace with changing global realities. To do so, the Government is examining changing policies and programmes. This view was shared by most scholars lamenting that governments should lead the incubation process and guide in the achievement of goals, roles played and outcome. Most of the policies should be directed to addressing the financial fundamentals, nurturing, and high impact firms, (Meru & Struwig, 2015). These findings are not unique as the previous literature supports this in similar studies conducted by Abetti (2004), Muhammad et al., (2010) & Peters et al., (2004) on creating new businesses as an effective method for economic development.

1.1 Context and Background of the Study

The Government of Trinidad and Tobago (GoTT) launched its National Strategic Plan titled "Vision 2020" in 2004 and subsequently re-launched an updated "Vision 2030" Plan in 2015. Both plans identified a diversification effort from being heavily reliant on the energy sector towards manufacturing, tourism, agriculture and marine

sectors. At the end of 2017, exports of oil and natural gas and other petrochemicals accounted for 85% of the total export earnings, 40% of Government revenue and over 35% of the country's GDP. Additionally, as the world increasingly moves toward renewable energy sources, this has compelled the Government to embark on diversification initiatives as a matter of urgency, but historically Trinidad and Tobago was always seen as an oil producing country and not manufacturing-based. Therefore, it can be characterized by its uniqueness as a small island developing state. This is further reflected in GoTT's Medium Term Policy Framework (MTPF) 2011-2014 which included that the creation of business incubators and technology parks would boost business development and diversify and deepen the production base in order to ensure that in a context of depleting energy resources, the economy will continue to grow and sustain a high standard of living.

While the Government strategic plan revealed policy, intent and direction, these particular Plans were developed with a detailed framework for each sector. The broad framework for the Plan was created by twenty-eight (28) sectoral committees that received input from government, non-government organizations, public and private enterprises, communities and interest groups and the people representing a wide cross section of Trinidad & Tobago.

In the plan, the scope of the research related directly to two of five priority areas:

- (1) Developing Innovative People; and
- (2) Enabling Competitive Businesses.

This illustrated the high level of importance placed by the Government to support a declining economy and drive innovation and its people towards the various development goals. Accordingly, this is part of the Government's strategic initiative to nurture and

grow small businesses. Subsequent to the release of the Strategic Plan, through the Ministry of Planning and Development, GoTT appointed a Committee charged with operationalizing the Strategic Plan in the preparation of an Operational Plan. This Operational Plan spoke of the establishment of a National Business Incubation Policy and a National Integrated Business Incubator System (IBIS) that can provide a comprehensive nurturing environment for new entrepreneurs, an innovative vehicle for small and medium enterprises (SMEs). Government envisaged that this will enhance the link between entrepreneurship and development, supporting and encouraging the emerging entrepreneur. To implement the strategic plan, GoTT laid the platform for entrepreneurial support in the establishment of an Integrated Business Incubation System (IBIS) in 2012. IBIS falls under the purview of the Ministry of Labour and Small and Micro Enterprise Development. It is on the IBIS platform that this study will be centred; much of the primary data collection will be collected from incubators under the IBIS programme on the range of services and effectiveness of the services provided.

1.2 Research Aim and Objectives of the DBA

The Aim of the study was to investigate the optimal service needs of nascent entrepreneurs within the Government's IBIS program. Not having all the support services available can be an impediment to success, therefore in "understanding the barriers that future entrepreneurs will probably encounter can be relevant in order for their businesses to have the best chance of success" (Fumo & Jabbour., 2011, p. 850).

The aim was then disaggregated into four objectives by which the research question can be answered.

Objectives of the Study:

- To examine the literature on the most common best practices in incubator services
- To explore and map the service needs of nascent entrepreneurs within the IBIS programme
- To provide a conceptual framework of services to facilitate entrepreneurial development within the IBIS programme
- To make recommendations to policy makers that may enhance the IBIS incubator effectiveness

These four objectives served as the guiding light for the research design and approach and provided direction for the study path that led to answering the research question.

1.3 Researcher Profile

The researcher is currently employed at the MIC Institute of Technology (MIC-IT), formally Metal Industries Company Limited (MIC) which was established in 1974 as a joint venture of the Government of Trinidad and Tobago, United Nations Development Programme/United Nations Industrial Development Organization (UNDP/UNIDO) and a number of private local industries. The company's original purpose is to support the establishment of flexible, modern, efficient and dynamic manufacturing industries with important domestic linkages which contribute significantly to the Gross National Product.

The company was structured as a private company with majority Government ownership (Corporation Sole and State Enterprise) of approximately 80%, together with a certain level of private sector equity participation of 20%. MIC was established with the objectives of developing local capability in the making of tools, dies and moulds,

precision machining and manufacturing engineering. Trinidad and Tobago had little or no prior experience or exposure in these areas of manufacturing before embarking on this initiative. In 2014 MIC was rebranded to MIC Institute of Technology (MIC-IT) and operated both as a commercial factory and as a training institution. At this time, they provided a number of training and engineering services to companies in the manufacturing and energy sectors offering services in design, engineering, innovation, plastic production and manufacture of production tools and dies. Through these services, many companies and individuals sought access to services for development of their productions/manufacturing systems, new product development and innovation. Over time, it was discerned that many of the persons who seek these services were from incubators from the University of the West Indies (UWI), University of Trinidad and Tobago (UTT), the Caribbean Research Institute (CARIRI) and the Integrated Business Incubations System, all state-funded institutions.

1.4 Research Gap and Interest

In discussions with clients, many opined that their reasons for seeking MIC IT assistance was mainly due to the prevailing institutions not providing all the services required to successfully realize their business goal. In exploring this phenomenon, it was further revealed that the Government has a strategic plan for the holistic development of entrepreneurs which is implemented chiefly through the Integrated Business Incubation System (IBIS) programme. This key revelation was a major turning point that influenced the researcher to investigate the adequacy of services provided by the IBIS programme.

My interest was further sparked whilst working to help strengthen the entrepreneurship and incubation systems in Trinidad and Tobago. It was while supervising the development of new products and innovation for a number of years, that

it became apparent that entrepreneurs struggle to develop their ideas into commercialization. Although there are many incubators in Trinidad and Tobago, they all follow the form of a business incubator and lack the span of services to fully meet the needs of entrepreneurs. A Business Incubator is considered an organization that provides a list of business services that cater to the development needs of the business. This study provided the opportunity to investigate the strengths and limitations of incubator services that exist within the Integrated Business Incubation System (IBIS) and from this investigation make recommendations for improving the effectiveness of the services they offer.

1.5 Research Approach

The research study is rooted in the philosophy of Interpretivism and employed a qualitative design. The research questions were investigated with an exploratory research design influenced by a phenomenological design. An interpretivist approach had the potential to advance a more subjective assessment by way of the conduct of interviews. Esteves et al., (2004p.73) state that this approach can give the researcher “greater scope to address issues of influence and impact, and to ask questions such as ‘why’ and ‘how’”. They go on to cite Klein & Myers, (1999) by saying “interpretive research assumes that our knowledge of reality is gained only through social construction, shared meaning, documents, tools, and other artefacts” (p.69). In conducting the study, interviews were used to explore the opinions of nascent entrepreneurs within the IBIS incubator system analysing services, summarizing, categorizing and classifying the main views of the interviewees and on the challenges they faced in start-up. Supplementary data were also collected from around the world from publications, journals and websites giving a global perspective on incubators. Through the National Integrated Business Incubator System

(IBIS) in Trinidad and Tobago, the researcher also conducted twelve interviews of clients coming from the four IBIS locations within Trinidad and Tobago. From the thematic analysis, a narrative was generated, common patterns and themes of serviceable areas evolved out of the research and this information informed the future service needs of new entrepreneurs.

1.6 Research Focus

The Integrated Business Incubation system (IBIS) is a programme established by the Government of Trinidad and Tobago in 2012 to provide a unique mix of business development support, infrastructure, operations and financial assistance that can assist in the growth of new and existing micro and small enterprises and is implemented by the National Entrepreneurship Development Company Limited (NEDCO). The aim of the IBIS programme is to provide a “one stop shop” for all support services required by small businesses. Entrepreneurs, through the various stages of their development, are offered mentorship and training with persons skilled and experienced in business and business development. Office Space is also provided at a subsidized rate at any of its sites across the country: El Socorro, Point Fortin, Sangre Grande and Diego Martin. Financing is also provided up to TT\$100,000 as seed capital in the purchase of technology or equipment.

Since the inception of IBIS, many of the current incubator clients have encountered challenges with sufficiency of services, and are exploring alternative institutions like MIC-IT to meet their service needs. This lack of optimum services is what prompted this researcher to explore the gap in services. This view was supported by Yusuf (2010) who examined incubator effectiveness and his findings suggest that overall, incubator programmes fail to provide entrepreneurs with needed support services.

Further, NEDCO was one of the institutions assessed by the GoTT during the Public Accounts Enterprise Committee's (PAEC) 3rd Session of the 11th Parliament in 2017. The Committee highlighted the high non-performing programmes under the NEDCO (including IBIS) citing weak loan facility management for entrepreneurs and a weak performance management system in assessing the ineffectiveness of entrepreneur's services within the programme and advised that NEDCO should review all policies and processes with respect to financial, incubator operations and risk management of the programme.

The Problem: Inadequate and Ineffective Incubator services to entrepreneurs to support the needs of nascent entrepreneurs of Trinidad and Tobago.

This then prompts the question:

Research Question: What are the optimal service needs of nascent entrepreneurs within the IBIS Incubator programme? In pursuant of achieving this, the thesis is set out into six chapters.

1.7 Thesis Outline

Chapter (1): Introduction: This chapter introduces the context and background of the study and provides a rationale for carrying out the study. This is set against the backdrop of a declining economy and a failing incubation system. The Government has suggested that Incubators should be used as a mechanism for spurring on the growth and success of entrepreneurs within Trinidad and Tobago and so it is critical for the success of the IBIS programme for economic development and job creation. The research aim and objectives and key research questions are also provided here.

Chapter (2): The Literature Review is a key chapter in the study as it gives a historical account on the research of incubators and entrepreneurs and provides a discussion on the available literature. It also defines what the research topic is all about, showing some broad global perspectives of what various authors' views are on incubators and entrepreneurs. The approach used was in conducting reviews of many past studies of academic journals, of authors' writings on incubator services and this is summarized into an overall conclusion of the characteristics of the main categories and types of services. This would address the mapping of service needs of entrepreneurs and best practices in incubator services, one of the objectives set in the study.

Chapter (3): Methodology: This chapter deals with the methodological approach outlining the philosophical research strategy and design underpinning the study. Understanding the philosophies of Ontology, Epistemology and Axiology helped to better understand choice of methodological approach adopted, as it brought the researcher's character and mind-set in alignment with the research approach adopted.

An interview guide was used to assist during the interview process; the guide was subdivided into three main sections with an open introductory question on the business at the beginning of the interview. The second section comprised open-ended questions that facilitate a dialogue from responses given. The third section required an initial yes or no answer which was then followed by a why response from the researcher - this petitioned an explanation of the response from the interviewee. These responses attempted to give the interviewee an opportunity to validate his or her responses. Subsequently, the voiced recordings from interviews were transcribed.

Chapter (4): Analysis and Findings: In this chapter, the focus was placed on presenting a summary of the data findings and analysis of the data. The author went

through the process of transcription and coding the data, themes emerged and were presented in tables with associated codes and coded evidence and a narrative was written on what the data represented for each theme.

Chapter (5): Discussion: This chapter is concerned with data analysis and resultant findings. In this Chapter, the discussion is centred on the key service findings that emerged from the study and the adequacy of the support services. These findings were critically examined comparing and contrasting with world views by other authors and the findings from the study. This discussion was presented in a format using Wrench et al. (2013) & Weaver-Hightower (2014), concept of set-up - quote - comment for each of the main themes, capturing the essence of the theme.

Chapter (6): Conclusion with recommendations: In this chapter, Recommendations are proposed on the study contribution to knowledge, and a conceptual framework was created graphically depicting the gap in services and an improved process flow of graduating clients. Key recommendations were made for guiding policy makers on improvements to the incubation system, implications and limitations were discerned from conducting the study and the area of future research was put forward for consideration.

All of the above chapters form a structural tactic of the study towards achievement of the objectives and research question.

1.8 Summary

The chapter has provided an overview of the full thesis for the DBA. It gives the context and background in which the study was undertaken. The aim and objectives were achieved as solutions were put forward centred around improving the efficiency and

effectiveness of the IBIS programme services offering in developing successful entrepreneurial businesses. The chapter structure of the thesis was outlined and will now proceed along that path with a detailed exploration and examination of the underpinning literature.

Chapter 2 Literature Review

2.1 Introduction

In this chapter, a full exploration of the literature was undertaken providing a landscape view of the incubator eco-system. The literature examined incubators, the incubation process and entrepreneurs in general. The chapter begins with a historical gaze at incubators from their inception and how they have transitioned over time. It then focused on why incubators were needed, examining the pros and cons of using incubators, and the general role that they play in today's economies for supporting the economic growth and development of small and micro businesses. Subsequently, the chapter explored the literature on different types and new forms of incubators and detailed the incubation process and performance. The chapter then focusses on telling the story of the entrepreneur and how they navigate through the incubation process and the challenges they may experience. Finally, it concluded with a general view of the incubator ecosystem, investigating the central actors in the system and their interrelation with how the incubation system was governed and the policies that guided the full process from selection to graduation of entrepreneurs. This in-depth review allowed the researcher to compare and contrast the literature of scholars with any similarities matched against the Integrated Business Incubation System (IBIS) model for pointing out any gaps that may exist and making recommendations to address the gaps.

2.2 Business Incubators

There is an old adage, "start from the start"; therefore, according to the literature, the first business incubator was located in Batavia Industrial Centre created in 1959 in a New York factory. The factory had gone into bankruptcy and the building was divided into small spaces for small firms to use (Fernandez Fernandez et al., 2015). Space, it seems, was the predominant requirement of entrepreneurs back at that period in the early

stages of incubator development. Incubators then evolved over time into permitting additional services to be introduced allowing for incubator growth. Business incubators are generally organizations that support the creation of new business through a multiple of services offerings, including: tangible space, shared equipment, administrative services and intangible knowledge (Hausberg & Korreck, 2018).

The business incubator is generally an organization according to Kiran & Bose, (2020). The organization can emerge when all systems of people, ideas and market come together in the right timing to benefit from opportunities (Nair & Blomquist, (2018, p.40). Accordingly, this type of organizational network can comprise “customers, suppliers, partners, distribution channels and coalitions”. Incubators have become commonplace in today’s entrepreneurial environment providing key support to the growth and development of new ventures (Piet Hausberg & Korreck, 2018). Establishing a new business is difficult with almost fifty percent of businesses failing within the first five years of operations (Lasrado et al., 2015). Overcoming failure during start-ups is a key rationale for using incubators (Soetanto & Jack, 2016). These realities are faced by new entrepreneurs when trying to navigate the start-up of a new business.

In Trinidad and Tobago, entrepreneurs face these challenges as denoted from feedback from clients and there is a strong desire to increase competitiveness and entrepreneurship. For this purpose, the Government has, in its 2030 strategic plan, a clear articulation that incubators can be a successful countervailing mechanism if deployed to grow new businesses successfully and increase competitiveness. It is therefore the view by the Government that business incubators can contribute to assisting firms who may struggle with having financial capability, or accessing physical facilities and other intangible value (Bruneel et al., 2012; Barbero et al., 2014). Most public incubators are associated with governments as sponsors. They are usually focused on job creation and

increasing entrepreneurship, while private incubators tend to focus on return on investment and financial success (Hausberg & Korreck, 2018). Trinidad and Tobago as a developing nation has advocated the establishment of an incubation system. Positioning incubation technology, entrepreneurship and innovation, can be a suitable countervailing mechanism by the Government which can be critical towards the development of the economy (Kiran & Bose, 2020).

In Trinidad and Tobago, the Central Statistical Office (CSO, 2016) states that the Government is the majority employer in the country, contributing over seventy (70) percent of the economic activities that takes place within the country. Government policy and initiatives are mainly geared towards enhancing the role of the Government in driving the economy and welfare of its citizens. This is seen though as one of its policy initiatives in the establishment of the Integrated Business Incubator System (IBIS). This system aims at fostering the growth and development of new businesses, providing a system of incentives and administrative mechanisms to facilitate start-ups. This begs the question as to what type and classification of incubators may be relevant to Trinidad and Tobago's context and more importantly, the adequacy of services they provide.

Fernandez Fernandez et al., (2015), posit that business incubation is a dynamic business development process, whilst, Nair & Blomquist, (2018) add that it involved a host of accelerating activities like access to law firms, patenting and intellectual property (IP) protection, business and technology consultants, basic financing and high importance was placed on tangible resources. Over the years the concept of business incubation has been evolving and adapting to novel forms of support being offered. These new forms have proven to be more flexible and effective than the traditional systems (Albort-Morant & Oghazi, 2015). The history of incubators has shown that they create value, offering an entrepreneurial spirit that can stimulate growth within a community (Li et al., 2020).

The central objectives of a business incubator, throughout the process of incubation from entry to graduation, are to be financially viable and stimulate growth and development to ensure the success of the firm. (Mas-Verdú et al., 2014). According to Mian et al., (2016), most incubated firms show higher growth rates than non-incubated ones. Additionally, they suggested that this was as a result of better performance and because they have a higher predisposition to participate in R&D and collaborative arrangements, tailoring their service needs in support of development (Li et al., 2020).

As in Trinidad and Tobago's case through the Government strategic policies for incubation, several countries around the world have adopted this approach in helping small and medium enterprises resulting in a proliferation of incubators globally (Kiran & Bose, 2020). Most governments see incubators as an effective mechanism for development of the economy (Hausberg & Korreck, 2018). The rationale for using business incubators according to the U.S National Business Incubation Association (NBIA) is as a business support process that accelerates the successful development of start-ups and fledgling companies by providing entrepreneurs with an array of targeted resources and services. In an article by Qian et al., (2012), they share that the number of business incubators in the United States has increased exponentially over the last two decades from a mere 12 to more than 1,100, thus in 2005 North American incubators assisted 27,000 start-up companies, created more than 100,000 jobs and generated revenues of \$17 billion with 39% technology firms and 54% mixed use.

From the above research, one of the more pertinent rationales for using incubators was in fact the services being delivered by the incubator. Synergies can be formed as a result of the cross functional relationship that would exist allowing for many benefits for its formation, such as being able to access capital, get trained, be provided with ICT, networking opportunities, marketing and expert mentorship (Fernandez Fernandez et al.,

2015). Providing these services of networking, infrastructure support and training, are key ingredients in the entrepreneurial development process and the incubator is well valued for providing these services (Li et al., 2020).

Resource availability was also considered an essential service especially during the embryonic stages of the firm's development (Qian et al., 2011). Several scholars have advocated that many entrepreneurs do not have the knowledge and the market reputation to gain acceptance of reliability and trustworthiness in business, a fact that they were vulnerable at this stage and incubators can be a key support to overcome these obstacles Audretsch (2007), (Soetanto & Jack, 2016). Although business incubators were essential for generating new business, they were not a guarantee for success of a new venture, but it can provide support in the early, vulnerable stages of growth of a new business (Kiran & Bose, 2020).

One of the reasons for poor success was that many new entrepreneurs have been known to lack key management skills and experience and they have found it hard to cope with a dynamically competitive environment (Bruneel et al., 2012). One of the ways to circumvent some of the obstacles faced by entrepreneurs was to provide a supportive environment in providing flexible office space, shared equipment, and administrative services (Bollingtoft, 2012).

According to Nair & Blomquist, (2018), incubators can also be considered as social organizations that share an interrelationship with customers and funding agencies to tackle the firm's challenges and opportunities that may exist. Incubators can act as a catalyst for spurring on development. Small business incubators support the growth and development of the firm, providing a list of services, many authors describe these as physical spaces, capital, coaching, training and networking Soetanto & Jack, (2016)

additionally graduating once they become independent and financially viable (Mas-Verdu'et al., 2014).

There is an important role for business incubators towards nurturing start-ups of new firms, supporting and enabling entrepreneurs redounding to economic development (Qian et al., 2011). Entrepreneurship is an important mechanism Audretsch (2007) and most governments recognize the link between entrepreneurs and growth. In fact, it is the underlying reason they saw for maintaining a stable economy; they observed entrepreneurs as a key source of job creation and business development (Li et al., 2020). A contributing dynamic of interdependence with the incubating institution acting as a conduit between the incubator and its clients. (Acs et al., 2009, Acs et al., 2008).

At the end of the day, the aim of the incubator is to work with entrepreneurs and graduate them successfully, navigating the challenges they may face to survive during the many stages of development (Albort-Morant & Ribeiro-Soriano, 2015). The general purpose of the incubator was to create value. This value can change from firm to firm in the context of sustainability, developing entrepreneurial skills and mindset, specialization or innovation. Nair & Blomquist, (2018) also see it as an entrepreneurial support mechanism for enabling activities along the value chain in the development process for new ventures. This can be mainly for addressing market needs and speed to market. There were two views expressed by Nair & Blomquist, (2018): a market pull or a technology push system. For market pull, this system looked at the existing market needs, whereas technology push explored a future of uncertainty. Regardless of what type of system used to incubate clients, according to Bruneel et al., (2012, p.111) there were still many benefits that can be derived from using an Incubator:

- “Tenants can profit from existing economies of scale within a business incubator when renting office space together with shared resources.
- The existence of scaled economies reduces tenant’s overheads.
- Shared resources bundle including energy, water, telecommunications and cleaning.
- Shared meeting rooms, reception services and private parking spaces.
- It eliminates the burden of planning, setting up and paying individual providers.
- Tenants do not have to put much effort and time into managing complementary services, allowing them to concentrate on their core activities.
- In most cases strengthened by BI’s subsidy generating capacity which they partly share with other tenants”.

It was also apparent that it was the incubator and not the tenant that acted as the main initiator during the incubation process for movement of resources and knowledge (Fang et al., 2010). Nonetheless, the incubator can also create connections between tenant and outside firms (Hausberg & Korreck, 2018) belabouring the points of physical proximity, knowledge sharing and cooperation. In several journals, scholars discussed their points of view on what were the attributes of success of an incubator, but determining the right formula can be elusive. Albort-Morant & Ribeiro-Soriano, (2015) discuss two major flaws, first defining what was success and secondly where they were unable to measure the degree of success of the incubator. Accordingly, the incubator design focuses on the incubator rather than taking a tenant perspective, therefore thus resulting in the tenant’s needs not being met. Another author conversely said that there were contradictory results of incubator success and it can be as a result of the limited understanding of the incubation process (Scillitoe & Chakrabarti, 2010).

Harper-Anderson & Lewis, (2017.p.61) spoke of two factors affecting success: “incubator internal quality factors including incubator resources, services offered and management practices; and external regional factors like locally available capital, labour, innovation, knowledge and wealth”. In addition, prior research has shown that the incubator manager was central to the success of the entrepreneur and can be a great predictor of performance (Meru & Struwig, 2015). When picking candidates in the incubation process, a key element of the selection process was in the ability of the incubator manager to filter out weaker candidates, thereby enhancing the performance of the incubator to produce greater successes (Hausberg & Korreck, 2018).

The importance of effective managers and management strategies can manifest in three ways to improve incubator performance according to Surana et al., (2020). Effective managers: 1. worked cohesively with other stakeholders; 2. financed and developed long term financial plans that can reap strong economic outcomes; and 3. engaged in regular self-assessment and outcome at improving performance. Whereby measuring performance along the process can be an essential element, and scholars placed a lot of attention on it, they equally spoke of types and models of incubator systems and incubator mechanism being practiced around the world today.

2.2.1 Types and Models of Incubators

Incubators gained popularity around the world providing services aimed at the development of entrepreneurs, promoting the development of technology and were commonly viewed as a tool for economic development (Bergek & Norrman, 2008). Within the research conducted of journal articles on incubators and incubation and entrepreneurs, many of the scholars share information on specific types and models of incubators common in the marketplace: public incubators, regional incubators, private corporate incubators, and independent incubators. There were also broad classifications

of incubators that spanned from technology centres, science parks, business and innovation centres, and organizations without walls or call virtual incubators, (Meru & Struwig, 2015).

A further distinction was also described by Barbero et al., (2014) between for profit incubators and not for profit incubators. Over 90% of incubators in the world were not for profit, according to Voisey et al., (2013), suggesting that not for profit incubators tend to dominate the landscape in regions with a high concentration of small businesses or where regions lack a strong business presence to help in the development of small businesses (Qian et al., 2011).

Further, Barbero et al., (2012) provide an account of four types of Incubators and share some of the distinguishing features of each. The four types are: Economic, University, Basic research and Private incubators.

1. **Economic Development Incubator:** This type mainly focuses on economic development, working on improving the circumstances under which the incubatees operate by providing a business space, some infrastructure and communications type facilities.
2. **University Business Incubator:** This type is mainly associated with technology type services, providing access to university services; (faculty such as consultants, incubatee education, training, and library access). The main objective is to commercialize developed technology.
3. **Basic Research Incubator:** This type is not common and very specialized in the services it offers. It is created mainly by public funding to develop research. Known to work closely with the university to develop innovation in the plastics

sector and research development of prototypes, it involves technical experts to support the high level of complex work.

4. **Private Incubator:** has two subtypes:

- a. Corporate business incubator: mainly created by large organizations to capitalize on opportunities in business.
- b. Private incubator: helps entrepreneurs set up their own business; they use their own funds, and control management activities.

In the context of this research, undoubtedly, the IBIS incubator was similarly patterned against the economic development incubator. It can be said that IBIS was not technology oriented, as in the university type, nor was it research oriented as in the basic research type and finally it was not privately incorporated with its focus on corporate seeking to capitalize only on opportunities in business. However, it was equally cognizant of capitalization, job creation and creating entrepreneurs within the economy. It was attributed more towards the economic development incubator type.

In the following section, the discussion leads to several of the common types of incubators that were discerned from the literature further providing some level of description differentiating each type: the business accelerator, the corporate accelerator, the bottom-up incubator and the academic spin-offs.

The Business Accelerator is a recent machinery in the business incubation ecosphere. Pauwels et al., (2015. p.13), comments that “over the past decades a wide variety of incubation mechanisms have been introduced by policy makers, private investors, corporations, universities and research institutions”. The business accelerator has evolved over the last decade to address the shortcoming of previous models of business incubators that focused principally on physical space and support services. If one is to further compare the accelerator with the business incubator, the accelerator takes

up to six months with strong, intense mentorship and training to graduate the entrepreneur whilst alternatively the business incubator spans around two years before graduating its clients, (Kohler, 2016).

Modern business accelerators address the key challenge faced by traditional incubators – the “life support trap” (Mian et al., 2016, p.6). A high performing functional accelerator is structured to provide mentorship, networking opportunities and access to funding. The process of the accelerator is similar to the incubator; they go through a selection phase identifying the needs and goals, looking at their concept, business model and market potential. Clients are also sometimes asked to do a helicopter pitch of their idea to look at the potential of the start-up, and management of the accelerators can also inject constructive advice. The fast tracking process extends over a period of three to six months.

Pauwels et al., (2015) refers to three types of accelerators: the “**ecosystem builder**”, typically set up by corporate companies that wish to develop an ecosystem of customers and stakeholders around a company; the “**deal-flow maker**” which receives funding from business angels, venture capital funds or corporate venture capital, and whose primary aim is to identify investment opportunities for their investors; and the “**welfare stimulator**” which typically has government agencies as its main stakeholder for stimulating start-up activity and fostering economic growth.

Corporate Accelerators are dissimilar to business incubators. They are normally associated with large established corporations teaming up with small and micro firms to speed up innovation. Consequently, start-ups receive support during their new venturing process in the form of mentorship, education and company specific resources, Kohler,

(2016). As a result, the start-up can become more efficient, speeding up the process to market.

A key objective of the corporate incubator is to provide that level of support to satisfy the market need of the incubatees new product or service. This can sometimes be assessing at the selection stage to determine if the idea is feasible (Nair & Blomquist, 2018). The corporation can also look at the overall portfolio of the incubatee to assess the dynamic that emerges (Hausberg & Korreck, 2018).

Barbero et al., (2012) postulate that most corporate incubators tend to be private businesses that leverage their relationship with small start-up firms to generate fast profit. As a start –up you can benefit immensely from this arrangement as large corporate firms possess the resources of its business units to bolster the smaller firm’s development, connecting the corporate staff with new ideas to inspire innovative thinking (Kohler, 2016). These kinds of support vary from technical support in the new product development, business skills in formulating feasibility of the project, and marketing linking up and connecting with some of its corporate clients to promote the product.

The Bottom-Up Incubator is another type of business incubator that shares the overall characteristics of a business incubator. Its true value resides in its ability to network and champion cooperation amongst firms. This key feature is what influences its prime success (Bollingtoft, 2012a). The Bottom up Incubation process takes into consideration the overarching process of interconnectivity amongst the incubated clients encompassing resource and shared knowledge. If anything it can necessitate clients’ harmonization (Fang et al., 2010).

Bollingtoft (2012b) takes a tenant perspective, when he presented evidence from a case study which shows tenants in close physical proximity can be valuable in

development of ideas and networking. This principal feature of the bottom-up business incubator can best be characterised by positive attitudes and cooperation amongst tenants drawing from their knowledge and experiences.

Academic Spin-Offs are another mechanism of generating new enterprises, mainly used to create new jobs, drive new innovation from research and spur on the economy. In tracking its origin, the literature shows that it was first created by faculty members, and/or staff. For this purpose, academic spin-offs are characterized by technical ideas being spawned by the university, and the ideas generated are transferred to a company for commercialization. Due to the technical nature of spin-offs, they require a high degree of technical staff mainly in the area of engineering for the development of sustainable businesses (Soetanto & Jack, 2016).

Interestingly, Soetanto & Jack, (2016) also highlight the slow development of academic spin-offs, but scholars have articulated that there is a progressing need for the speed at which technological development and knowledge production takes place. This can normally be associated with the university, a key proponent of advancing technical change and enhancing scientific technological knowledge (Acs et al., 2009). In the context of advancing such knowledge stock, Acs et al., (2009) speak of the opportunities that can come from a stock of knowledge, in which there are elements that can impede this development. The literature spoke to elements of obstruction such as legal restrictions, unavailability of finance, institutional negativity of entrepreneurship, and the stigma associated with unsuccessful attempts. Audretsch (2007) called this phenomenon the “knowledge filter” which refers to investments that restrict the advancement of commercial activities. It follows that entrepreneurship can act as a major instrument that can facilitate knowledge generation resulting in economic growth.

Technology Based Incubators (TBIs) are premised on value creation opportunities, therefore high importance is placed on exploitation of the market side (Nair & Blomquist, 2018). Soetanto & Jack, (2016) employed two strategic functions of exploration and exploitation. They explain that when a firm exploits a technology, they seek to attract a new market; whilst when a firm uses an explorative strategy, they seek to provide a better service and position themselves more competitively. Some of the core services offered by a technology based incubator according to Qian et al., (2011), were business knowledge training, marketing assistance, accounting/financial management, investor and strategic partner linkages, network contract, procurement training and legal assistance.

Interestingly, Mian et al., (2016) sees science parks and innovation centres as just another representative form of technology business incubators which essentially provide education and mentoring to start-ups founders. They observe that the general phases of the TBI's incubation processes are: Phase 1: pre-incubation/idea development, Phase 2. incubation and acceleration and Phase 3. post-incubation, consolidation and growth. Whilst incubator types and the various classifications were described above, one of the main objectives of this research paper was to determine the adequacy and best practices of services commonly used in the world today. From the exploration of the literature on incubator services it is seen that there exists yet another type of incubator which manages to combine features of different incubators. This new knowledge may assist which determines the type of services required for improving the IBIS incubator effectiveness.

Mixed Type Incubator is a hybrid of both the Business and Technology Incubators, combining the business development support services with the development of new innovative technology and/or new product development all in one space. It was a kind of one stop shop for small businesses, where they provide a broader range of

services. In the literature the Hybrid model is an amalgamation of the different types of incubators. The hybrid model, as expressed by the Financial Express Publication (2010), combines outreach, virtual and broader services with more traditional incubation services, for both new and existing businesses. Further, the publication shows that this type of model is particularly suited to those with small economies, limited generic support services, weak cultures of entrepreneurship, difficult business environment and limited resources to support innovation. The research finds that in a small economy like Trinidad and Tobago this hybrid model can be more suited for reasons of synergistic business effectiveness, driving cost down and creating lean operations.

2.3 Incubator Services

In a study conducted by Fernandez Fernandez (2015), they created a table of services that showed worldwide results in the provision of services by way of percentages according to differing incubator sizes.

Table 2.1 Provision of services in incubators according to the incubator sizes (%)

Services provided	Incubator size (no. of incubated firms)					Average
	1-5	6-10	11-15	16-20	21 and more	
Facilities	86.8	91.3	94.6	76.9	72.3	84.3
Business development	77.6	97.0	81.1	69.2	80.9	79.16
Finance	72.4	82.6	94.6	73.1	68.1	78.16
Networking	63.2	76.8	73.0	69.2	70.2	70.48
Technology transfer	52.6	55.1	64.9	57.7	55.3	57.12
Internalization	46.1	49.3	56.8	46.2	51.3	49.9

Source: (Fernandez Fernandez 2015p.790)

From the table above, showing results of 255 incubators worldwide it is evident that there is a high percentage ranking for services in facilities, business development, finance and networking, each recording over seventy percent, with technology transfer

and internalization showing lower percentages, just around the fifty percent mark. The results indicate the need to put more focus on those lower ranking areas to raise their performance levels. An interesting point raised in the article was the historical comparison made from when incubators were first established to present time, showing how services at present greatly superseded the level of services provided back in the fifties, sixties and seventies when it was basically just physical space being offered. Today, with technological advancement, the incubator services offered have expanded and have adapted to newer and more modern technological services offerings.

Their results also showed that it was dependant on the ownership of the incubator as to whether it was an Academy, Government, NGOs or private enterprises. Private business incubators contain less of the standard services provided by incubators than those owned by public institutions e.g. Government or Academy. What was gathered also was the interrelationship that exists between government, private and public institutions, commonly called the triple helix model. This model made available a greater variety of services to the entrepreneur than a single source.

Various authors in their articles highlight a number of general incubator services. These are captured in the table below showing in one column the author/s names and in an adjoining column the common services provided by business.

Table 2.2 Common Incubator Services (2008-2020)

Author	Common Services Highlighted by Authors
Bergek & Norrman, 2008	Entrepreneurial training and business development advice, as well as services concerning general business

	matters such as accounting, legal matters, advertising and financial assistance.
Schwartz, 2010	Shared facilities and services re: networking, rental of spaces, business support, networking, business support assistance
Scillitoe & Chakrabarti, 2010	Business planning, tax assistance, personnel recruitment, marketing, management, accounting, general legal expertise, accessing financial capital, and accessing business contacts
Qian et al., 2011	Shared facilities, administrative services and professional services such as business knowledge training, marketing assistance, accounting/financial management, investor and strategic partner linkages, and network
Mas-Verdú et al., 2014	Basic infrastructures, financial resources, and different types of business services.
Albort-Morant & Oghazi, 2015	Business training, giving advice on how to develop business and marketing plans, building management teams and offering general business services like accounting, advertising, and legal and financial assistance.
Meru & Struwig 2015	Training, business support, financial support, technology support, facilities and infrastructure, network and mentoring and aftercare services
Nair & Blomquist, 2018	Business development activities, such as coaching and enterprise training, as well as access to various services

	concerning general business matters, such as office space, accounting, legal advice, advertising and financial assistance
Li et al., 2020	Networking services, capital support, training programmes network services, office space, training programmes, Consultancy, and other essential services, but it also aims to promote intranet and knowledge transfer between start-ups.
Surana et al., 2020	Access to multifaceted networks is a core incubator service worldwide; networks for knowledge (including technical, strategic, operational, and market knowledge) mentorship, finance, and private sector markets.
Hausberg & Korreck, 2018	Tangible space, shared equipment and administrative services, networks access.
Kiran & Bose, 2020	Space for office, mentoring and other key services.

Source: Researcher

Generally, from the table presented, the most common services represented amongst the authors were: Training in standard business practices (accounting, advertising, legal and financial assistance), office space, networking services and mentorship. These services and factors of services emerged from the Table 2.2 as common best practices of services around the world. These authors were selected from the study as they gave an explanation of the services offered by incubators.

Mostly, across all authors, there are some similarities in the services and factors expressed in the area of general **Business support**. These are areas of administration,

finance, accounting and human resources. Commonly, these type of services can easily be housed in an incubator facility that can be shared amongst its clients. Mentoring and coaching can be facilitated under this arrangement with advice given to entrepreneurs on various areas of their business development. Financial constraints are of high concern, so seeking funding to cover development expenses is critical for survivability and sustainability.

Access to space is also common amongst the authors as new businesses see this as a major hurdle for them in securing space to conduct their businesses and meeting the high rentals value for space. Not having access to space can impact negatively on a new start-up since it is at this stage the entrepreneur is most vulnerable in establishing the foundation elements of his business; a realization that brings about the option of shared spaces to counteract the high rental cost.

The **legal and Research and Development areas** are also highlighted by some of the authors. It is the researcher's views from the articles read for this study that the majority of these scholars who wrote on incubators tend to focus on the business areas and speak widely on their contribution and impact, but not enough attention is paid to the areas of technology development, legal assistance and Research and Development (R&D). These areas do not get sufficient attention from the authors in this researcher's view, as these areas can have significant impact on the success of the business.

The literature has demonstrated that many businesses had major challenges with patent application and business registration and required expert advice in overcoming these challenges (O'Neal, 2005). Research and Development was another area that was not given deep thought by authors, as stated earlier. Additionally, there was a dearth of writings on the topic when it came to entrepreneurial success, but developing a new

product required enormous attention to R&D for product function and validity. Since product flaws can negatively affect business success, more research ought to be conducted in this area to ascertain the link between R&D and entrepreneurial success.

Commonly, there is agreement among all authors in their literature on what services are required for entrepreneurial success. Some tend to focus more on some subject areas than others, but they are generally the same service types. Ramukumba (2014) also presents an account of SME's key success factors. He suggests that there are four factors that account for business success, that of (1) access to real business opportunity, (2) management ability, (3) having adequate capital and credit and the (4) existence of modern business methods. Although success factors are key aspects in understanding some of the service needs of the entrepreneur, entrepreneurial innovation seems to be absent in many regards and not given much prominence by authors. There remains a fundamental gap in the services offered, as many incubators often focus on the business services elements, providing mainly financial services, office space and mentorship, and less emphasis is being placed on the technical aspects of new product development and innovation. This phenomenon will be explored further in the study to investigate possible reasons for this behavior. In this next section an attempt is made to showcase through the literature the process of incubating clients commonly called incubation.

2.4 Incubation

In understanding the **incubation process**, Schwartz (2010) states that some of the fundamental elements of incubation include a broad spectrum of collectively shared facilities and services such as networking, rental of spaces and business support assistance. It is suggested here that that supporting the young nascent entrepreneur's firm

to fill the gap in knowledge and expertise. This research further suggests that networking amongst incubators fosters cooperation agreements and can be seen as complimenting the incubation process, an intangible resource not normally understood as a mechanism for development and long term survival of the firm.

One of the methods of incubation outlined by Fernandez Fernandez et al., (2015) is a three phased system of incubation. The process involves (1) a pre-incubation phase, (2) an incubation phase and (3) a post-incubation phase. Taking a systematic view, Fernandez-Fernandez et al. (2015) explain that at the pre-incubation phase, persons tend to focus on the development of a business plan that analyses the feasibility and sustainability of the business. At the Incubation phase, the focus shifts to providing a variety of business services like financial services, business information, advisory, information communication technology services (ICT), training and networking services. Finally, at the post-incubation phase, the incubatee graduates out of the incubator, but services would continue to be extended to assist in the growth of the firm.

Voisey et al., (2013) supports similar principles on the process of incubation having three phases. In their description of the three phases the principles were the same:

1. Pre-incubation stage – ideas and teams are nurtured
2. Incubators stage – a business plan is prepared and operationalized.
3. Post-incubation stage – when the enterprise moves out to ‘grow own space’

In any business operations process innovation improvement encourages a more efficient desired state. Businesses today are known to use a number of tools and techniques in achieving this outcome through the introduction of new technology, changing to a more effective method of production and by speeding up production or

computerization (Barbero et al., 2014). Accordingly, the process of incubation central objective is structural change in reducing complexity and movement.

In the literature of Vanderstraaten & Matthyssens, (2012p.658), they propose three dimensions of an incubator's internal functions: Selection, resource munificence, monitoring and business assistance. They explain that at "**the selection process**, the business incubator accounts for the start-up's market, financial, and team characteristics. **Resource munificence** refers to internal networking and incubator resource utilization, and **monitoring and business assistance** involves strategic management and the incubator's monitoring comprehensiveness and quality". Each of these dimensions examines an incubator's internal functioning in relation to its strategy. Nair & Blomquist, (2018) in analysing the incubation process, denote that the external influences impact social value creation within the incubator in the case of both public and private incubators, relying heavily on business and technical skills for successful outcomes in the incubation process (Scillitoe & Chakrabarti, 2010). Another critical element within the process is the incubator manager.

There appears to be consensus among the scholars that the role of an incubator manager is basically to provide intelligence, guidance and direction during the incubation process. Their main purpose is linked to their capacity to use their experience to guide the incubatee, provide mentoring, and provide technical support (Meru & Struwig, 2015). Additionally, for incubator managers to succeed at their role along the incubation process, networking and networking their clients becomes paramount.

Networking should be a major strategy of the incubator according to Kiran & Bose, (2020). The literature strongly agrees that networking outlines its purpose at different phases of the incubation process and promotes networking as a critical factor for success.

By helping the incubated firm develop their network, firms can benefit from a faster learning experience and access to resources according to Soetanto & Jack, (2016). Incubation programmes are accepted as learning networks that build network relationship towards the accomplishment of the incubator. Fang et al., (2010) states that networks contain many sources of information that can be capitalized and integrated for enhancing the incubation process.

In the literature reviewed, the general consensus is that incubation offers support to entrepreneurs in the early stages of business development. Voisey et al., (2013) states that it aids them to overcome their inadequacies by providing support along the entrepreneurial process in such areas as establishing networks, providing business knowledge and upskilling. One of the many challenges incubators faces is their inability to achieve high levels of performance.

2.4.1 Incubation and Performance

Business performance, according to Cho & Heon Lee (2018, p.128) “can be defined as how much an organization achieved its goals and these can be measured by factors such as profits, productivity, employee satisfaction, social responsibility and business survival.” Accordingly, business performance is classified into two categories: (1) financial business performance, and (2) non-financial business performance. The authors went on to say financial measures usually use growth and increased productivity as measures while non-financial measures focus on employee growth rate, social responsibilities and organizational learning capabilities.

Measuring the performance of the incubator is a debatable topic and one with many varied opinions by scholars. There was really no true consensus, according to Barbero et al., (2012), on what establishes an appropriate measure of performance.

Entrepreneurship measuring had been an elusive concept for many scholars (Acs et al., 2013). According to Barbero et al., (2012) many studies used varying measures to compute the effectiveness and performance of the incubator with measures such as: venture survival rate, growth as a measure of performance, employment growth, profit growth, cost per job measure (which is often used in the US), patent citation for university incubatees and achievement of the goal of the incubators. A firm's survival as an indicator of incubator performance has also been the subject of many organizational research projects conducted over the years. Supportive literature by Lasrado et al., (2015), describes the threats to viability of new ventures. Surana et al., (2020) suggests that a key determinant of effectiveness, which is linked to performance is a clear development of management ability through managers, managing teams, founders, or trustees of the incubator, to effectively develop critical incubator activities pertinent to the start-up to counteract failure. Many authors have put forward their approach to tackling the key performance indicator measures of incubators. Soetanto & Jack, (2016) declares such measures as survival rate, job growth and innovation are frequently used to determine effectiveness of incubation support and strategy alignment during the incubation process for determining the likelihood of improvement.

A study conducted by Schwartz (2010), used a control group study on incubators' impact to promote a firm's survival. The results gathered from tracking incubators beyond the incubation phase are important for understanding their effectiveness., Schwartz suggested that there is compelling evidentiary results from the empirical analysis done which shows that the incubator does not significantly increase the chances of long term business survival. Nonetheless, the general literature gives an alternate viewpoint that one stands a better chance of survival when they are part of a target group within an incubator

especially when the objectives of the incubator contests with the development needs according to the economic condition.

In the world of incubators, they are promoted and seen as key mechanisms for improving the viability and sustainability of firms, this being the key objective of incubation. Scholars have reported that entrepreneurs can experience challenges during the development of their firms and the incubator can be an alternative mechanism for addressing these challenges (Lasrado et al., 2015). A study conducted by Mas-Verdú et al., (2014), analysed the impact of business incubation on the survival of their associated firms. They conclude that the survival of a firm has some of the following characteristics: technology based, production focused more on goods than on service, and located in the general locale of a business incubator. This was an interesting comment, as the IBIS incubator in Trinidad and Tobago principally focuses on services.

In the assessment of business incubators today, the general measure used to determine effectiveness of incubators is positioned in how well you can justify the spending of public funds (Surana et al., 2020). Whilst this may be the overarching reason and a key performance measure it is seldom the only reason for determining performance of an incubator. Many scholars may perpetuate this argument by Surana et al., as many successful performances are predicated on the entrepreneur's own abilities, knowledge and skills that we will discover in the next section.

2.5 The Entrepreneur

Entrepreneurial activities involve rallying and organizing people and resources within the system to form or shape a business (Autio et al., 2014). As much of the creation of new business activities is reliant on the attitude and purpose of the entrepreneur (Li et al., 2020). Nair & Blomquist, (2018) further support this theory in the same way equally

stating that driving entrepreneurial activities and creating value to the business, can be heavily reliant on the personal characteristics of the entrepreneur such as intelligence, and emotional, cognitive, learning and problem solving abilities. Entrepreneurs are also well known in the industry for creating jobs and for being catalysts for generating economic growth (Acs et al., 2016).

Hartog et al., (2008) in the conclusion section of the article compares the characteristics of an entrepreneur and a salaried employee, noting their ability and their unobserved characteristics tend to exhibit a higher value as an entrepreneur than as an employee. In their 2008 article, their results indicate strongly that “general ability paid off better in entrepreneurship” showcasing the “same individual had a 30% higher return to general ability when active as an entrepreneur than when worked as an employee”. They further place this into perspective when they link this characteristic with expected earning, “saying only the smartest people become entrepreneurs” (Hartog et al., 2008).

Interestingly, the literature has shown that there is a central difference between the genders. What is observed is that men predominantly pursue business to achieve financial success, whereas for women financial success was just one of the reasons to start and grow a business. Women have more intrinsic reasons such as the desire to earn independence or make money and achieve satisfaction to pursue a business (Albort-Morant & Oghazi, 2015). Research also shows that women based organizations tend to be smaller, have lower sales experience, slower growth and enjoy lower profitability. Ahl (2006 p.2) argues “that the assumption of sex difference has little basis in scientific observation, but have large and important effects regarding the power relations between men and women”. He also provides supportive literature to his claim stating that liberal feminist theory and feminist empiricism sees men and women as fundamentally the same.

Albort-Morant & Oghazi, (2015) is the only article identified in reviewing the literature that addressed young people in entrepreneurship. It may be an area that is not fully explored by scholars and further research may be needed to investigate the impact that young people have on entrepreneurship. In their study, the results show that young people with university and professional qualifications have a sense of adventure, enthusiasm and energy, and they were most likely to be aware of the latest innovations in entrepreneurship, the internet and social networks, keeping them more active and engaged during the experience.

That being said Astebro et al., (2014) contradicts this somewhat as they postulate that the expected return to entrepreneurship tends to be low on average and that most start-ups fail and only a few succeed. Their assumption therefore is that if the entrepreneur is cognitively superior then chances of success are greater and not as a result of being either a man or a woman or being a youth. The researcher has not come across any literature that suggests this and perhaps further research is needed to validate this assumption. An interesting point on what the underlying reasons are for influencing an entrepreneur is raised by (Bosma et al., 2012). They suggested that these can range from celebrity business people to family members. They also suggest that the decision to become an entrepreneur is clearly associated with firstly having parentages who were entrepreneurs; secondly, from network collaboration and their strong influence towards becoming an entrepreneur; and thirdly, from role models or icons the likes of Richard Branson or Bill Gates, both extremely famous and successful entrepreneurs. This implies that individuals are attracted to role models who they perceive to be similar in terms of their characteristics, behaviour or goals.

In most organizations today relational factors can be a determinant to success and can impact the overall performance of the firm. Interactions amongst entrepreneurs can

act as a source of inspiration and role models to aspiring entrepreneurs. Brown & Mason, (2017) conceptualize this as entrepreneurial recycling where past success can help to put back investments into the local economy as in the case of famous entrepreneurs. Bosma et al., (2012) theorise four entrepreneurial models with interrelated functions. They include: (1) inspiration and function; (2) increasing self-efficacy, that is, the role model makes people more confident; (3) learning by example, guiding their actions; and (4) leaning by hands-on support or advice. Most strikingly amongst these is the level of skills they possess. They were highly educated and have examples of success. In addition, they can also be a determinant factor for choice of career and were known for being used in educational institutes as guest speakers in motivating and inspiring entrepreneurs. Role models matter, as Bosma et al., (2012) postulate in an explorative study they conducted with 292 entrepreneurs in the Netherlands. 54% of the entrepreneurs had a role model in the pre and/or post start-up phase. Of these entrepreneurs, 81% had a role model before beginning the venture and 63% had a role model within the first 3 years of business operations, with half of these entrepreneurs having a role model both pre and post start-up.

Kassean et al., (2015) suggest that the underlying reason for this effect is the focus placed on entrepreneurial programmes to promote role models in the form of guest speakers, accomplished consultants and mentoring agents. Their study suggests that role models can help to inspire positive atmospheres for influencing occupational preferences. In the next section the researcher explores further the educational aspects of entrepreneurship and what part this has to play in the development of entrepreneurs.

2.5.1 Entrepreneur Education, Training and Learning

Researchers have advocated that there exists a direct correlation between the entrepreneur's education and training, and his/her attitudes, abilities, and skills. They

believe the connection exists in the motivation or the inspiration they get from the education (Piperopoulos & Dimov, 2015; Kassean et al., 2015; Acs et al., 2009). They also believe it can empower the entrepreneur to have the drive towards achievement of their goal and by extension the growth of the firm, revealing their desirability or their entrepreneurial intention for starting a new venture. A critical role during the incubation process is to keep entrepreneurs motivated, encouraging them to access the learning opportunities that exist within the incubator walls to support their growth and sustainability (Patton & Marlow, 2011).

The literature has shown that education and training tend to enhance an entrepreneur's capability to manage a business, improving business performance (Albort-Morant & Oghazi, 2015), provided that there is a direct correlation between entrepreneurial knowledge and managerial skills for dealing with challenges of the business. Hartog et al., (2008), reported on the cognitive ability of entrepreneurs in understanding complex ideas, adapting to situations, experiential learning, and the ability to reason in new start-ups. They link this cognitive assessment to how decisions are made in running the operations of the business. This individual characteristic may help entrepreneurs to explore business opportunities and to adapt efficiently to the business environment.

Training was one of the most essential services of a business incubator, and most incubators placed a very high priority on conducting their training programmes. In most cases it was compulsory for entrepreneurs to attend training workshops from basic to advanced, dealing with the creation of a business plan, marketing and financial management. Despite those more common ones mentioned, one can also find more specialized areas such as the development of patents (Franco et al., 2020). Research on entrepreneurial education and learning has played an important part in the development

of the entrepreneur to successfully navigate his business, but there has been a fundamental question asked on the objective of entrepreneurial education. Kassean et al., (2015) cite four reasons: to raise awareness of entrepreneurship; to see entrepreneurship as a career; to increase the number of entrepreneurs in the system; and to enhance the skill level of the entrepreneur; all valid and justifiable reasons for validating entrepreneurial education.

Many of the promotion outreach programmes conducting entrepreneurial education are geared to stimulate persons into starting a new business (Kassean et al., 2015). This sets the impetus for persons wanting to pursue entrepreneurship to form the right positive attitudes. According to Cho & Heon Lee, (2018) the instructional training provides fundamental knowledge and skills for entrepreneurs, and can influence students towards a career of entrepreneurship. Kassean et al, (2015) additionally establishes that the skills obtained from the training can help entrepreneurs to solve entrepreneurial problems when faced with a challenge; a product of tacit knowledge (knowledge by doing), and this can build their confidence promoting better chances of success. Audretsch (2007) by contrast, raises the idea of entrepreneurial knowledge obtained from tacit ideas and the economic value of such ideas or the potential value. Incubators can be a key source to help overcome problems in supporting the acceptance of new knowledge from experience (Patton & Marlow, 2011).

This may bring into question, the whole aspect of knowledge of the entrepreneur and its impact on the growth of the enterprise. Acs et al., (2009) postulate that applied knowledge has within it a set of skills, aptitude, insights and circumstance to inform the transformation of new knowledge into economic opportunities accordingly where there is low investment in new knowledge that can be translated to fewer entrepreneurial opportunities. Audretsch (2007) has accordingly supported investments in new knowledge which can in turn drive economic development, further shifting away from

the advancement of physical capital to knowledge capital. This particular point is potent as it raises the understanding of the central link between harnessing economic growth and economic knowledge. With this new knowledge a central determinant for commercial activity, a pre-entry compulsory requirement that offered training support which covered from finance, marketing and management Pauwels et al., 2015 concentrating on knowledge based business services.

The literature shows a three category framework for entrepreneurship: (a) education about enterprise; (b) education for enterprise; and (c) education in enterprise. Piperopoulos and Dimov (2015, p.5) share the main differences, respectively, which include “preparing students with the theoretical aspects of setting up and running a business, providing entrepreneurs with practical skills and knowledge required to set up a business and finally training for establishing entrepreneurs in areas of management development, product development and marketing courses”.

In a study conducted by Cho & Heon Lee, (2014), 180 entrepreneurs were surveyed on their educational levels to measure if entrepreneurial education had any bearing on performance. Their survey results showed:

- 42.8% had a master’s degree
- 35% had a bachelor’s degree
- 8.9% had associate degree
- 7.8% had a doctorate degree
- 6.5% had a high school diploma.

From their analysis, entrepreneurial education had a strong connection with entrepreneurial business performance.

A quality entrepreneurial educational programme can influence the effectiveness of how a student entrepreneur behaves. Kassean et al., (2015, p.691) remarks that “entrepreneurial graduates are three times more likely to start their own business, three times more likely to be self-employed, have annual incomes 27 percent higher, own 62 percent more assets, and are more satisfied with their jobs”. It is fair to say, as suggested by Kassean et al., (2015), that when promoting the learning process in entrepreneurial education, much attention should be placed on authentic real life learning. In many of the services offered by incubators, coaching and training were more significant components of learning in the business incubator (Bruneel et al., 2012); Fang et al. (2010) state that in the learning processes, the manner in which knowledge is acquired, expressed and disseminated is all aligned to the social and cognitive interaction of the entrepreneur. One of the main attributes of an incubator is the training services it provides to nascent entrepreneurs in their early-stage development. This can promote the learning process in the transfer of knowledge from the incubation manager or director. Therefore, there is anticipation from the entrepreneurs to be engaged in learning activities like seminars and workshops (Patton & Marlow, 2011).

For over-all learning to take place, it can take many forms. The literature submits that “Learning outcomes can be divided into three general categories: Cognitive, skilled-based, and affective learning” (St-Jean & Audet, 2012). Cognitive learning is associated with the brain or level of understanding; skill based involves psychomotor or that ability to use your hands to create; and affective deals with the heart domain, that emotional aspect or level of reasoning. In the overall literature on incubators it was an accepted fact that some entrepreneurs fail in pursuit of establishing a business. There were many reasons advanced for this. Usually lack of knowledge and skills are the norm for the entrepreneur but it is hardly the case that the incubator is the cause of providing

inadequate knowledge and skills in the assessment of the business idea (Piperopoulos & Dimov, 2015). In the entrepreneurial ecosystem, there can be negative images or business failure of entrepreneurship being portrayed and entrepreneurial education can be a stabilizing mechanism to guard against that occurrence. St-Jean & Audet, (2012), for the most part, purport that the mentor's wealth of experience can be a quick method of educational transfer and learning to the entrepreneur.

Piperopoulos & Dimov, (2015) also speak of two types of focused people: promotion-focused people and prevention-focused people. The former is concerned with progress and growth and the latter is concerned with protection, trying to avoid losses or overcome barriers. They further explain that persons enrolled in practical courses have a higher affinity for entrepreneurship than those in theoretically oriented courses who may have better average grades. They conclude that entrepreneurs are more likely to enrol in practical courses and show more prime interest at the start of the entrepreneurial process.

2.5.2 Entrepreneurial Learning Through Mentorship

Mentoring is a concepts used to transfer knowledge and build competencies of the entrepreneur about the business world, within the scope of the mentor's ability. A mentor may be described as someone who oversees the development of persons, in this case nascent entrepreneurs who can benefit from their guidance and supervision. Entrepreneurial mentoring according to the literature normally involves a support relationship between a nascent entrepreneur (mentee) and an experienced entrepreneur (mentor). This type of relationship can help the mentee streamline his business plan on the essential elements and build his self-confidence to sustain his effort on the business. In starting a new business and being provided with a mentor, there are many positives that can be associated with mentoring. A mentor's viewpoint can have a precipitating effect for showing new opportunities that may exist. They can provide a level of comfort

and reassurance in helping the mentee through difficult periods. Self-belief is a major contributing factor for overcoming challenges of tasks given by mentor, and it creates added results and accomplishes success (St-Jean & Audet, 2012).

Experienced entrepreneurs normally are selected to become mentors as a result of their success in building high growth firms (Patton & Marlow, 2011). Conversely, not all mentorship can produce positive results from the experience with mentees. Scholars such as St-Jean & Audet, (2012) raise scepticism about entrepreneurs who may adopt negative attitudes and behaviours, not fully embracing the learning and benefit from the mentorship. According to Pauwels et al., (2015., p.17) “mentors are typically experienced entrepreneurs”, that are known to help support the nascent entrepreneurs connect with others. Mentorship can therefore be a great asset to the nascent entrepreneur for building up the entrepreneur’s knowledge value and competence (St-Jean & Audet, 2012).

2.5.3 Entrepreneurial Education Through Clubs and Societies

Entrepreneurship clubs and societies are very popular in the international business community. One sees many of them being formed through universities and colleges to promote entrepreneurship and entrepreneurial education according to Pittaway (2010a), who views these clubs as an avenue to educate, inspire and encourage young entrepreneurs, giving them tuition and guidance in developing their own businesses and skills in management. These clubs and societies are very active and host many activities: speeches by successful entrepreneurs, networking events to stimulate interest in joining, and seminars for educating. For the young and unassuming prospective entrepreneur, it can be a strong platform for early development of their ideas through experiential learning (Pittaway, 2010b).

Pittaway, (2010c) postulates that there are many components of entrepreneurial learning such as:

- **Action oriented:** learning by doing
- **Mistakes, crises and failure:** in the early stage of development, entrepreneurs can learn from mistakes made.
- **Reflection on experience:** one of the techniques learnt is reflection on past events and trying to assimilate the learning during the process.
- **Opportunities and problem solving:** a key trait of any entrepreneur is his ability to recognize opportunity and solve problems. This is sometimes linked to his cognitive ability which can make the intuitive difference of an entrepreneur.
- **Uncertainty, ambiguity and emotional exposure:** risk taking is one of the traits of entrepreneurs identified in the literature and can be an emotional and difficult experience for entrepreneurs.
- **Social practice and Social engagement:** networking and collaborating are essential attributes of an effective entrepreneur.
- **Self-efficacy and intentionality:** entrepreneurs tend to have a drive and passion.

Further, many clubs and societies are essential components of a learning society and play a very meaningful part in social development of others and in this case entrepreneurs. Pittaway (2010c) further states that they seek to bring persons of like minds together to discuss and explore ideas or new opportunities. In the literature, there is also evidence of entrepreneurial clubs and societies supporting skills development that encourages venture creation.

2.5.4 Entrepreneurial Innovation

It is fair to say, that entrepreneurial innovation can cause disruption of businesses when trying to create new ones (Autio et al., 2014). They postulate a simple definition of innovation as “being able to carry out creative and original ideas” basically summing up what innovation is all about; something that creates value for the business. Cho & Heon Lee, (2018) further cited that innovation involves high risk and in starting a business an entrepreneur may need a high degree of tolerance to cope with the changing dynamic of the involved process. Autio et al., (2014) share the contextual elements that can influence entrepreneurship and innovation. They intimate that this can occur through the policies connected to stimulate innovation by entrepreneurial firms. They explain the formation of six contextual elements in a framework: (1) Industry and technology context, (2) organizational context, (3) institutional and policy context, (4) social context, (5) temporal context, and (6) special context. Their theory suggests that strong influence can help form the outcome of innovative activities on entrepreneurial firms in terms of financiers’ involvement, business partners’ participation and where government may deem to locate these firms geographically. Therefore, to contextualize and conceptualize a desired framework approach involves a continuing process of stakeholders trying to shape the evolving system.

The literature has shown that in commercializing innovation, there is never certainty in the process and it may require repetitive attempts by the entrepreneur to develop a final product. Therefore, conducting prior financial and growth analysis is not always necessary at the start of the entrepreneurial innovation process (Nair & Blomquist, 2018), as there may be too many unknowns to forecast what may be the financial requirements of the process. According to Cho & Heon Lee, (2018) there are other essential factors that can influence the successful creation of a new product innovation,

that of: high financial support, business performance and social performance. Social perception, adaptability and expressiveness are also important determinants of entrepreneurial performance when pursuing innovation (Hartog et al., 2008)., On the alternate side, there are “Factors that can affect entrepreneurship innovation: such as risk aversion, legal restriction, bureaucratic constraints, labour market rigidities, taxes, lack of social acceptance,” (Acs et al., 2009p.17).

Acs et al., (2016) further advances five types of market failures and externalities in their discussion:

1. Market externalities: Observed the value of new ideas, cultivated opportunities, accessed important resources.
2. Knowledge externalities: knowledge from university research, R&D, and human capital.
3. Market imperfection: lesson learnt from failure.
4. Demonstration externalities: acted as a role model displaying positive attributes
5. Motivating entrepreneurs: investment opportunities and human capital or infrastructure.

The following types of failures and externalities can be contextualized in the following ways:

- The investor may want to know the future potential of the new idea to determine the level of risk associated with the investment.
- Knowledge from university research can be catalyst for new creation or idea development and finally
- Lessons learnt from failure can stimulate alternative approaches to the problem.

Fundamentally, From the literature on topics of entrepreneurship and innovation like Cho & Heon Lee, (2018) they similarly address the matter of entrepreneurs needing to have both technical and managerial knowledge to find new opportunities, someone who may have the innate ability or insight into market and a full understanding of the process of innovation.

The Innovative Process is a very structured organization of tasks, according to Boly et al., (2013). It can be transformative and configurational; the transformative process confers global knowledge to localized knowledge and the configurational process tends to fashion new ways of incorporating the knowledge into new ideas. Barbero et al., (2014) and Acs et al., (2017) refer to Incubators and science parks as being a part of a larger national and regional innovation system that are engaged with universities, research institutes and government agencies linking knowledge producing centres with innovative firms. Stam (2015) further expounds that the innovation systems approach critically views organizational and market interaction. A study conducted by Mas-Verdú'et al., (2014) identified how factors like degree of innovation, firm size, sector, and export activity can affect a firm's survival. Such studies posit the existence of positive relations between survival and degree of innovation with entrepreneurship policies tailored to the needs of the entrepreneur.

In the early 1990s the mission of firms was to commercialize new technologies towards economic development. According to Qian et al., (2011), this comparatively involved the innovative process of systematically creating, discovering and exploiting entrepreneurial opportunities. However, later, Qian et al., 2012 expresses that the systems approach failed to address new firm's formation which contradicted his earlier approach to entrepreneurship.

In relation to the policy position of most governments, Surana et al., (2020p.48) posit that when setting up a new incubator system, “it should be coordinated at a national level to prevent proliferation of intermediaries or redundant programmes.”, and consideration should be given to align existing goals with objectives setting clear targets. This approach avoids redundancy and establishes a robust monitoring system which enhances performance. There is support that governments should work on improving the policies guiding the formation of new business and this can also enhance the innovative process (Li et al., 2020).

2.6 Entrepreneurship

The World Bank defines entrepreneurship as “the activities of an individual or a group aimed at initiating economic enterprise in the formal sector under a legal form of business” (Acs et al., 2013, p.480). The choice of pursuing entrepreneurship is seen by many as an opportunity to chart their own destiny and earn a higher income. People are stimulated by this choice for a wide variety of reasons stemming from their personal mindset for how they view the world (Astebro & Thompson, 2009). Another source of entrepreneurial aspiration can be seen in Hyytinen & Ilmakunnas, (2006), who speculate a theoretical point of view of having entrepreneurial aspirations, and thinking of starting a new business connotes the desire for pursuing new business. In most economic studies, the underpinning outcome associated with “rapid job creation, GDP growth, and long term productivity” is normally linked with entrepreneurship (Isenberg, 2010p.2).

In the literature, Qian et al., (2012) recognize entrepreneurship as a multidisciplinary process that is vital for increasing economic growth. The literature of Cho & Heon Lee, (2018) acknowledges entrepreneurs as risk takers. They also highlight the aptitude of the entrepreneur is to grasp opportunity and build wealth. Aspiring entrepreneurs are those that seek out new opportunities of goods and services to exploit

their value and create wealth (Stam, 2015). Entrepreneurship success, according to economic theory, suggests that this occurs only in favourable economic environment (Li et al., 2020). In a further review of the literature, Acs et al., (2013 p.77), discusses “a national system of innovation as a dynamic institutionally embedded interaction between entrepreneurial attitude, ability, and aspirations, by individuals, which drives the allocation of resources through the creation and operations of new ventures”. This can also be expanded to regional systems of innovation debated later in this chapter.

The Global Entrepreneurial and Development Index (GEDI) is widely used globally for measuring the National System of Entrepreneurship. This measure uses a system of fifteen pillars:

1. Opportunity perception pillar: captures new opportunities created.
2. Start –up Pillar: captures the start-up skills required in the population.
3. Risk Acceptance pillar: captures the inhibiting risk effect of entrepreneurs
4. Network pillar: provides accessibility to potential opportunities and resources.
5. Cultural support pillar: captures a country’s social characteristics and moral values of the entrepreneurs.
6. Opportunity pillar: captures the frequency of persons seeking opportunity driven start-ups.
7. Gender pillar: Measures the opportunity for women in business.
8. Technology pillar: reflects on the prevalence of technology in start-up activity.
9. Quality of Human Resource pillar: captures the quality of entrepreneurs.
10. Competition pillar: captures the level of market uniqueness of start-ups
11. Product innovation pillar: the tendency for entrepreneurial firms to create new products or adapt or imitate existing ones.
12. Process innovation pillar: captures the use of new technology.

13. High growth pillar: measures the percentage of high growth firms
14. International pillar: captures the degree to which a country's entrepreneurs are internationalized.
15. Risk Capital pillar: combines the measure of finance as informal investments and availability of finance.

Acs et al., (2013 p.491) describe these pillars as designed to capture entrepreneurial attitudes, ability, and aspirations. The GEDI index is calculated as a simple arithmetic average of the three sub-indices and multiplied by a 100 to get a 100-point scale. From a survey conducted by country, a sample size of 2000 individuals per country were used, a weighting system was applied to allow for population representativeness by percentage scale per pillar. This measure had produced the widely used World Bank 'ease of doing business index'.

When considering entrepreneurial performance at country level, it may be instructive to use a methodical approach to capture the phenomenon. Policy makers can be guided from the outcome indicators of this assessment for making informed choices pursuant to entrepreneurial activities. When determining what constitutes the boundaries by which the regional system of entrepreneurship can be distinguished, Qian et al., (2012) advise that we can demarcate by geographical areas either by a city, a state, or a group of entrepreneurial activities. Huggins & Williams, (2011) further claim that entrepreneurship can be a central element of regional economic development relating to the formulation of business start-ups, key to regional strategy.

Huggins & Williams, (2011) also discuss some of the positive gains that can result from regional development of entrepreneurs. They infer that there are both economic and social policy drivers. Under the economic policy drivers, they focus on business growth and financial support, whereas social policy drivers focus on raising the level of

entrepreneurship in disadvantaged societies. Both policy drivers are aimed at increasing entrepreneurship (Acs et al., 2016). Contemporary scholars have informed that there can be a knock-on effect from the prosperity of incubated firms impacting economic development from creating new jobs, reducing labour needs, capital formation and community stimulation (Harper-Anderson & Lewis, 2017).

SME Internationalization, according to the literature, is that process that facilitates cross border partnership for SMEs with other international incubators. This collaboration exposes the SME to foreign markets and new international cooperative networks. Franco et al., (2020) elaborates that the internationalization mechanism acts as a support to overcome the limitation of the entrepreneur, facilitating reach of new markets, providing knowledge and experience and sharing technological advancement and vice versa. One of the main characteristics is in working together for promoting and marketing innovative ideas. Qian et al., (2012) find that clusters are part of a knowledge-based regional entrepreneurship system that creates opportunity.

Pitellis (2012) tells of clusters as a form of interrelated linkages amongst firms that came on the scene over the last 25 years. They share a common outlook with synergistic elements that support each other's advancement in competition. Industrial clusters have been viewed as drivers of economic growth regionally for increasing employment and innovation (Turkina et al., 2016). Clusters act as a key linkage between firms to enhance global production, innovative output and/or productivity (Acs et al., 2017). In business, one would normally hear the term "ramping up production"; in the business incubator the idiom used is "economies of scale". This simply means the cost advantage gained through higher production (Bruneel et al., 2012).

Turkina et al., (2016) makes reference to clusters providing regional growth. Delgado et al., (2010) on the other hand, places emphasis on industrial clusters and presents some of the benefits of clustering as providing lower cost, facilitating access to a wider range of inputs and increasing opportunities. Generally, clusters encourage entrepreneurial activities, and a strong cluster can encourage enthusiasm amongst firms for pursuing opportunities in innovation; they can raise throughput, provide easier access to inputs of goods and lessen barriers to new entry. Similarly, Pitellis (2012), also shares that clusters can enable new business creation, lower cost, and improve inter-firm linkages and networks. He also theorizes three distinctive models: collection of comparable firms, a business park and network models. These all tend to reduce transaction cost and bridge the relational gap between firms and also opportunities created by entrepreneurs can be gap filling in society (Acs et al., 2016).

Cluster policies are essential for developing regional economic strategies which can redound to improving cluster linkages, cooperation and collaboration across regions. Huggins and Williams, (2011) suggest that this can unify partnership and promote competitiveness especially for undeveloped regions and while promoting an ecosystem.

2.7 Entrepreneurial Ecosystem

The concept of an entrepreneurial ecosystem has in recent times taken on prominence in the development of new ventures. It provides a new perspective in the theoretical framework for how new firms are created (Brown & Mason, 2017). Their research shows that every ecosystem is unique and dynamic, reinforcing the entrepreneur's own characteristics and beliefs. Spigel (2015) sums up the entrepreneurial ecosystem as prevalent amongst the growth of entrepreneurs within regions, saying that they provide social networks, investment capital and universities that support innovative firms.

The entrepreneurial ecosystem is a complex set of interrelated elements that work in harmony for the development of the firm. Isenberg (2010) and Brown & Mason, (2017) agree that in most cases, these elements explore leadership, culture, institutional and capital markets in their attempt to interpret the ecosystem. Interestingly, Autio et al., (2014) view the entrepreneurial ecosystem as a force that regulates the direction and quality of entrepreneurial innovation. Audretsch & Belitski, (2017p.13) define the entrepreneurial ecosystem “as a complex system of interactions between agents within various socioeconomic, institutional and informational contexts which generated more new business and growth”. A fundamental aspect of the entrepreneurial ecosystem is its multiple relational focused interrelated processes (Brown & Mason, 2017). The central aspects of the entrepreneur interaction in the ecosystem are his attitude, ability and aspirations which can drive the creation of new business (Audretsch & Belitski, 2017).

It is common to associate entrepreneurial culture with elements of regional culture having a clear association with regional clusters. Beugelsdijk (2010) advocates further, for the key socio-economic role that culture can have on transformation and economic growth. When one speaks about an ecosystem, generally it is about economic performance and sustainability, with interaction amongst three elements: individual, organization and institutions (Acs et al., 2017); Borissenko & Boschma, 2017). Mack & Mayer (2016) express a similar view of what is consistently expressed in the literature on the entrepreneurial ecosystem which fosters new firm’s formation and promotes regional entrepreneurial activities. They set an evolutionary perspective of a sense of history and the impact of culture and the institution setting, but the goal is to enhance the performance of its actors (Acs et al., 2017).

In a study done by Fernandez Fernandez et al., (2015), they speak of the Entrepreneurial Ecosystem (EE) having thirteen elements: leadership, government,

culture, successful stories, human capital, financial capital, entrepreneurial organizations, educational institutions, infrastructure, economic clusters, networks, support services and early customers. Stam (2015) has a similar outlook of many of the elements that Fernandez Fernandez suggest at the heart of an ecosystem regarding networks of entrepreneurs, leadership, finance, talent, knowledge, and support services. It is the common view that the entrepreneurial ecosystem is socially constructed and has global links (Malecki., 2017). Because of the internationalized nature of the operations of most universities, they are most frequently the central actor /institution in an entrepreneurial ecosystem. Universities network with known technology companies to develop research. This, according to Mian et al., (2016), can be done through contractual or non-contractual means to increase a firm's knowledge capacity.

A set of nine principles are presented by Stam (2015) in building an entrepreneurial ecosystem, these include 1: not following the silicon valley model; 2: base ecosystem on local environment; 3: initiate partnership with private sector early in the process; 4: establish the foundation of new ventures; 5: support overzealous entrepreneurs; 6: promote those with great potentials; 7: score high achievement; 8: be cognizant of cultural changes; 9: restructuring policies on the ease of doing business.

These principles in the literature are considered as key elements towards building an entrepreneurial ecosystem, generally Stam spoke of promoting interaction amongst the players, connecting events, being visible in promoting venture creation. This researcher agrees with this scholar's views for promoting a successful eco system and sees these elements as important factors that are central towards the eco system development. Isenberg (2010) in the Harvard Business review, posits an identical narrative of nine prescriptions for creating an entrepreneurship ecosystem, further stating that these

entrepreneurial ecosystems became a kind of holy grail for governments around the world in both emerging and developed countries.

An evolutionary perspective on the entrepreneurial ecosystem, Mack & Mayer, (2016) gave who highlighting four stages of EE development: (1st) Birth Stage; (2nd) Growth stage; (3rd) Sustainability stage; and (4th) Decline state. They explain that at the birth stage many of the firm's core elements are underdeveloped and there is a need for financial and human capital support. At the growth stage they focus on specialized areas of the ecosystem, while at the sustainability stage the opportunities are less, and the firms finance availability weakened. At the fourth and final stage, over-all support is weakened and there is a general decline of entrepreneurial upkeep.

One of the successes of the entrepreneurial ecosystem is its ability to reinvent its profits and experience back into the ecosystem to help build the economy. This is supported by Malecki (2017) who advocates for developing a strong ecosystem. Stam (2015) postulates that this approach has occurred over the last five years, and it has been harmonized to enable productive entrepreneurship. One of the essential building blocks for a successful entrepreneurial ecosystem is access to the framework of the ecosystem whose key drivers are finance, demand, infrastructure, access to labour markets, administrative support, cultural norms and efficiency. According to Audretsch & Belitski, (2017), the literature promulgates and discourages entrepreneurs from establishing a new business when conditions constrain from access to physical infrastructure, transport links, and key technologies. Principally the ecosystem engenders a combination of interactive elements that work towards the development of the entrepreneur. It focuses on value creation for individual entrepreneurs through networks, social, institutional and cultural processes (Malecki, 2017; Acs et al., 2017).

2.7.1 Common Attributes of an Entrepreneurial Ecosystem

From the literature, it is evident that entrepreneurial ecosystems are blends of social, economic and cultural elements within a particular region that work to support growth of new innovative ventures. Spigel, (2015) shares that there are common beliefs that certain attributes exist outside the boundaries of a firm and emphasizes three types:

Cultural Attributes: one's belief perception with a supporting cultural underpinning.

Social Attributes: acquired resources through the social networks within a region, e.g. worker talent, investment capital, networks, mentors and role models.

Material Attributes: those with a tangible presence in the region, e.g. Universities, physical infrastructures and support services.

Acs et al., (2017) support these attributes saying that they are undeniably central actors in an entrepreneurial ecosystem. Similarly, Borissenko & Boschma, (2017) also demonstrate the importance of interaction between elements of an entrepreneurial ecosystem, but criticize what they see as applying a static framework without considering how they evolved over time. This brings to attention the weaknesses that may be apparent with the system. They point out five main weakness in the literature: (1) a clearer analytical framework is missing that makes explicit what is the cause and effect; (2) it is not always clear how elements are connected in an entrepreneurial system; (3) it is not clear which institutions have an impact on structure and performance; (4) it lacks a comparative perspective; and (5) the literature adopts a static framework or EE without consideration of their evolution over time.

2.7.2 Organizational Sponsorship

Sponsorship is a central tenet of the entrepreneurial ecosystem; its main purpose is to encourage entrepreneurial activity in new venture creation, generating economic

development. Amezcua et al., (2020) also purports that it acts as a catalyst which spurs on new businesses where funds are limited, increasing the likelihood of survival. Organizational sponsorship is a well-accepted practice which provides assistance to new firms that are encountering financial challenges. It impacts the firm's chances of survival, reducing its liabilities and protecting it from threats in the surrounding environment. A key advantage is funding resources and legitimizing what it presents in the external environment.

Amezcua et al., (2020) outlines three mechanisms of organizational sponsorship:

1. **Buffering:** the offering of services that shield the new firm from intense market competition.
2. **Bridging:** unique ways of connecting with a sponsor and the new venture efforts by the sponsor to enhance the benefactors, its social standing and legitimacy.
3. **Curating:** an approach used to supplement the entrepreneur's resources with the best available resources or provider.

Amezcua et al., (2020) suggest that all three organizational sponsorship mechanisms above can be enhanced if they are represented in areas of shortages of resources or in rural locations.

2.8 Incubator Policy and Development

When looking back historically at the evolution of public policy on science, technology and innovation (STI), Surana et al., (2020) finds that incubators are central to the STI-based policy goals prominently supporting entrepreneurship, economic growth and information technology type industries. Because of incubators' supporting role in business development and stimulation of economic growth they have attracted the attention of policy makers and intellectuals (Qian et al., 2011).

In the literature there is supporting evidence that shows science, technology and innovation as the foundation for attaining any advancement towards the achievement of sustainability goals. They have furthered perspectives regarding public policy discourse that public policy must focus on widening and expanding the channels of science technology and innovation entrepreneurs. Equally, Kiran & Bose, (2020) see it as an essential policy element that enables entrepreneurial advancement. From their discussion, business incubation seeks to be the go to mechanism by governments and policy makers in creating sustainable regional economies. Harper-Anderson & Lewis, (2017) further agree, saying that it has become a favoured tool for increasing global economic systems. Alternatively, Acs et al., (2016) conclude in an article on public policy that it was not necessarily a good idea to encourage persons into entrepreneurship.

One can then draw, similarly, that there exists a nexus between entrepreneurship, economic development and institutions. Acs et al., (2008) explains the three stages of this phenomenon in a special issue article done by the 3rd Global Entrepreneurs Monitor (GEM) research conference. They include: the factor-driven stage, the efficiency-driven stage and the innovation-driven stage. In the factor-driven stage, they principally contest that development occurs through efficiencies in production; in the efficiency-driven stage, economies of scale are considered using technology; and in the innovation-driven stage, the increase in entrepreneurial activity is observed.

In developing public policy on entrepreneurship, one must consider the incubator management competencies in determining the adequate level of capital required and the degree of social capital to run a business. Acs et al., (2016) believe that building stronger relations between the incubator management and new ventures can embolden the social capital between the two, enabling new knowledge formation (Scillitoe & Chakrabarti, 2010). There is a principal view that incubators shape the constructions of institutions for

generating new business and economic development. This view is shared by most scholars lamenting that governments should lead the incubation process and guide in the achievement of goals, roles played and outcome. Most of the policies should be directed to addressing the financial fundamentals, nurturing, and high impact firms (Meru & Struwig, 2015).

The question therefore arises: should governments fund business incubators? The literature speaks widely on this particular topic and comments on various forms of incubators showing categories of for profit or not for profit. According to Qian et al., (2011), for incubators to be funded they must surpass operating cost whether they contribute to job creation, providing business assistance or economic growth. One of the principal elements of business incubation is getting capital support. Li et al., (2020) proposes that this measure is a key source for innovation, employment and economic growth.

Results from the literature reviewed, indicated entrepreneurial development can help to enhance a weak economy and governments can play an important part toward this progress. Li et al., (2020) state that it is a good idea for governments to use a central management system in their role when managing incubators across a country; this can bring together organizations that incubate new ventures, enhancing their throughput. Surana et al., (2020) are also advocates for linking National policy on skills development and entrepreneurship with making allowances in policy development for students to experiment with entrepreneurship. This advances many new entrepreneurs into business at an early stage. Globally and on a national level, incubators are viewed as an instrument for stimulating economic development and innovativeness (Bergek & Norrman, 2008). There is a huge proliferation of incubators worldwide, but there are uncoordinated efforts of entrepreneurial services being offered. This individualized method results in duplicated

efforts, according to Mack & Mayer, (2016). It necessitates improved synchronization efforts to help develop the entrepreneur's networks and can be a key policy driver.

A central objective of the Growth Competitiveness Framework (GCR) is to assess the capacity of the world's economies to achieve sustained economic growth. Van Stel et al., (2005) reveals that the GCR framework outlines three major pillars of economic growth: technology, public institutions, and the microeconomic environment. While this framework is well accepted internationally, they claim that there may be a disadvantage in using this approach as it uses data on past growth instead of future growth. What can be gathered from Mack & Mayer, (2016) is the need to harness the efforts of all stakeholders within the ecosystem to pursue the same goal of creating opportunities and the focus should be on better coordination between actors. Policy makers must pay attention to the nurturing needs of entrepreneurs within the entrepreneurial ecosystem and all efforts should be geared towards networking events to provide support services that can nurture their development (Mack & Mayer, 2016).

In concluding, incubators the world over turn out to be common place as an economic development tool for fostering the growth and development of young fledgling companies. This research is premised upon investigating the range of services of business incubators that can facilitate adequately all types of entrepreneurs in Trinidad and Tobago. The key problem identified was inadequate incubator services to support the needs of new nascent entrepreneurs Trinidad and Tobago.

Trinidad and Tobago is a small Caribbean island of approximately 1.3 million people, the most southerly of the Caribbean islands, positioned only 7 miles off the coast of Venezuela. Oil and gas has been the mainstay of the economy for the last 50 years. In recent times, oil and gas has gone through a global slump and has impacted the economy

very negatively reducing the country's revenue streams by almost 50 percent. The Government has indicated in its strategic plan its desire to diversify away from oil and gas and to move into alternative sectors of agriculture, manufacturing, tourism and financial services. This plan has been implemented with the Government pursuing the establishment of incubators to help boost the development of new firms in creating an enabling environment for nurturing and growing firms. Four incubators were established to date under the Integrated Business Incubation System (IBIS), but these incubators have not had the type of impact for shifting the economy in the way as envisaged by the Government. This research investigated the reasons for this, and suggested recommendations to counteract ineffectiveness gaps with the locally established incubator system.

The promotion of entrepreneurial culture and innovation has not always been a main desire by governments in the past. The culture of Trinidad and Tobago has always been a "buy and sell culture", where businesses would normally import goods into the country and simply "mark-up" prices for sale. When there was an economic boom in the formative years of being a Republic and revenue from oil and gas was thriving, many citizens had an appetite for foreign goods and the model for buy and sell was easily adapted to by businesses, moving away from entrepreneurial activities. Back, in 2015, when the economy plummeted from a global recession, there was a thrust to change the culture and create a more entrepreneurial culture to boost economic growth locally. There was a drive to change and create an environment for promoting entrepreneurship and innovation across all institutions encouraging a kind of corporate entrepreneurship. Wolcott et al., (2007) speaks highly of this type of model of corporate entrepreneurship, as discussed previously.

The Central Statistical Office of the Government of Trinidad and Tobago shows that the Government is the majority employer. As a result, the policies and initiatives of the Government can have an impact on the economy. In the Ministry of Labour and Small and Micro Enterprise Development (MOLSMED) (2012) the implementation of the Business Incubation Policy is discussed and significant contribution towards the economic future of Trinidad and Tobago is projected. MOLSMED expects at least 5,000 jobs will be created, and over TT\$1.0 billion in revenue will be generated by 2020 and the years ahead from clients and graduates of the incubator programme, as it is mandatory for entrepreneurs that receive support to provide a satisfactory return economically or socially.

In the Oxford Business Group Report 2016, the author speaks of Trinidad and Tobago's economic situation, the move to a more entrepreneurial culture, using incubators as a support mechanism and the rationale for achieving this outcome. Business development is central to the incubation drive, as the mandate by the Government is to shift its focus from oil and gas to other sectors. This study will address some of the gaps that exist by putting forward policy recommendations to the Government. A model evolved to give direction and showcase a platform for highlighting the many services that exist and the newly recommended services to bridge the gap. In the next chapter, the study continues with the methodological approach used to achieve this outcome.

Chapter 3 Methodology

3.1 Introduction

This chapter looked at the research design and methodological approach used in preparation of the thesis. In approaching the research methodology, the chapter begins by outlines the aim and objectives of the study in setting the tone for his philosophical discussion. The author went on to explore different research philosophies, comparing and contrasting philosophical analogies and classification in determining the appropriate approach and method of choice as espoused by Mkansi et al., (2012). These philosophical underpinnings played a major role in shaping the context for the research, as it carries into the research design, strategy and the method of data collection. It discusses the methodological approach used for leading an inductive qualitative study for conducting phenomenological research (Guercini, 2014).

3.1.1 The Aim of the study is to investigate the optimal service needs of nascent entrepreneurs within the Government's IBIS program. Not having all the support services available can be an impediment to success, therefore "understanding the barriers that future entrepreneurs will probably encounter, can be relevant in order for their businesses to have the best chance of success" (Fumo & Jabbour, 2011.p850). The aim was then refined into a research question to critically address the problem identified within the aim.

3.1.2 The Research Question:

What are the optimal service needs of nascent entrepreneurs within the IBIS programme? The research question was further disaggregated into four objectives, which simplified the path taken to answer the research question and serve as the guiding light for achieving the research outcome.

3.1.3 Objectives of the Study:

1. To examine the literature on best practices in incubator services.
2. To explore and map the service needs of nascent entrepreneurs within the IBIS programme.
3. To provide a conceptual framework of services to facilitate entrepreneurial development within the IBIS programme.
4. To make recommendations to policy makers that may enhance the IBIS incubator effectiveness.

The chapter continues with the discussion on data collection and outlines the interview process adopted and the importance of using an interview template guide. The interview guide itself was examined; its design concept and any ethical issues considered during the process of conducting of interviews were discussed.

On completion of the interview process, the chapter goes into discussing the process used for transcribing the interview data. A digital recording device was used to record interviews and this was transcribed and coded. A standard manual method of coding was used, adopting a method by Saldana (2013) for presenting coded data. Coded notes were made and then grouped into general themes that stemmed from recurring patterns of coded notes.

In the analysis, a table was formatted with the headings of: Theme, Sub-Theme, Code and Coded Evidence. Thirteen themes emerged which were disaggregated into smaller sub-themes. These themes and sub-themes of coded notes were further analysed and summarised into tables, which represented the five (5) major themes that related directly to the three sections of the questionnaire guide. A narrative was then written of the five major themes capturing some of the major elements that evolved out of the study;

this was presented using a technique postulated by Wrench et al., (2013) and Weaver-Hightower, (2014) of Setup – Quote – Comment for each of the main themes, capturing the main highpoints from the coded data. However, in addressing the four main objectives of the study, the following approach was adopted. In the previous chapter, the first objective was addressed in the form of a literature review which informed the research design and question of the current study.

Addressing the 2nd Objective

In addressing the second objective, Section I and Section II in the interview guide was used to ask pointed questions that would solicit direct answers from the respondents. In Section I, the questions solicited responses on the demographic and business types. This was intended to direct the researcher in understanding the nature and type of business, for determining the incubation process flow for design of the conceptual framework.

For Section II, three questions were asked: Part 1, what are the existing services provided by IBIS? Part 2, what are the types of services entrepreneurs would like to see provided by IBIS? and Part 3, what are the challenges faced with the current services provided? The answers to these questions would lead to the creation of a list of the existing services provided by IBIS, an evolved new list of services not provided by IBIS and the necessary feedback to pinpointing the challenges entrepreneurs were having with the services provided. This also generated the recommendations on improving the effectiveness of the programme which speak to achieving the second objective.

Addressing the 3rd objective

The third objective of the study was to provide a conceptual framework of services to guide the process of incubation from registration to commercialization of a business.

The new proposed conceptual model will aim to improve upon the IBIS model in promoting an enhanced incubation process flow. It will incorporate a list of new services where gaps were identified in the services provided by IBIS. According to the IBIS model, it contains a six step process for incubating clients, that is, step one (1) selection of candidates; step two (2) candidates develop their vision for the business; step three (3) business skills training; step four (4) business plan development; step five (5) business developed and operational; mentorship and coaching provided; and step six (6) post incubation; business operates independently and monitored.

Addressing the 4th objective

In addressing the 4th objective in making recommendations to policy makers to enhance the effectiveness of the incubator, the researcher again returned to the research guide in section three (3) asking nine pointed questions that would provide the answers for determining the effectiveness of the incubator. These questions dealt with the IBIS programme deliverables in its ability to provide services in financial, business training, marketing and networking, innovation and competitiveness and information communication support. A summary of these responses were gathered and put into a table to determine the frequency trend of these services. The measured percentages indicator of responses by the entrepreneurs indicated high or low effectiveness. The sample size of twelve (12) participants was small for conducting this analysis, therefore for research validity and robustness of the research, the researcher coupled the data outcome of low to high effectiveness with the recommendations suggested by the entrepreneurs for making an assessment of the outcome.

In the next section of this study, the author explored the philosophical assumptions underpinning this research.

3.2 Rationale for the Philosophical Approach Adopted.

The rationale used for choice of philosophical approach was borne out of the researcher's own interpretive characteristics, and his desire to see entrepreneurs succeed at their businesses. It was difficult for him to reject persons seeking assistance through his work circumstances, where as a commercial enterprise it did not cater for persons seeking technological services with an inability to cover cost of services. This propelled his drive for changing the status quo and finding solutions to how, through his own experiences and position of influence, he can get the requisite government backing to mobilize the resources to better support entrepreneurs in Trinidad and Tobago.

3.2.1 Research Philosophy

In the text "Qualitative Inquiry and Research Design", Creswell (2007) speaks of many philosophical assumptions used in research today: Ontology, Epistemology, Axiology and Methodological. Creswell's description of each philosophical assumption defines their characteristics and their implications in practice. Aspects of these philosophical dimensions were used in the study as a measure of the researcher's thoughts and decision making along the full study. However, before arriving at a choice of research philosophy for this study, I explored other types of philosophical views beyond my own values to validate my final choice of philosophical position for the study. In so doing, I looked at the positivist view.

3.2.2 Opposing Philosophical View (Positivism)

In looking at an opposing philosophical view, the positivist approach was rejected and seen as very limited in encapsulating an all-round philosophical approach from many different dimensions interlinked amongst all facets of this research. Positivism considers every social situation as completely independent of other situations and as a 'reality' that needed to be found out about or researched in conjunction with the nature of its

surroundings and the perception of individuals involved. It did not seem to the researcher that this approach would have been adequate to capture all of the occurrences cross-functionally, (Easterby-Smith et al., 2015).

A positivism ontology believes that the world is external and that there is a single objective reality to any research phenomenon or situation regardless of the researcher's perspective or belief (Edirisingha 2012). Accordingly, positivist researchers attempt to remain detached from participants of the research by creating distance between themselves and the participants (Webber, 2004), a view that this researcher does not hold as the research is centred on gathering data from respondents in the field of study. This then brings into question the methodological approach chosen and why the choice of methodological design.

3.3 Contemplation in Methodological Design and Approach

In assessing the methodological design and approach, the researcher had to make distinguishing analysis between various methods and explored using mixed and multiple methods sharing the views of Zhou & Creswell, (2012). It was evident that the distinction between these two design approaches stem from the research stage, the research question, the research method, data collection, analysis, and inference process, where the choice of method would be used.

Esteves & Pastor, (2004) shares some distinguishing feature between the two methods:

- **Multimethod design** – this is the conduct of two or more research methods, in a single study.
- **Mixed method design** – this is the combination of various qualitative and quantitative approaches within a single study.

3.3.1 Multi-Method Approach:

The researcher contemplated using a Multi-method approach. With the development of both qualitative and quantitative research, these two types of research methods are increasingly used by scholars, and was seen as improving the robustness of the research process, Esteves & Pastor, (2004). Their research further showed that the main advantage of multimethod work is in seeking to validate data and results by combining a range of data sources, methods, or observers. The study crosses over two broad areas of business: Incubation and Entrepreneurship. The dynamics of the two business areas in bringing out the truth can be very complex in analysing and approaching the study from multiple methodological choices. Esteves & Pastor, (2004) spoke of the multimethod approach as a method for supplementing each method's weaknesses and limitations by deliberately combining different types of methods within the same investigation thereby strengthening the validity of the research. It was while researching multi-method literature that I came across the Delphi technique coined by (Grisham, 2009). This was another method explored as it was known to be a method for testing and analysing complex and multifaceted research, but this was also rejected as the focus of the research started to narrow towards one method and while there may be good justification for using multi-method and other methods, on further examination of my research aim and objectives, I concluded that a mono method of data collection was more appropriate to the area being investigated as it can involve participants telling their story of being in the programme.

3.3.2 Mixed Method Approach:

When reviewing and contemplating whether a mixed method should be used in this study, it was a very difficult choice in distinguishing the most appropriate method of

choice. In the case of both multimethod and mixed method, both can be used interchangeably at times depending on the research stage as there can be an interconnection between the two methods (Collier & Elman, 2008). In exploring mixed methods, Zhou & Creswell, (2012) describes it as when the researcher integrates quantitative and qualitative approaches into a single study. This happens when the investigator collects and analyses data, integrates the findings and draw interpretations using both qualitative and quantitative.

Further exploring mixed methods, Khankeh et al., (2015), speaks of the challenges in conducting qualitative research and it was also difficult by the researcher to discern between the two methods as the literature allowed for the exploitation of many approaches under mixed methods in arriving at a conclusion. This method proposes that two is better than one, and that this method can provide deeper discernment of the phenomenon eliminating any biases that may exist in a single research method, but this may not be the case in this particular study.

Although there is a certain amount of viewpoint within this research for a quantitative type analysis in justifying using either mixed or multiple methods in bringing out the truth. It was felt though there was a strong need for the opinions of persons in the investigation which is mainly qualitative. In the researcher's viewpoint, a mono method qualitative approach will lend itself to having greater credibility and validity from the results obtained interpretively. It will allow for the researcher to submerge himself within the study and relate truth espoused from his own values and world view of the phenomenon.

3.4 Philosophical Views

To further support the researcher's method of choice, this was explored through three philosophical views of Ontology, Epistemology, and Axiology.

3.4.1 Ontology

In the study, the researcher used an ontological predisposition more in line with an interpretive philosophical approach. In the researcher's view, the interpretivist research philosophy depicts an underlying thought of how the author perceives the world. He sees himself as being integral and symbiotic to the research study. His strong moral values characterize his relationship with the world and how he interfaces with it in decisions that he makes, learning as he goes (Zhou, 2007).

In choosing to study the incubation system the interpretivist philosophy chosen underpins the values espoused by the researcher and lends itself to more of social constructivism, the goal of which is to rely as much as possible on the participants' views of the situation (Creswell, 2007). The researcher's perception of new knowledge can be formed by subjecting himself within the lived experiences of persons within the incubation process and capturing their experience to represent truth.

In an ontological functionalist framework, "the reality is out there" says Porporato (2011, p.149). He postulates that "consensus-building tends to bring that hidden reality out from amongst the opinions of many". Handriana & Dharmmesta, (2013), closer to scientific truth. The researcher's ontological view is his belief that the researcher and reality are inseparable. The researcher sets himself in the middle of the research; he does not separate himself from the lived experience as a positivist approach would do. (Saunders et al., 2012) further explained Ontology as the nature of reality the way you see the world and the epistemology as the way in which knowledge is gained or how this

reality is captured or known. Further it is seen that there are two dominant ontological and epistemological ideologies that of one (1) Interpretivism, and two (2) Positivism. We dealt with positivism earlier in the chapter, so let us explore Interpretivism.

3.4.2 Interpretivism

“The interpretivist approach is used in understanding the actions and interactions of respondents, by virtue of grasping and comprehending the culturally appropriate concepts through which they conduct their social life” (Steyaert, 1997p.26). From the literature, in a more modern interpretation, Interpretivism was seen as a scientific philosophy that focuses on a person’s intentional actions and interactions. It assumes knowledge is gained from the experiences of others. In view of the entrepreneur, it manifests through the course of action of the entrepreneur through their experience and innate qualities. In the understanding from various authors on Interpretivism, an interpretivist approach would advance a more subjective assessment in the conduct of interviews. Esteves et al., (2004p.73) explains that this approach could give the researcher “greater scope to address issues of influence and impact, and to ask questions such as “why” and “how”. They go on to explain that knowledge is gained through social interaction.

The Interpretivist approach, in relation to ontology and epistemology is that the interpretivist believes the reality comes from different views of the world, (Edirisingha, 2012). Further to which he compounds that an interpretivist avoids rigid structural framework such as in positivist research and he adopts more personal and flexible research structures.

Edirisingha (2012) research agreed that the interpretivist researcher enters the field of research with prior knowledge from learnt experiences, but this knowledge may

be insufficient in developing a fixed research design, as research can be complex and multidimensional in understanding the reality and truth. The researcher is open to new knowledge throughout the study and lets it develop with the help of informants. Therefore, he postulates that the goal of the interpretivist research is to understand and interpret the experiences and behaviours of others as oppose to forecasting outcomes. The scholar goes on to state, “For an interpretivist researcher it was important to understand motives, meanings, reasons and other subjective experiences which are time and context bound”, (second paragraph).

Other authors like Creswell (2007) speak of interpretive qualitative research as an approach to research that has become entangled into the core features of qualitative research. It recognizes the intuitiveness of the researcher and the role they can play as the researcher in understanding the data and interpreting its meaning. It also acknowledges the power that a researcher has when he infuses his personality into the discourse and directs the conversation, infusing the epistemological viewpoint and how it can affect the study.

3.4.3 Epistemology

The researcher’s worldview revolves around the Epistemological assumption as it speaks of the characteristics and preference of the researcher in addressing a problem by gaining knowledge from the lived experiences of others. Creswell (2007p.19) emphasizes a particular stance; (paradigms or worldview) that researchers may take when conducting research. For this type of qualitative study, the Epistemological assumption will have the greatest impact on the research, as most of the enquiries are centred around soliciting persons’ opinions through interviews on the particular topic area of incubation and entrepreneurship. Creswell then went on and gave guidance in conducting a

qualitative study lamenting that researchers try to get an understanding of the participant being studied in trying to comprehend and gain first-hand knowledge. In getting to this point of the study, the researcher's values and characteristics form another dimension that can influence the study and explore the axiological viewpoint.

3.4.4 Axiology

Although the researcher explored ontology and epistemology positions for this research and the impact these philosophical dimensions can have in guiding the research, there is a third dimension which involves the role a person's own values play at each stage of the research process and is of great importance if the research is to be credible (Saunders et al., 2012); Saunders et al., (2012) postulate that Axiology is a branch of philosophy that analyses a person's value system. They argue that our "values are the directional compass of all human action. Researchers have demonstrated axiological skill by being able to articulate their values as a measure of their decision making process in what research they embark upon and the process involved in doing so.

The axiological viewpoint of the researcher was always a discerning one that embraced the Christian doctrine and the values it espouses. This value precipitates a certain consciousness within the researcher and serves as a guiding light in choice and behaviour towards life. In conducting the research these types of qualities will serve well in helping to guide the researcher in seeking out truth. This can have a major impact when conducting interviews, collating and analysing data, as well as when interacting with others. In the next step of the research process we shall explore the research chain. The approach for doing so, will be guided mainly by using Saunders layered model for conducting a qualitative study.

3.5 Research Chain

In referencing Saunders et al., (2012, p.128) a layered model (The research ‘onion’) illustrated layers of a research methodology chain. This “Onion” model helped guide the researcher’s assessment in arriving at the type of research philosophy, approach, strategies and tools used in the study. The study worked along the path of an interpretivist paradigm Thanh, (2015) based on an axiology perspective of a moral belief system in helping others to succeed.

Summarizing the research philosophies used in the study for arriving at a research methodology, this could best be depicted graphically from Saunders et al., (2012) the Research “Onion” shown below in Fig 3.1

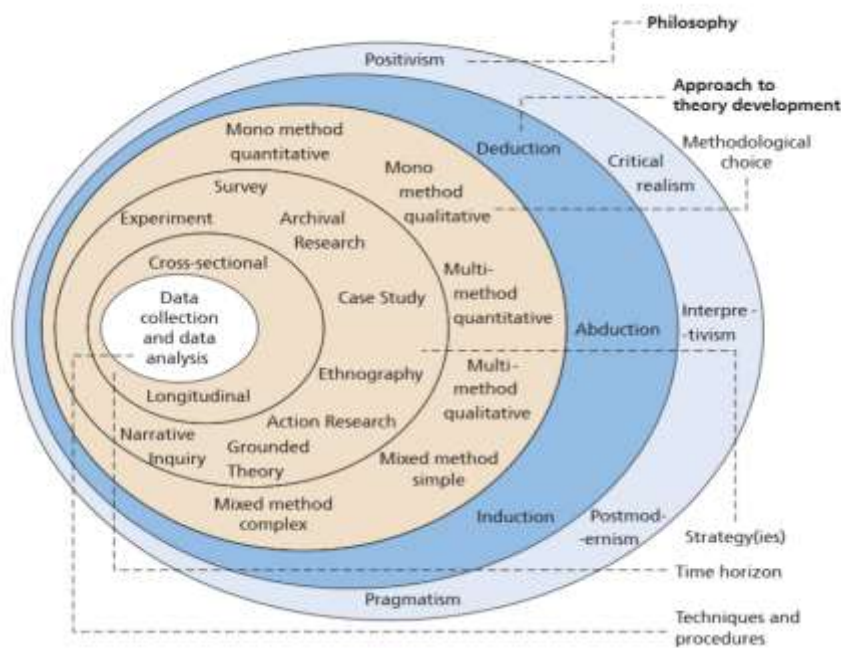


Figure 3.1: Research Onion (Saunders et al., 2012)

The layered model graphically shows a series of circles spaced apart, each circled layer representing a phase of the methodological process from beginning towards the end accomplishment of the study. There are six layers in the Saunders’ model. It starts from the outer largest circle which represents the **first layer**: obtaining a philosophical stance;

at the **second layer** you select the choice of approach; at the **third layer** you select the methodological choice; at the **forth layer** you determine the choice of strategy adopted; the **fifth and six layers** correspond to data collection and analysis selection. It was then determined that the researcher would use the following road map for conducting the study.

This method is depicted in Table 3.1, showing Saunders' six step Layered model matched against the research approach and research design for conducting the study.

Table 3.1: Research Design Road Map

Research Design Methodology	Study approach	Saunders Layered Model
Ontology	Subjectivism	Layer 1
Epistemology	Interpretivism	Layer 1
Axiology	Belief System - Moral	Layer 1
Approach	Inductive	Layer II
Methodological Choice	Mono Method - Qualitative	Layer III
Strategy	Phenomenological	Layer IV
Time Horizon	Cross-sectional	Layer V
Data Collection and Data Analysis	Interviews, Desk Research, Coding and transcribing.	Layer VI

3.6 Research Strategy and Design

3.6.1 Introduction

The road map of the Research strategy and design was supported and confirmed through the seminal work of Saunders et al. (2012). He spoke of the research design as

the general plan of how the researcher will go about answering their research questions. His view is that the design should contain a clear part to answering the research question.

3.6.2 Research Design

The research design for this study takes a qualitative approach and begins with the philosophical assumptions that the inquirers make in deciding to undertake a qualitative study (Creswell, 2007). In this approach, the researcher brought his own world views, paradigms or sets of beliefs to the research project which informed the conduct and writing of the qualitative study and maintaining a work life balance (Parkes & Langford, 2008). The author, Creswell (2007) acknowledges that qualitative researchers study things in their normal surroundings, attempting to discover or interpret a phenomenon in terms of the meaning people bring to them. This thinking formed the essence of this study and embraced all of the characteristics described within this discussion. This associated strongly with the process used in a qualitative study and related with Saunders layered model of a research onion.

3.6.3 Research Choice Using an Interview Approach

A semi-structured interview was used to explore the opinions of entrepreneurs in the field of incubators and entrepreneurs polling the results and empirically summarizing the main views of respondents on the services offered and challenges they faced in start-up. According to Creswell (2007) this type of approach studies things in its natural environment to explore the lived experiences of candidates. Kharabsheh (2012) postulated also that an interview is an information gathering discussion between two parties or a group on a research topic, provided that the discussion keeps within the scope of the discussion. Using interviews permitted an in-depth exploration of the topic area with the interviewee who had the relevant experiences. An interview is a respected method for carrying out an exploratory investigation.

Interviews were the main tool in obtaining the views of the entrepreneurs within the IBIS programme, it was a means of face to face verbal exchanges (Rowley, 2012). The interviews were conducted through discussions garnering content on the interviewee lived experiences (Sandberg, 2005). The questions were mainly one sided and received responses, but the researcher was mindful to create dialogue and not to merely pose questions and the subject matter answers; in this way it can prevent prejudices.

Although interviews can achieve some measure of communicative validity, there are limitations, as it may not give sufficient emphasis on biases between interviewer and interviewee (Sandberg, 2005). It was on this basis that the researcher strengthened the approach by using pragmatic validity in asking the same questions from a different source of investigation. Therefore, some of the questions posed in Sections (I) and (II) were repeated in Section (III) of the Interview Guide under a different titled question. In this way, the responses can be cross referenced for validity and accuracy (Crescentini & Giuditta, 2009).

Qu & Dumay (2011), adopted Alvesson (2003, pp.15-17) who also raised some interesting thoughts postulating that:

“there are three theoretical perspectives on the research interview as a method, the first two represents more established perspectives; neo-positivism, studying facts, and romanticism, studying meaning. Both approaches to interviewing tend to treat respondents as epistemologically passive and as mere vessels of answers. In contrast, the third perspective is localism, which seeks to break the conventional views on interviews by challenging “assumptions, claims and purposes of those wanting to use interviews instrumentally”.

This analogy by Qu & Dumay (2011), was taken on board and adopted during the interview process and respondents were at times challenged on whether they were the problem and not the programme. This sparked heated responses and defensive posturing in further justifying their reasoning for the responses given. The researcher then conducted a pilot study.

3.7 Pilot Study

Prior to conducting the main study, part of the requirement of the course work was the conduct of a Pilot study to test the methodological assumption and approach to the study. A pilot study was conducted mirroring the research design and strategy for developing the thesis. Two incubator candidates from the IBIS incubator centre at El Socorro were selected by the Manager of the IBIS programme and the process for carrying out the interview was conducted. The two interviews took around forty-five minutes and were recorded on a digital recording device and later transcribed.

The data collection and analysis concluded that the methodology in using socially constructed means of gathering data turned out to be the right approach. This approach allowed for direct interface with the entrepreneurs in telling of their experiences, their successes and achievements. This was discerned by Sandberg (2005) “as the truth constellation”. But, there were also some issues that evolved, which required changes to be made of the interview guide before conducting the main study.

3.7.1 Methodological Issues when Conducting the Pilot Study

During the pilot study, many new revelations during the interview process came about that led to revision of the interview guide and order flow of questions. It was therefore clear that some changes were needed in the type of questions posed during the

pilot interview process; some questions when asked seemed irrelevant, while others had to be re-arranged into an improved chronological order to avoid redundancy.

In the Pilot interview guide, under the Socio-Demographics section, geography, ethnicity and profession did not seem relevant and had no bearing in determining any social impact or influence on the entrepreneur's choice of business. These questions were removed from the interview guide for the main study. On further reflection, the entrepreneur was asked to give an overview of their business as an opening question. This question was asked during the interviews and seemed to invoke a broad spectrum of feedback that carried into section three (3) of the template guide. It further seemed that Section (1) and Section (3) could be consolidated into one section in gathering information on shaping the general profile of the entrepreneur. This change was then incorporated into the interview guide for the main study. Section four (4) of the interview guide for the pilot study seemed to reiterate some of the same responses obtained in Section two (2) questions, replicating the responses obtained and in some cases slightly at variance with the initial responses. What was notable for a change was removing the closed questions in Section two (2) and bringing those questions under the proposed consolidated Section one (1) and Section three (3). The guide then took the structure of three sections for gathering the data: a Profile of the Entrepreneur/Business, the IBIS programme services and the IBIS programme effectiveness.

3.7.2 Justification of Interview Guide

From the literature, research has shown that the process of conducting an interview can be perplexed at times and so the researcher chose to introduce an interview guide for aiding in the interview process and help to remove interviewer bias (Saunders et al., 2007). The questions were structured to solicit responses that would aid in answering the

research objectives, responses were recorded on a recording device for ease of reference and pointed notes were taken.

3.7.3 Interview Guide Template Design:

The interview guide consisted of three data-gathering sections: Section one (1) the socio-demographical aspects of the entrepreneur and his company, Section two (2) identification of IBIS incubator services and challenges experienced and Section three (3) determining the level of effectiveness of the IBIS incubator.

Interview guide: Section I

The first section in the interview guide dealt with the socio demographic of the entrepreneur and company. Therefore, a question was asked on providing an overview of what the business was all about. The study sought to gather information on the candidates' characteristics for doing business and get some understanding of the company operations, the socio-economic background of the entrepreneur, knowledge and experiences, the environment, ethnicity and the culture associated to determine if there were any influences or impact on selection of the type of business and services requirements. Additionally, in the analysis, determination was made if there was any correlation between the socio-demographic elements and business services.

Interview guide Section II

In the second section of the interview guide template, both closed and open-ended questions were asked, gathering information on the opinions of nascent entrepreneurs on support services offered by the IBIS programme and any other services that have been needed but were not offered by IBIS. This section also gathered data on the respondent's

challenges and failures faced during the incubation period. The participants were asked the following question during the interview:

A narrative of each response will be individually analysed according to categorical data-sets in the number of counts/frequency of occurrence. The information received and when analysed, can provide a more detailed assessment of the type of entrepreneur and characteristics of the entrepreneur business type for seeking incubation support. These data-sets will be illustrated in charts and ranked by frequency and converted into percentages for the analysis. It will then be analysed using a descriptive narration of the findings. The data can then be summarized into a table format representing each entrepreneur interviewed, looking for common patterns and themes that could lead to the type of services required. Yusuf (2010) speaks of this “as a good measure of serviceable patterns”. From the analysis of the narrative generated, common patterns of serviceable areas needed may evolve out of the research and this new information can inform the future service needs of new entrepreneurs.

Interview guide questions (Entrepreneur)

1. What incubator services can help to facilitate your business to attain its goal?
2. What type of services would you like to see provided by the Incubator?
3. What are the challenges you face as an entrepreneur in securing services from an Incubator?
4. List the type of incubator services provided.

A similar approach was used to analyse any common patterns observed and the information was presented in tables by categories of services. A narrative was then written on the main services that evolved out of the study.

Interview guide Section III

In the third section of the interview, a series of questions were asked in seeking to measure the effectiveness of the IBIS programme in meeting its objectives and deliverables. The questions drew out responses from entrepreneurs on the programme's ability to meet its stated objectives and or targets of performance principally on the key services it offers. The main questions asked were:

- How effective was the support services provided by IBIS in the areas of: finance, networking, facilities, training, information communication, innovation, business practices and networking.

In gathering this data from the interview guide template in a scientific manner, it is believed that this will also inform new knowledge. Handriana & Dharmmesta, (2013) postulate that epistemology based questions directs how knowledge is gained as it solicits responses to draw out new knowledge.

3.8 Method of Data Collection

For conducting the interviews, the data collection process involved a four (4) stepped approach:

1. Selection of candidates: Sample group
2. Making arrangements for candidate to participate at the interview
3. Conducting the interview:
4. Post interview transcription:

Step I. Selection of candidates

The IBIS Incubator Manager was asked to identify candidates for the study who were members of the IBIS programme from the four (4) operationalized Incubator centres, who were actively pursuing their businesses. A sample set of thirty-six (36) prospective candidates' names and contact information were provided to the researcher. From this list, candidates were randomly selected and were contacted via email. They were sent an introductory letter on the researcher background, and explanation on the objectives of the study and a consent form to conduct the interview. The candidates who gave their consent were contacted by phone and were told of a time and place for conducting the interview. This process was repeated until a purposive sample of twelve candidates was selected of those to be interviewed.

Step II. Making arrangements for candidate to participate at the interview

Each candidate who gave consent was telephoned and invited to meet for the interview. In the telephone discussion, the date, time and venue were noted on a timetable for coordination of interviews to be conducted. Follow up calls were made as the interview date drew closer in order to confirm the previously established dates, times and venues for the interviews. In the telephone discussions, some of the candidates chose to meet at the researcher's work office, as it was offered as a possible meeting venue. Other candidates chose venues at the IBIS Incubation Centre, a Pizza chain outlet, the National Museum, at their home, at their business facility and at the National Library. These were reaffirmed the day before the interview and a few hours prior to the interview.

Step III Conducting the interview

On the prescribed date of the interview, the candidate showed up promptly and the interviews were conducted. Interviews took approximately forty-five (45) minutes

and participants were tasked to answer the closed and open-ended type questions which lead to further discussion in exploring the interviewer experiences. Twelve interviews were conducted as planned on dates, times and venues prescribed over the span of two months. A digital recording device was used to capture the interview discussions under strict confidentiality; this allowed for ease of data capture, storage, security and retrieval of digital data for transcribing (Hirose et al., 2012). In addition, the researcher took supplementary coded notes documented on the interview guide template.

Step IV Post interview transcription

The full span of conducting the interviews took approximately two months. There were some scheduled changes by participants during the reaffirmation checks and so some interviews had to be rescheduled at a later date. On completion of all interviews, the task of transcription was next; this turned out to be a very arduous task. Hence, some assistance was sought by an external party to help with this task, which eventually took about six weeks to complete. All information documented from the interviews remained under the researcher's sole access and was secured on a personal computer with password protection. This action will carry for a period of three months' post final submission and any ethical issues that arose were militated against during the study.

3.9 Ethical Considerations During the Conduct of the Study.

In the conduct of interviews where the greatest risk can occur, all steps were taken to prevent any exposure to participants. Candidates were briefed on the extent and purpose of the study clearly stipulating their level of involvement. At the beginning of the interview process, candidates were notified via emails and the researcher obtained written approval before commencement of the interview. All participants who were engaged to conduct the interview volunteered on their own volition and were reassured

of continued anonymity during the full research process with no link to who they were when preparing the thesis. Any notes taken during the interview were anonymised with persons given pseudonyms to hide their identity.

In respect of this measure, the outsourced transcriber was asked that names be removed when transcribing the voice recordings. The outsourcer was also asked to keep confidential the transcribed recording and store the transcription on a prescribed data storage device issued by the researcher for the transcription. Notes were also stored on the researcher computer that is password protected from access to others. All information obtained for the thesis, the researcher maintained the highest ethical judgement during the conduct of the study.

3.10 Data Analysis

3.10.1 Transcribing the Data

From the recording device, the interviews were transcribed. Initially the digital recording was being transcribed by the researcher; however, the speed of transcription was slow and frustrating to the researcher. Assistance was then outsourced to digitally transcribe the recording. One hundred and fifty-nine (159) pages of transcribed data were produced which was then further coded and categorized into themes.

3.10.2 Coding the Transcribed Data.

The process of coding the document was a very iterative process, having to repeatedly code and recode into themes and sub themes. A standard manual method of coding was used. Initially for conducting the coding process, the transcribed document was read throughout for a first time in order to get familiarized with the data and its content. On the second reading, key words, sentences and paragraphs were highlighted using a florescent marker. Anything that stood out relating to services offered or

recommendations made by participants or challenges experienced were summarized into short anecdotal notes. On the third reading, the process was repeated also detailing summary notes, processes and actions of importance as it related to the incubation system. All of these coded notes were encapsulated by the author on the side margin of each transcribed page. These coded notes were then clustered into forty (40) general thematic areas which stemmed from recurring patterns of coded notes. They were further summarized into thirteen (13) sub-themes and then further into five (5) themes representing the three sections of the interview guide.

3.10.3 Evolved Themes

The thirteen sub-themes which emerged they are listed below in no particular order:

- 1) Business Support Services
- 2) Mentorship
- 3) Entrepreneur experience in IBIS
- 4) Application process
- 5) Type of Business
- 6) Incubator System Challenges
- 7) Funding
- 8) Recommendations
- 9) Networking and Marketing
- 10) Recommendations for enhancing competitiveness
- 11) Services not provided by IBIS
- 12) Case Study best practice
- 13) Government

Using a method adopted by Saldana (2013) for presenting coded data, five (5) tables were formatted with the headings of: Theme, Sub-Theme, Code and Coded Evidence for

presenting the data. Saldana (2013) speaks of presenting relationships between themes in giving a brief outline or meaning and showing corresponding evidence to support the theme. This was adopted for presenting the data of two hundred and eighty (280) coded notes aligned under the respective table headings of themes, sub-themes, code and coded evidence.

A narrative was then written for some of the main themes and sub-themes, each theme using a technique postulated by Weaver-Hightower (2014) of **Setup – Quote –Comment** for each of the main themes capturing the main highpoints from the coded data. Weaver-Hightower (2014) explains that when writing the narrative, one must tell the reader what it all means by giving an introduction to the thematic area during the set-up stage, then in relation to the set-up area quote from the spoken words of the incubatee transcription and give a final comment summarizing your views on the theme area. This was adopted and presented during the analysis and discussion chapter.

3.11 Conclusion

In conclusion, undertaking an interpretive enquiry for this research had a tendency to bring out the truth from the persons under study. It sought to solicit the person's knowledge and experience in the field and openly highlighted the challenges the incubation system experienced. The researcher's own values helped to shape the narrative and may include his own interpretation alongside other respondents. The approach was inductive, moving from the specific to the general, from the data to theory invoking a systemic oriented approach Romm, (2013) or descriptive, which is principally giving an account of reality through the eyes of others.

In conducting the analysis in this way using the above methodological strategy and design, it is envisaged that the research will be robust and lessen the chance of any

weaknesses occurring in the techniques and tools used. Sandberg (2005) says that based on the truth constellation, communicative and pragmatic validity is a way of bringing an interpretive awareness to the study for justifying new knowledge produced within an interpretive enquiry. In the analysis of the data gathered, common patterns of serviceable areas evolve out of the research and this information informed the future service needs of the IBIS incubator and entrepreneurs.

Chapter 4 Analysis and Findings

4.1 Introduction - Overview of the Chapter

For this chapter, the focus was placed on presenting the data findings and analysis of the data. The data for all twelve interviews was captured using a digital recording device in addition to the researcher taking pointed notes documented on the interview questionnaire guide template. From the recorded device, the interviews were transcribed and coded. Two hundred and eighty (280) coded notes emerged which were derived from the transcription data and placed into five tables with the headings: Theme, Sub-Theme, Codes and Coded evidence across each row within the table and grouped into forty (40) thematic areas and then further summarized into thirteen themes and then five (5) main themes that are presented in three sections, three of the sections were synonymous with the questionnaire guide sections. One should note that the main theme has several sub-themes and its corresponding codes and coded evidence.

The first section defines the profile of the entrepreneur, which was captured in seven (7) figures that showed summary data findings of Gender, Marital Status, Educational Level, Market type, Business Orientation, Business Type and Business sector. Three themes evolved out of the second section: the entrepreneur experienced during the incubation process, the support services provided by IBIS and the challenges

that were faced by the entrepreneurs. The findings from section three of the questionnaire resulted in gaining knowledge of the clients suggested improvements to the programme and the service gaps.

From the interviews with candidates, the researcher gathered that the IBIS programme's aim was to provide a "one stop shop" for all support services required by small businesses. IBIS drove the process of business incubation into two phases: (1) Pre-Incubation and (2) Incubation. They offer two models of Incubation: A Community-Based Business Incubator (CBBI) and a Commercial Business Incubator (CBI). The CBBI targeted communities to meet societal issues such as unemployment alleviation and poverty reduction, whereas the CBI was geared towards the development of business for high value and high growth industries. This was seen in Fig. 4.1 as it graphically displayed a process flow of the incubation process provided by IBIS.

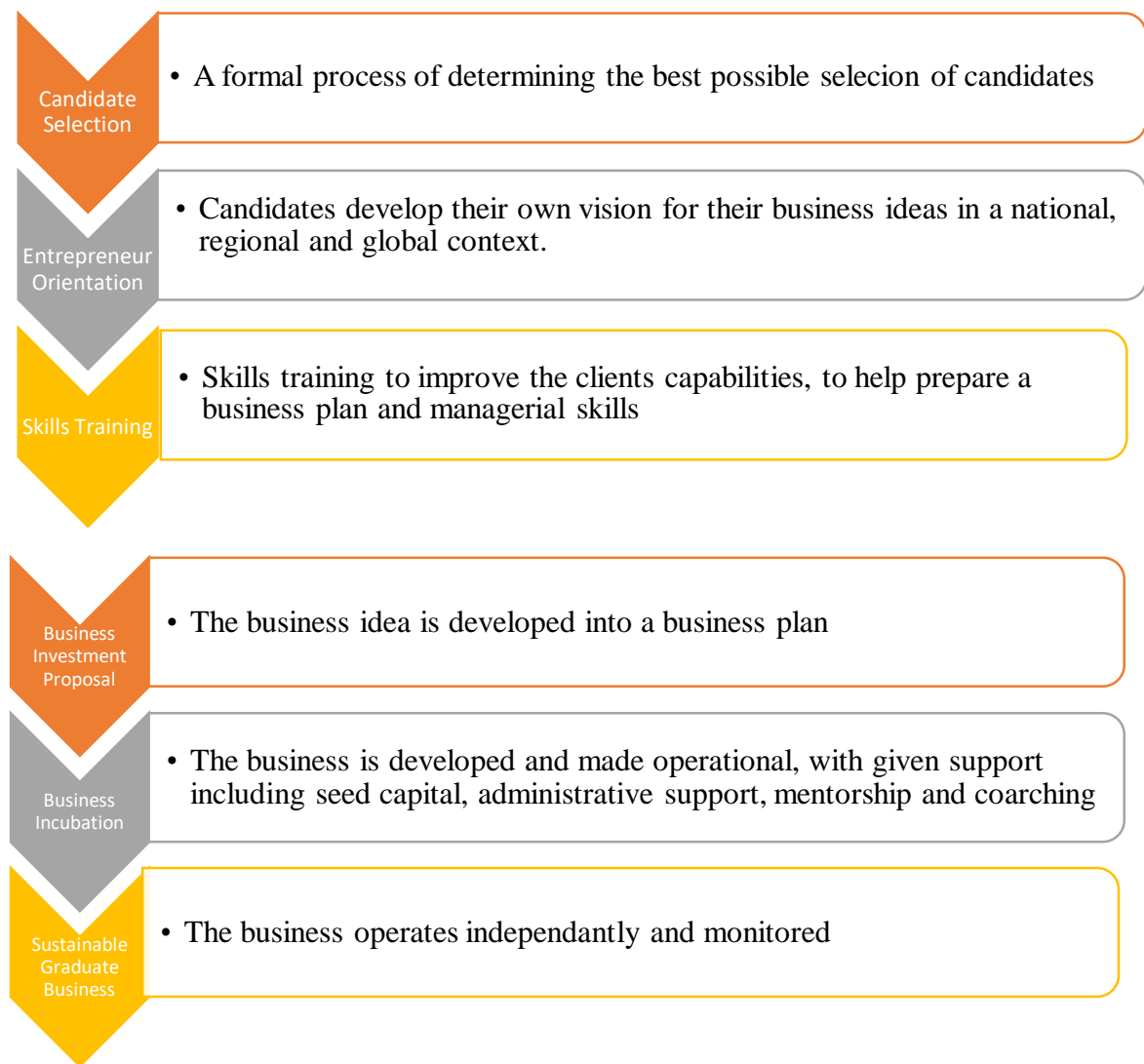


Figure 4.1: IBIS Incubation Process

Anyone can apply to IBIS by simply completing the application form. Ideal candidates for selection are chosen at the pre-screening process and are measured on their business idea or a business that already exists. IBIS offered one-on-one mentorship from business experts, training in areas critical to business operations and expansion: Financial literacy, Legal, Business Plan development, Mentorship, Networking, Office space offered at a subsidised rate, Meeting spaces, Administrative support and Financing up to one hundred thousand (\$100,000) Trinidad and Tobago dollars. Financing was provided for seed capital as well as for the purchase of equipment.

4.2 Section (1) Profile of the Entrepreneur/Business

This section is an analytical summary of the transcribed data represented in seven (7) figures. These figures represented a thematic analysis of the first section from the interview guide.

Data Summary findings captured in Figures 4.2- 4.8 give a snap shot of the entrepreneurs' and business profile within the IBIS programme. Twelve interviews were conducted; therefore, this represented the population size used in the research. The profile will serve to give an overview of the incubatees' demographics and business categories.

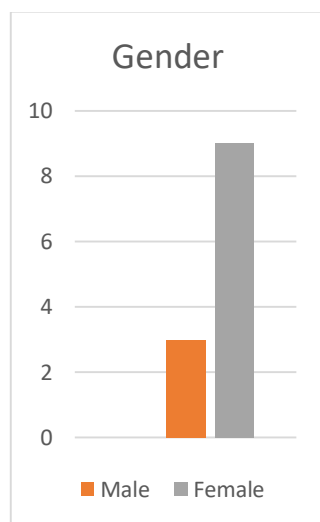


Figure 4.2: Gender
Educational Level

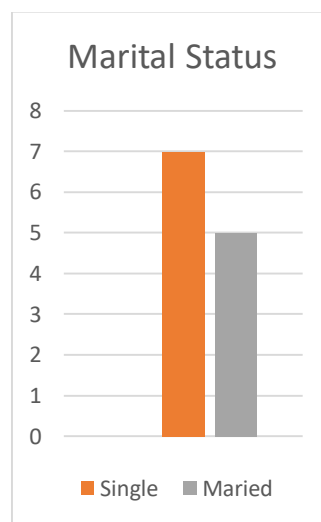


Figure 2.3: Marital Status

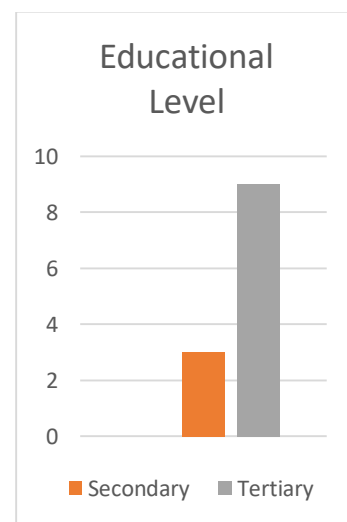


Figure 4.4:

Demographics: The results showed that there was a higher percentage of women in the programme – women accounted for seventy-five percent (75%) of the participants, whereas males represented twenty-five percent (25%) of the population as portrayed in Figure 4.2. The interviewer also observed that there was a trend towards single persons versus those who were married in the programme in fig.4.3 with seven (7) single persons to five (5) married persons. The majority of interviewees had acquired tertiary education in fig 4.4, a significant seventy-five percent (75%) of the population having either a Bachelors' degree or Diploma from University or College.

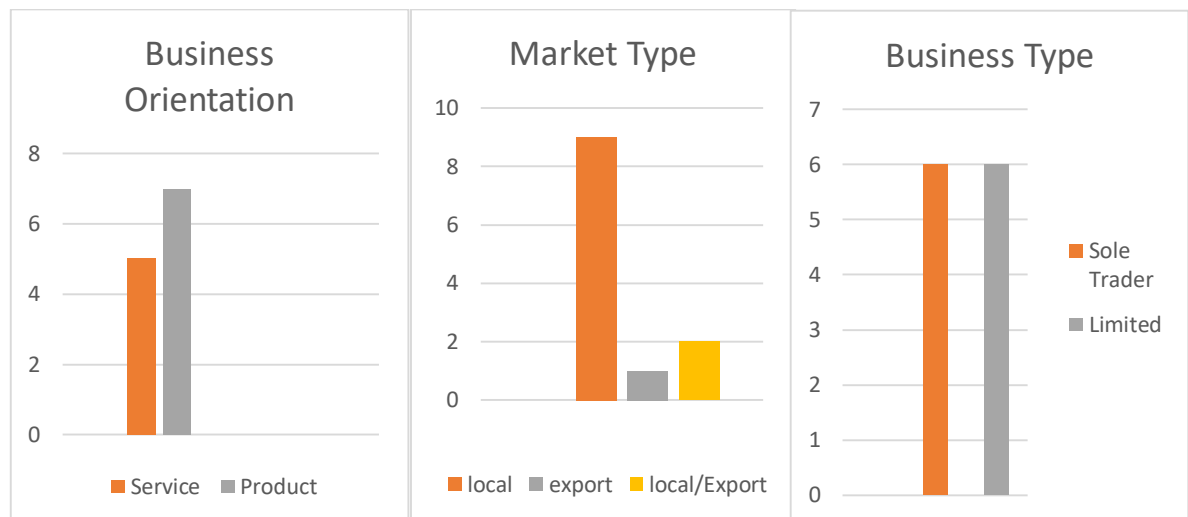


Figure 4.5: Business Orientation; **Figure 4.6:** Market Type; **Figure 4.7:** Business Type

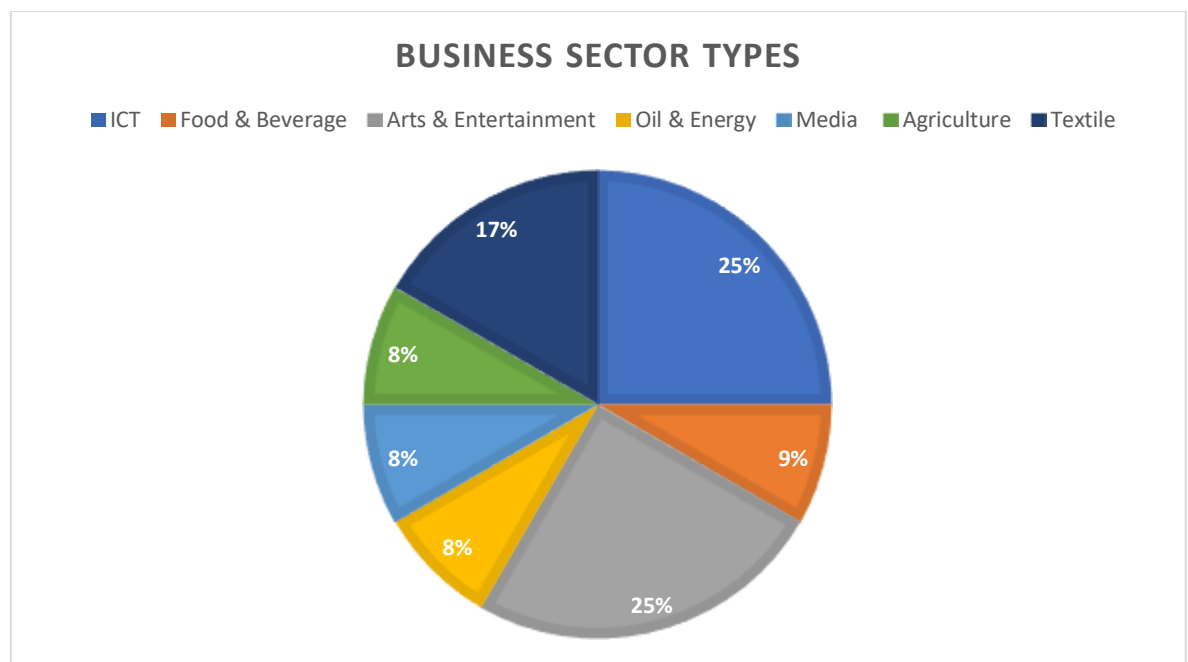


Figure 4.8: Business Sector Types

Business Profile: The results from the data gathered on business within the programme showed that more businesses were product-oriented as opposed to service-oriented with fifty-eight percent (58%) product and forty-two percent (42%) service type (Fig. 4.5). Further, the results also showed from the data gathered on market type that the Local market type accounted for seventy-five percent (75%) market share, the export market type eight percent (8%) market share and a combination of both local and export market type eight percent (8%) market share and a combination of both local and export

was seventeen percent (17 %) market share (Fig. 4.6). When observing the type of businesses that took part in the programme, only two types were represented – sole trader and limited liability – both having a fifty-fifty percentage distribution (Fig.4.7).

The Business Sectors pursued by entrepreneurs within the IBIS programme consisted of seven types. Information Communication Technology (ICT) contributed eight percent (8%). Similarly, Agriculture and the Oil and Energy sectors also contributed an eight percent (8%) segment (Fig.4.8). Additionally, Food and Beverage represented nine percent (9%) whilst both Arts and Entertainment together with Media each showed twenty-five percent (25%) making them the most popular business sector in the IBIS programme. Textile accounted for seventeen percent (17%) making it the second most pursued business in the programme. Generally, section one painted a picture of the entrepreneur's profile within IBIS. In section two the researcher detailed the entrepreneurs' experiences during the incubation process.

4.3 Section two (2) Theme 1: Entrepreneur Experiences in the IBIS Programme

In this section, Table 4.1 represents the theme Entrepreneur Experience in IBIS, and comprised nine (9) sub-themes with its associated coded notes and coded evidence. These were obtained during the interview from the candidate's spoken word as recorded in the transcribed data. The theme Entrepreneur Experience evolved from a thematic analysis conducted of all the coded notes. Recurring patterns of coded data were grouped to form the theme and corresponding sub-theme of relatable codes and supporting coded evidence. This table therefore captured these coded data associations depicting the candidate's confidence and dealing with failure, challenges during the application process, assessment approach, orientation conducted and the business profile. All of these were represented in each of the boxes in Table 4.1.

Table 4.1: Theme 1: Entrepreneur Experience in IBIS

Theme (1)	Sub – Themes	Codes	Coded evidence
Entrepreneur experience in IBIS	Ideology	Motivation key to being an entrepreneur, Confidence, Dealing with failure and recovering from failure, Awareness and passion, Do it yourself feeling, Exemption.	Confidence building activities were undertaken (Ms. Custom); Age and maturity a factor in doing business. Feeling of empathy and loneliness (Mr. ICT); Exemption for some entrepreneurs (Ms. Juice)
	Entrepreneur personal experience in the IBIS programme	Inequality in service, Staff unfriendly, Running into red tape, Poor front office customer service, Rude secretary, Lost opportunities, Growth of entrepreneur	Coerced into false promotion of the incubator (Mrs. Reality); Timeliness of communication a factor. Growth of entrepreneur takes place at different speeds (Ms. Juice, Mr. Steel, Mrs. Brands, Mrs. T's)
	Application Process - Registration	Advertisement, Filling in the forms, Educational requirements	Advertisement on a flyer, primary secondary education certification (Ms. Custom, Mrs. Brands, Mrs. T's)
	Assessment, Pre-screening of candidates/Selection	Means test, Assessment of business, What business is trying to achieve, Background, Business experience, Valuating business idea	Deeper assessment of business, Valuating business idea, Assessing viability of business idea (Mr. Tech, Ms. Juice, Mrs. T's, Mr. ICT)
	Programme Orientation	Programme outline, Financial literacy, Funding, Incubation	Incubation process (Mrs. Little); Collateral for funding, Loan approval process (Mrs. Media, Mrs. T's, Mr. ICT)
	Entrepreneurs Business Profile	Sole trader, limited liability, partnership	All businesses fell into one of the coded categories.
	Business sectors	Energy industry, Food and Beverage industry, Creative industry, Information	All businesses fell into one of the coded categories.

		Communication Technology (ICT), Manufacturing.	
	Business Orientation	Product, Technology, Creative (Arts), Service: retail, delivery service online, Customization.	Service-oriented business (Mr. Steel, Mrs. Little, Mrs. Brands, Mrs. T's, Mr. ICT)
	Business Outlook	Local market, Regional market, Global market	New innovative business of virtual reality (Mrs. Reality).

A narrative was written of two (2) of the main study findings on the entrepreneurs' experience in IBIS. This conveyed the feelings and feedback of the entrepreneur while going through the experiences of the programme for motivation and confidence and the application process.

4.3.1 Motivation and Confidence

Incubation worldwide operates on the premise of support to entrepreneurs during the start-up stages of their business as research has shown that most businesses fail during the early stages of development and the incubator was meant to give support to increase the chances of success of the business. Incubator success was accomplished through a number of support mechanisms that can aid the entrepreneur in their growth and advancement of their business; however, many of these support mechanisms do not take into consideration the societal and ideological mind-set of the entrepreneur which can impact the entrepreneur's performance and success in the incubator programme. (Acs et al., 2009). They also believed it can empower the entrepreneur to have the drive towards achievement of their goal and by extension the growth of the firm revealing their desirability or their entrepreneurial intention for starting a new venture

For example, participant Ms. Custom stated that:

“motivation is key to being an entrepreneur, but it was a lot for me being in business for the first time and as well as I knew a lot of the material having

graduated with a degree in business. There wasn't a lot of motivation for me other than I wanted to finish and graduate. Some confidence building activities were undertaken by the IBIS, as they sense some of us were not motivated, age and maturity could have been a factor in doing business, as many of us were young in our early twenties, and did not know many aspects of running a business. Overall you got this feeling of empathy and loneliness although you in a programme it was not of much help to developing your business”.

From the data, the observation made by the researcher was the IBIS programme was built on the model of a school-based system with scheduled classes and lecturers. The setting was not conducive to creating an environment of business as it gave the participant the perception that they were back in school and were students with a head master, not actual business owners starting up and running a business. The incubator model caused the participants to have self-doubt and a feeling of insecurity. Many of them did not know how to cope with this feeling and left the programme prematurely. Operating under this pretext demotivated many incubatees and they only continued with the programme because of the loan commitment they had to honour.

4.3.2 Application Process: Registration and Enrolment

Most international incubators used a number of approaches to register candidates in their incubation programme. Some of these may be through an application process that will pass through various screenings before being selected, others may involve in-depth interviews that may explore their business idea and feasibility.

In order to attract another cohort of incubatees, the IBIS administrators would first promote the programme through an advertisement in the daily newspaper and by having persons driving through communities handing out promotion flyers for enrolment in the

programme. The flyer had a pre-registration form that took information on your demographics and interest in developing a business. Candidates who were interested would fill in the form and submit it at a given location, upon which prospective candidates who met the initial pre-screening assessment would be invited to be interviewed for a full screening process where a more detailed analysis would be conducted.

Ms. Juice was quoted as saying:

“I saw the advertisement in the newspapers and filled out the application form. The contents of the application asked for standard information on the demographics with respect to: contact and identification information and whether they had a business. On successful pre-screening, I was later called in by the IBIS where they conducted a deeper assessment of my business idea, assessing its viability, concept of the business, the entrepreneur education, training background and employment history”.

During the application process in the researcher's opinion, there seemed to be a hit-and-miss approach to recruitment of candidates. Open advertisement for recruitment of candidates should be frowned upon for incubator recruitment, as this unstructured approach can overwhelm the screening process with un-desirable candidates on a wish list to create a business. Operating a business is not for everyone and the process of recruitment should be organized in such a way to eliminate those wishful persons that may not have the aptitude to run a successful business.

Recruitment should be structured for persons with ideas for a business and those with an already started business under a one-year period and experiencing challenges. In this way, you can have two streams of candidates that can now be put into categories of business types and the incubation programme can then be tailored to suit that type of

business. A means test can then be applied to prospective clients who may need financial help through a loan facility or some clients may only need business support in terms of training and mentorship. In this way, the funding will be more prudently used and reach more suitable clients for support.

4.4 Theme 2: IBIS Programme - Business Support Services

From the participants, it was discerned that the incubation programmes provided a number of services to support the growth and development of the entrepreneur. Some of these services entailed training on how to develop a business plan, creating a marketing plan, financial literacy and legal aspects of a business. In addition, they carried out mentorship programs and networking initiatives during the different stages of the incubation process.

This can be seen in the following theme for business support services provided by IBIS. Table 4.2 represents the theme IBIS Business Support Services. It contained twelve sub-themes with its associated coded notes and evidence obtained during the interview. The theme evolved from a summary thematic analysis done of all the coded elements recognised with corresponding sub-theme disaggregation. This table captures coded data on: training method used, type of training administered, facilities offered, marketing and networking services, mentorship, funding and loans offered.

Table 4.2: Theme 2: IBIS Business Support Services

Theme (2)	Sub – Themes	Codes	Coded evidence
IBIS Business Support Services	Training Method and Approach.	Classroom setting, Lectures, Basic business training, Back to school approach	Training was conducted in a classroom setting (Ms. Custom, Mr. Sound, Mrs. Brands, Mrs. T's, Mr. ICT)

	Business Training and Administrative Support	Accounting, Legal, Marketing, Financial audits, Preparing a business plan, Budgeting, Networking arrangement, Mentorship selection and Management, Funding.	Business training was equivalent to tertiary level school (Ms. Juice, Mr. Sound, Mrs. Brands, Mrs. T's); Place or fit you with a mentor (Mrs. Reality, Mr. ICT)
	Facilities	Provided a cubicle, Desk and chair, Wi-Fi, Computer.	They Provided an office cubicle (Mrs. Media, Mr. Sound, Mrs. Brands, Mrs. T's, Mr. ICT)
	Marketing and Networking	Advertisement, Niche marketing, Promote incubatee companies, Market the incubator, Elevator pitch, Local incubator network, Common update shared, Speed dating, Few mixers, Shepherding.	Signage on building to advertise clients, more emphasis on marketing the incubator for visibility (Mrs. Reality, Mrs. T's). Speed dating was an activity done, Learning from each other, (Mr. Tech, Mr. Sound, Mrs. Brands). No cohesion amongst start-up cohort (Ms. Juice)
	Mentorship Programme	Choice of mentor	Profile of mentor to choose from (Ms. Custom, Mrs. T's, Mr. ICT)
	Choice of Mentors	Mentors with an innovative spirit, Mismatched, Specialization of mentor, Mentors driven by paycheck	Mismatch mentor with mentee (Ms. Custom, Ms. Juice, Mrs. Reality, Mr. Steel, Mrs. Media, Mrs. Brands, Mrs. T's)
	Mentor Performance	Competence of mentor, Unsatisfactory support, Unprofessionalism, Absentee mentors, Lacking and tardiness, Assessment tool.	Mentors seen as a job, mentors never ran a business. Mentors were lacking in follow through on ideas (Mrs. Reality, Mrs. Media, Mr. Sound, Mrs. Brands, Mrs. T's)
	Basic Funding	Up to \$100,000 loan, Loans of 4% interest rate, Loan vs grant, Purchase of equipment	A grant was preferred instead of a loan (Ms. Juice, Mr. Steel, Mrs. Little, Mr. Sound, Mrs. T's)

	Loan approval process	Proof of documents, Loan requirements, Institution requirements	You had to have proof of documents to support financial claim (Ms. Juice. Mr. Steel, Mr. Sound)
	Loan allocation	Micro management of drawdown on loan.	Loan allocation not in sync with reality of doing business (Mr. Tech, Mrs. Media, Mr. Sound, Mrs. Brands, Mrs. T's)
	Monetary controls	Frustrating system, Restriction to purchasing, Getting quotations.	Small item purchase was a challenge (Ms. Juice, Mrs. Little, Mr. Sound, Mrs. Brands)
	Funding challenges	No contractual agreement on funding, Not receiving the right level of financing, Funding ran out; Too long to get funding	Convolved process for disbursement of funds, accepted for loan but funding unavailable (Ms. Juice, Mrs. Reality, Mr. ICT)

From Table 4.2: IBIS Business Support Services, we were able to discern the list of services administered by IBIS in the creation of Table 4.3: Summary of services provided by IBIS. A narrative was then written on some of the areas that stood out during the study: training and development, mentorship and networking and funding, given the evidence of the candidate feedback during the interview and ensuing discussion on the topic.

Table 4.3: Summary data of the services identified by interviewees from the IBIS- compiled by researcher

	Training Received from IBIS	Support Services received by IBIS
1	Financial literacy	Mentorship
2	Accounting	Networking
3	Preparing a Business Plan	Facilities – Office space
4	Legal aspects of a business	Administrative
5	Creating a Marketing Plan	Information communication
6		Financial Services - Loan

4.4.1 Training and Development

A lot of the success of an incubator relies on the quality of training services offered to incubator clients. Many start-ups lack the requisite business and technical competence

required to successfully grow their businesses. This lack of skills was one of the main reasons entrepreneurs fail. Consequently, training in these key business skills was paramount to achieving success. Although incubators the world over do carry out some form of training, the training approach used can inhibit the performance acuity of the candidate to perform at the highest standards, (Albort-Morant & Oghazi, 2015). Therefore, it was essential to select the right training approach to fit the respective client and their business type.

From the data gathered and transcribed, many of the candidates spoke of training they were offered under the IBIS programme. Ms. Reality lamented that:

“IBIS did provide training and development, but I needed specialized training in my area. The training programme was organized into three parts, you had the initial training which was financial literacy, elevator pitch and everything, you had the funding which is where you get the money; we got cash, a laptop and a mentor. So because there were people who were really, really startup and then those who were sort of advanced, the training wasn’t really tailored to suit the stage you are at with everyone receiving the same training and development”.

Mr. Tech also commented by saying “I believe staff itself would need proper training on entrepreneurship as they were not coherent in their understanding of incubation”.

Many of the challenges observed in the training offered fell in the category of quality of training offered and inadequate training. Under quality of training it seemed that participants did not get sufficient training in finance that they felt comfortable to prepare a business plan. When negotiating with customers in preparing proposals and service agreements they also felt that they were inadequately trained to reduce risk of

exposure in these agreements. It was noted, that there were mentors not qualified in the field of study in a specific business type; staff did not seem to understand the incubation process and so administrative support floundered when they tried to give advice or support. Many services were not offered to adequately support the entrepreneur in areas of need; candidates had to seek alternatives outside the incubator to get help.

4.4.2 Mentorship

Mentorship is an old adage phenomenon in existence since the turn of time. It was traditionally persons who have acquired an array of experiences and competence in a particular field of business and can impart that knowledge, skills and experience to others towards their development (Pauwels et al., 2015). It is a useful training tool structured to help guide persons and can take the form of coaching or advising one on the path they should go. (St-Jean & Audet, 2012). In incubation, mentorship is normally a formalized programme used to pass on knowledge from more experienced practitioners to entrepreneurs in their development. A Mentor can be a generalist or specialised professional and will normally meet with the mentee at predetermined times for counsel.

From the study, the researcher observed that the IBIS programme has built-in mentorship as a structured programme within the incubation process. Mrs. Reality shared that:

“you had a profile of a mentor to choose from or mentors were chosen for the mentee by the administration of the incubator. You had fixed meetings, but infrequent meetings were held and that came across as tardy and unprofessional. I had poor mentorship support and the competence of the mentor was questionable as mentors never ran a business and therefore seem out of sorts to give advice. Mentors were lacks in follow through on ideas; this can slow down your progress

as you would be waiting on feedback before moving ahead. Sometimes this results in lost opportunity for doing business with client. Clients will not wait for your feedback for a proposal and this results in lost opportunities”.

On another note, Ms. Reality also said, “mentors didn’t seem to have an innovative spirit, they were principally driven by a pay cheque and they operated as if it was a job”.

Although mentorship was a tried and tested training mechanism and widely used in work places and can be highly successful if administrated correctly, the IBIS incubation programme did not benefit from this and there were many challenges experienced between the mentor and mentee and the administration. There seemed to be a mismatch between the mentor and mentee in the selection process; it did not seem to have the right fit at the start and this may have accounted for the unsatisfactory support given. Many times entrepreneurs mentioned where they needed specialised mentors to help in their specialised business or technical area, this was unavailable and it hindered the entrepreneurs’ progress. Communication was another area raised as a challenge since beyond the scheduled meeting date with mentors, there was no feedback in-between for follow up and advice, lengthy periods of time passed, leaving the entrepreneur disillusioned without hope.

4.4.3 Funding

In most incubators funding is probably the single most important service offered and sought after by entrepreneurs. Seeking funding to cover development expenses is critical for survivability and sustainability of an entrepreneur Amezcua et al., (2020). Financial constraints can cripple a business; therefore, having adequate funding to support your business needs for capital equipment purchase, overheads and material can help in the growth and expansion of the business. Many incubation institutions offer funding in

the form of a loan or a grant. This can be explicitly under an agreement or contract with conditions for payback. Most incubators would normally offer a lower interest rate on loans than a bank with easier repayment terms and conditions, with less hassle for documentation to support the loan on offer.

The data gathered showed that the IBIS programme had a loan facility for loans up to one hundred thousand Trinidad and Tobago dollars (TT\$100,000) with an interest rate at four percent (4%). Mrs. Media said that:

“loans were for purchasing of capital equipment and material, with IBIS requiring you had proof of documents to support your financial claim. Drawdown of monies was a frustrating system with restrictions to many purchases being micro managed by the administrators which posed a challenge when having to purchase small items or getting quotes. The whole process was convoluting for disbursement of funds, in a particular instance you got approved for a loan but funding was unavailable. Disbursement was also not in sync with the reality in doing business; the level of loan allocated did not match the level financing needed for your business plan”.

Funding can be either a blessing or a curse to some businesses. It was observed that many of the entrepreneurs within the programme join the programme solely because of the funding availability. Many only saw the programme as a means of getting quick cash; they had very little passion for business or having an entrepreneurial mind-set. IBIS must be careful to guard against these types of individuals who can be detrimental to the success of the programme.

4.4.4 Marketing and Networking

Marketing and Networking of an Incubator can be a mechanism for promoting the incubator success Kiran & Bose, (2020). It can highlight and bring attention to the businesses enrolled and their successes and it can enlighten others who may be interested in starting up a small business to take that next leap and join. The result was to generate interest and attract sponsorship and investments in businesses attached to the incubator and it can bring awareness and visibility to the public of the successes of incubating small business.

Entrepreneur Mrs. Reality commented:

“the incubator can promote their business by advertising the incubator and the client within. This is not done as there is no signage of businesses within the incubator that can bring visibility to us, no one in the building knows we are here, and there should be more emphasis on marketing the incubator. If they establish a local incubator network, maybe we can learn from each other and share our successes and failure. They tried a number of initiatives like Speed-dating and Mixers - these did not catch on well. Speed dating was an American concept of having entrepreneurs rotate with other entrepreneurs around a table in discussing their business. This activity was timed and then you had to move onto another entrepreneur. I think they thought that we would learn about other business and this will help us in our own. Mixers were a bit different in that it took the form of a social gathering of entrepreneurs within the programme. The environment was light with beverages being served and each of us would move around and introduce ourselves to each other getting to know about their businesses. This was moderately effective as you would share your business card with businesses that

you were interested with, but IBIS held few of these, I guess it was expensive to host as they had a lot of cut backs to the programme”.

IBIS it would seem, tried a number of marketing and networking initiatives, some more successful than others. Not promoting the incubator was a major miss-step by IBIS as they would have missed the visibility of the incubator for drawing investors. Speed dating perhaps did not suit the culture of Trinidad and Tobago. Trinidadians are more of a sociable type who love to socialize and this networking initiative did not lend itself to that environment, thus the reason for it being unsuccessful in the eyes of the entrepreneurs.

4.5 Theme 3: IBIS Programme - System Challenges.

Table 4.4 represents the theme: Incubator System Challenges; it contains five (5) sub-themes with its associated coded notes and evidence obtained during the interview. The theme evolved from a summary thematic analysis done of all the coded elements recognised with corresponding sub theme disaggregation. This table also captured inadequacies in some of the services, as it related to: customer services, facilities, the Government and the measure of achievement of the entrepreneur during the process of incubation.

Table 4.4: Theme 3: Incubator System Challenges

Theme (3)	Sub – Themes	Codes	Coded evidence
Incubator System Challenges	Inadequacy of services provided	Financial literacy, Legal, Warehouse space, One business model fits all, Level of education of staff, Mentorship and Networking challenges.	Inadequate warehouse space to house equipment, one management model applies to all types of business (Mr. Tech, Mrs. Reality, Mr. Steel, Mrs. Media, Mr. Sound, Mrs. Brands, Mrs. T’s, Mr. ICT)

	Customer service challenges	Part time classes, Opening and closing time constraints, Staff must have knowledge of incubator management, Too many bosses, Policy and red tape.	Inflexibility with training, Fixed classes with inconvenient schedules (Mr. Tech, Mr. Sound, Mrs. T's); No advertisement on incubators to attract clients (Mrs. Reality, Mr. Steel, Mrs. Brands)
	Facilities challenges	Location of incubator, Inequality amongst incubators, Sector specific incubator	Distance to get to incubator was a challenge; Incubators need to be strategically located Mr. Tech, Mrs. Little, Mrs. Brands, Mr. ICT)
	Key Performance indicators challenges, measurement challenges.	Measure of success, No post incubation checks on entrepreneurs, Graduation not apparent during the process.	Measure of success was not apparent; graduating from the incubator not formalized (Mrs. Reality, Mr. Sound, Mrs. Brands, Mrs. T's, Mr. ICT)
	Government Public/Private Sector links	Integrating new business to service government, fair share programme.	Using ideas generated through entrepreneurial business to help build and service government agencies, implementing fair share programme; "piece of the pie" (Mrs. Reality, Mr. Sound, Mrs. Brands)

4.5.1 Inadequacy of Services.

The very ideological premise of an incubator is for the provision of services to meet the needs of clients (Li et al., 2020). Not being able to meet the service needs of clients can determine the level of success or failure of an incubator. Many incubators took pride in knowing the type of clients they serve, whether it was for general business, specialized technological services or a hybrid of both. Either way, much of the assessment would have been done on the particular market environment they serve or from a strategic undertaking to address a particular social or economic growth pole. Therefore, in setting up an incubator much consideration would have been given to know the type of incubator being set up and the categories of services needed to be provided and resource requirements of such.

Incubatee' Mr. ICT, commented that, "many of the current support services IBIS provided were inadequate and under finance, they just trained us in basic financial literacy, the knowledge gained was insufficient for us to prepare an accounting statement, profit and loss account and a balance sheet and therefore we took longer than we should of when preparing a business plan." Mrs. Brands, "we were not exposed to how to prepare a contract or service level agreement, this put us at a disadvantage and risk when engaging clients for services." Mr. Sound under loans, "the loan allocation was inadequate and pose a serious challenge for us to overcome in administrating our business like buying equipment and material and covering our overhead." Mrs. T's comment was "the facilities were inadequate, we were housed in a 6ft by 6ft cubicle office, very small and insufficient to carry out our business, and if clients came they had nowhere to sit or to host a meeting. The warehouse to house our goods were insufficient also and we had to keep some of our stuff at home or off compound".

4.5.2 Incubator Facilities Challenges

The incubator is defined according to Nair & Blomquist, (2018) as an organization that provides a list of services to businesses for their growth and development but there are many aspects of the incubator that one must consider when deciding on location or placement and the physical nature of the incubator. In the literature, incubators were also seen as an economic development tool used mainly by governments to spur on business in their development. These establishments were normally linked to government strategy and therefore location will be intrinsic to strategy. Soetanto & Jack, (2016), employed two strategic functions of exploration and exploitation. They explained when a firm exploit a technology, they sought to attract a new market, whereby when a firm used an explorative strategy, they sought after to provide a better service and position themselves more competitively.

The IBIS network of incubators had four established facilities: a centre in Sangre Grande in the east of Trinidad; a centre at El Socorro also in the east but on the border of the main city and capital Port of Spain; a centre at Point Fortin in the South region; and a centre at Diego Martin in the West. The main administrative hub, as well as the main seat of management, was also situated at El Socorro. In the researcher's opinion, they seemed strategically positioned, but not according to responses received from entrepreneurs. Many of the business owners articulated that they felt location was a tremendous bugbear, having to travel several miles from where their businesses were to the incubation centre to attend classes and that some of the incubation centres were not strategically located. They explained that most of the classes were held at the main administrative hub which was very distant from the other centres.

Mr. Media said that:

“there was inequality amongst incubators, so many aspects of what was taught were not equally available at the other centres and we had to travel long distances to get to a centre where the training is being held”.

Many of the location challenges experienced were avoidable management challenges and could be avoided through proper allocation of entrepreneurs. According to Davoudi (2016) the value of astute planning would have sought to structure or locate incubators in the area of the business concentration and having specialist type incubators in the area of key sectors.

4.6 Section (3) Theme 4: IBIS programme – Clients' Suggestions for Improvements.

Table 4.5 represents the theme: Suggested Improvements by Clients. It contains five (5) sub-themes with its associated coded notes and evidence obtained during the interviews. The theme came about from one of the objectives of the study in seeking to

measure the effectiveness of the programme. Section three of the interview guide template contained a series of questions to measure the effectiveness of the delivery of services offered by IBIS. This table was able to capture the data on level of effectiveness in the services offered and also highlighted the recommendations to improve the effectiveness offered up by candidates. It captured many policy positions suggested by candidates, best practices of incubators that one of the candidates experienced with a regional incubator, modern approaches used to build competitiveness and should be used by IBIS and statutory requirement needed. All these initiatives were geared towards generating improvements of the programme and its effectiveness as guided by the writings of De Waal (2003) measuring business excellence.

Table 4.5: Theme 4: Suggested Organizational Improvements by Interview Participants

Theme (4)	Sub – Themes	Codes	Coded evidence
Suggested Organizational Improvements by participants	Policy makers	Government integration, grants instead of loan, entrepreneur on governing Board, national incubation system, local incubator network, post incubation system, innovation education system	Government should be more integrated into the programme (Mr. Steel, Mr. Sound). Create a national incubation membership system, create a local incubation network, create a post incubation system (Ms. Juice, Mrs. Media). Set up education system to support innovation (Mrs. T's, Mr. ICT).
	Successful Model	Start-up Chile, better designed incubator space, shared spaces in design, successful incubators, data base of clients, programme flexible, communal spaces, Complaint and feedback	Learn from successful incubators locally and worldwide (Mrs. Reality, Mr. Steel). Set up a data base of clients; programme not flexible to its clients (Ms. Green). A system to deal with complaints and feedback (Mrs. Reality, Mrs. T's).

	Drive Competitiveness	Use of new technology, licensing technology, Technical advice, modern approaches to learning and development.	Online systems like Skype, video conferencing (Mrs. Reality, Mr. Steel, Ms. Green, Mrs. T's, Mr. ICT)
	Marketing and Networking	Building a brand, market assessment, strategies for competition, competitiveness, shared database, online training in social media	Training in building a brand, patents development and application, OSHA, STOW (Mr. Tech, Ms. Green, Mr. ICT). Use of online system for promotion like the use of website, social media - Facebook (Mrs. Reality, Mr. Steel, Mrs. T's).
	Start –up Challenges	Statutory requirements, certification, limitation of a small business, understanding service providers, quality control, HSE	Challenges to get business accepted by other companies, size matters (Mr. Tech, Ms. Green, Mr. ICT)

4.6.1 Government

Government has been a main ally of incubators throughout the world since its existence from the early stages of incubator development back in 1954 Batavia, New York. Incubators have since evolved to become commonplace in all facets of government and private industry. Most governments used incubators as an economic development tool for addressing some societal or economic challenge, (Fernandez Fernandez et al., 2015).

Mr. Sound said:

“that government should be more integrated into the IBIS programme, and more of a helping hand to young entrepreneurs. “As young entrepreneurs we need that first business exposure and the Government can be that business through their Fair-share programme. The Fair-share programme is a government programme aimed to help micro and small businesses gain access to the public sector

procurement opportunities worth up to one (1) million dollars through an online web portal. <https://www.fairshare.gov.tt>. To qualify your business, you must be a small or micro business with less than 25 employees, earn less than \$8 million in annual revenue, have at least 51% ownership as a legal resident in Trinidad and Tobago and a certificate of registration from the Ministry of Legal Affairs, we felt IBIS was not assertive in positioning us on this programme, this can be a major opening for us”.

“When we first joined the IBIS programme, most of us got the impression it was a grant when they first advertised the programme, but then we were told it was a loan. Some persons left the programme at this point. We were talking amongst ourselves that we would like to see the Government create a national incubation membership system from all other incubators in Trinidad, entrepreneurs should be placed on the governing board of IBIS, this way we can bring our insights to them and show how the programme can improve. IBIS does not have a post incubation system, many of us struggle when we leave the programme, there should be some follow up to check on us and see if we need further help”

The evidence showed that many of the incubator clients were not pleased with the services they received and they felt that through the experiences with IBIS, if given a voice, they can highlight the problems to improve the programme. The Fair-share programme was a way to provide support to the entrepreneurs by the Government, but did not materialize. There was a sense of hopelessness in their voices, the point at which they were ready to give up. This brought us back to the point on the mind-set of the entrepreneur. There seemed to be no cultivated entrepreneurial mind-set through the education system in Trinidad and Tobago to better prepare entrepreneurs in Business and Innovation. The full education system may have to be reviewed as to whether or not

citizens are being prepared from the primary school up to tertiary level in inculcating a spirit of business and innovation.

4.7 Theme 5: Service Gap Analysis

Many of the current services provided by IBIS were seen by the participants as inadequate and from analysis of responses by incubatees emerged services that were not provided by IBIS but were needed by the incubatees. These were listed below under three categories in Table 4.6: Business Support Services, Training and Development and Technical Support Services. These services represented the gap in services findings.

Table 4.6: Gap in services summary findings

1.0 Business Support Services	2.0 Training and Development	3.0 Technical Support Services	
Product Testing - Food Certification	Legal Training: Corporate Contract preparation, Developing a Service level Agreement, preparing a Non-Disclosure Agreement	Intellectual Property management	E-commerce management
Developing a Quotation			
Preparing Corporate tax			
Pricing a product or service	Strategic Plan Development	New Product Development	Website Development
Exporting	Procurement: Tendering, Bidding process	Patent Development	Skype, Video calling
Product quality standards	Exporting	Carrying out Research and Development	Social media training
Library	Marketing approaches to building clientele	Technical Support	Security systems
Packaging a Product	How to approach a distributor or superstore	Storage	Engineering

Generally, this area was key to the research as one of the research objectives spoke to mapping the service needs of entrepreneurs within the IBIS programme and determine if there were any gaps. The gap in services that emerged was very apparent and seemed like standard business practices required for operating a business.

In addition, in table 4.7 the information represented the theme: Service Gaps Acknowledged by Participants. It contained nine (9) sub-themes with its associated coded notes and evidence obtained during the interviews. The theme evolved from a summary thematic analysis done of all the coded elements recognised with corresponding sub theme disaggregation. This table was also able to capture the gap in services experienced by entrepreneurs and show common standards in business required for modern businesses with business areas of new services needed for filling the gap in services.

Table 4.7: Theme 5: Service Gap acknowledged by participants

Theme	Sub – Themes	Codes	Coded evidence
Service Gap acknowledged by participants	Standards in Business	Occupational Safety and Health (OSH), Safe to Work certification (STOW), Quality Management System (QMS), Packaging products	Statutory and legislative requirement for doing business e.g. (Mr. Tech, Mr. ICT). FDA certification (Ms. Juice); meeting packaging requirement (Ms. Juice, Ms. Green).
	Business Training and Development Services	Registering a business, How to set up a commercial bank account, corporate contract, contractual management, website set-up and management, Price strategies, writing a proposal, preparing a service level agreement, how to build clientele, calculating corporate tax, export training,	Knowledge in setting up a Business (Mrs. Little, Mr. Sound, Mrs. T's); mechanism for engaging businesses e.g. proposal writing (Mr. Tech, Ms. Juice, Mrs. Reality, Ms. Green, Mr. ICT)
	Research and Development	New Product development, patent rights and application process, preparing a	Knowledge in how to conduct research for a new product and getting it patented

		non-disclosure agreement.	(Ms. Juice, Mrs. T's, Mr. ICT)
	Procurement	Procurement system, preparing a quotation, how to approach a distributor or superstore,	Understanding how to bid or preparing a tender proposal (Mr. Tech, Ms. Juice, Ms. Green, Mr. Sound)
	Use of Technology	Using social media-Skype, video calling, promotion of product and services,	Using social media to promote business in an easy and versatile way (Mrs. Reality, Mrs. Little, Ms. Green, Mrs. T's)
	Facilities	Storage and security, reference library	Having adequate storage for participants (Mr. Steel, Mr. Sound)
	Strategic planning	Preparing a strategic plan.	For setting long term direction of business (Mr. Tech, Mr. Steel, Mr. ICT)
	Specialized services	Specialized mentor: manufacturing, different engineering disciplines, mechatronics workshop	Developing and Building prototypes (Ms. Juice, Mrs. Media, (Ms. Green, Mr. ICT)
	Operational guide	Booklet/guidebook	Provide all incubatees with a step by step guide book of entrepreneurial services (Ms. Juice, Mrs. Media)

4.7.1 Standards in Business

Businesses today were governed by policy and standards Surana et al., (2020), with standards being one of the main instruments used to improve quality, occupational health and safety and certification. Without these governing policy principles, most

businesses would struggle to survive in a very active competitive environment as these systems can have an impact on operating cost and by extension price of services. Most progressive and successful companies would have many of these as standard policies integral to their operation. In the researcher's view, entrepreneurs today would be well advised to have a good understanding of business standards as it can protect them from risk and exposure in doing business.

Mr. Tech spoke of his business relying on standards and certification for his survival in the Energy and Gas sector:

“Occupational Safety and Health (OSH) and Safe to Work (STOW) are two statutory standards governed by legislation in parliament under the Occupational Safety and Health Act, 2004 Trinidad and Tobago, so my company had to enforce full compliance with these standards in meeting all safety and health requirement, this was never taught at IBIS and I had to learn my way through all of this, it was tough getting to this point, where I am fully operational now with all standards”.

Ms. Green said:

“we were in the food industry and had to get Food and Drug certification, our products had to be tested by the Food and Drug inspectorate (FDA) to be certified, this is something we were never exposed to at IBIS, this was a costly exercise that we never budgeted for and were never advised that we had to do this, it was only when I tried to export my product that I found out that I had to meet FDA requirements and get certification. My packaging had to meet certain standards and so the guideline they gave to me; I was then able to walk myself through the process”.

Organizations today must comply with government and any legislative requirements in the conduct of their day to day business. All registered companies fall under the Companies Act of Trinidad and Tobago and they can be held liable and pay a penalty for non-compliance. In the case of the food industry, your business can be shut down until you become compliant. In the energy industry, no other business in this field would do business with a company which does not have the requisite certification and standards; there was tremendous risk, as this can lead to lost opportunities and jobs for the business. Standards in doing business should be a common training area in any incubator system.

4.7.2 Research and Development

Most companies today have a higher predisposition to participate in Research and Development (R&D) (Mian et al., 2016). Companies that were innovation led or with an innovative spirit and ideology tend to thrive on new product development and innovations. In the researcher's opinion and experience, some of the popular international companies, for example Google, Microsoft and Apple have been known to dedicate tens of millions of dollars into a new innovations or product development producing many new innovative products yearly. Research and Development were common place within all companies as it was linked to competitiveness and survivability of the business and one of the areas of business that was a must-have.

Ms. Juice spoke of product innovation and having to constantly innovate:

“One of the challenges I had was knowledge in how to conduct research for a new product and getting it patented, knowing your rights and how I should go about the whole patent process. It would have been nice to have a booklet or a guide book that provides incubatees with a step by step guide on all the

entrepreneurial services and processes in business. I think it would have been useful and save us from all the trauma we had to go through”.

Research and Development into new product development was now an accepted business area in most companies. Having this as part of the incubation process would have brought tremendous benefits to the participants in their development. There was a symbiotic relationship between the two areas that should have been a taught course as there were many related spin-offs that can be intertwined into the discussion and learning (Al-Saad et al., 2015). Patent comes to mind, as many new products may have to be patented and knowledge of this will be contributing to the learning process.

4.7.3 Use of Modern Technology

Technology has evolved over the passage of time in aiding man in his development. Man has always been fascinated with the use of technology and now it can be seen in every facet of our lives predominating and outweighing civilization in many cases. Without technology, man will be back in the stone ages, and civilization would not have reached this level of sophistication. The literature had shown where technology plays an important part of our lives, so it was essential that business managers are cognizant of its role and attributes to a productive society, (Barbero et al. 2014).

Mr. ICT's business revolves around the use of technology; his motto is “Technology that works, people who perform”; He outlined his business model:

“Our business delivers solutions using software application and the latest digital technology architecture, we operate on a mode of business intelligence. Our objective is to improve our client's operations, but although this is our business we are limited by the IBIS digital business platform, they don't even have means to Skype or video call a client”.

Mrs. Media says she is a graphic artist that came from a media background and offers a service to design digital artwork and animation. Mrs. Reality owns a virtual reality company, which uses immersive technology combined with a narrative to tell a story. According to her: “Clients would use us to tell their story in an interactive way, where persons can virtually walk through or bring to life their operations more realistically”.

Technology use in today’s world is paramount; business simply cannot be competitive without the use of it. It can improve quality and speed at which operations are done in a much shorter time. It can make distance seem non-existent; the whole quality of life can improve. It did not seem this was the *modus operandi* of the IBIS programme as there was limited use of technology to assist its clients which frustrated them. The infrastructure was not designed to aid in any technological way that would enhance the incubatee experience in the programme.

In closing, when you look at the literature from around the world of incubator programmes and match that data with our finding from this study, the IBIS programme’s model seems to lack generally inadequacy of services and quality management system along with performance audits for conformance and feedback. Therefore, the many challenges that emerged from the findings can mainly be attributed to:

- The management of the incubation process;
- The quality of services provided and
- Services that were not provided by IBIS but needed by clients.

In the next chapter, these three areas will be discussed linking the findings of the study with the literature and presenting them in a format that attributed to the achievement of the objectives of the study.

Chapter 5 Discussion

5.1 Introduction

In this chapter, the discussion is centred around the three main discoveries that emerged from the study: IBIS Programme Model Inadequacies (incubatee/business profile, certification, structured recruitment, entrepreneurial mindset, facilities inadequacy, technical support inadequacy); Training and Development Inadequacies (entrepreneur training and development, quality of training, knowledge transfer, project-oriented training, use of technology in training, marketing and networking initiatives); and Funding Inadequacies (inflexible funding arrangement, entrepreneur loans, draw down from loans approved, incubator funding). From the data gathered and analysed, these key findings are discussed and critically examined making comparisons with past literature and study findings. A major objective of the study focused on support services. The discussion took a deep dive into the key challenges experienced by entrepreneurs and what scholars suggested to counteract these challenges. Finally, this chapter feeds into the final chapter on conclusions and recommendations, which gives concluding statements on the study contribution to knowledge, recommendations for policy makers and suggestions for future research.

5.2 IBIS Programme Model Inadequacies

5.2.1 Incubatee/Business Profile:

In the interview guide used in the study, data were gathered on the entrepreneur profile to establish the type of entrepreneur and his mind-set during the different stages of incubation. The study looked at the business type and model; it was envisaged that this data could be helpful in future incubation model design and development. The results of a study of 255 incubators conducted by Fernandez Fernandez (2015) showed over 70%

of the businesses by incubators were service oriented. The analysis from the research conducted showed that fifty percent (50%) of the businesses were product-oriented and fifty percent (50%) were service-oriented. There seems to be equal percentage of persons seeking to establish product oriented businesses in Trinidad and Tobago, therefore the IBIS incubator should be modelled around this finding. The analysis found that the entrepreneur within the IBIS programme had businesses that range by sector: Food, Agriculture, ICT, Arts and Craft, Media and Energy sectors. From the study, it was noted that they all needed specialist technical support due to the highly technical nature of each product or service. This was also the general findings from the study that more technical product development support was needed to address current clients. Sun et al., (2007) and Sithole & Rugimbana, (2014) highlight this type of support offered by technology incubators, where these types of incubators normally focus on developing firms in new and emerging technology products.

Another aspect of the profile for consideration was the entrepreneur himself. Acs et al., (2015) raise the question of the entrepreneur knowledge and how this can impact growth. They postulate the ability of the entrepreneur in his skills, aptitude and insights and this can help to shape the business type and profile of business. Although, the results of the study showed IBIS clients had business qualifications, many of the them were very young and inexperienced in managing a business with this contributing to 80 percent failure of their businesses. Establishing a new business is difficult with almost fifty percent of businesses failing within the first five years of operations (Lasrado et al., 2015). According to the literature the incubator is supposed to be a countervailing mechanism, but on the face of it, the incubator was not achieving what it was set out to do, it seems the IBIS programme was very ineffective to derive a successful business outcome for its clients. Therefore, the study outcome was able to address this problem by identifying the

gap in services and recommended the type of services that were needed to alleviate the challenges experienced by its clients. Similarly, from the study the recruitment process conducted by IBIS seem to not be following best practices in its approach to recruitment of new clients.

5.2.2 Structured Recruitment:

The Food Safety and Packaging services areas were not administered by IBIS either or the linkages to access this type of service were not available and the participant had to pursue this certification on their own and had experienced many challenges during the process slowing their growth and success. It was recognized from interviews that during the application and orientation processing of the candidate's profile data results, a gap in the services existed and this service gap could have been discerned and planned in advanced for preventing future challenges with certification. The candidate's data at the induction stage should show the nature of the business and the sector that it fell under. This information was critical for matching entrepreneur needs with the type of services required. At this stage, type of incubator can be considered to eliminate future challenges with services. Bergek & Norrman, (2008) and Barbero et al., (2014) suggest many types and classes of incubators for distinguishing the most appropriate choice to suit your incubation needs. This new knowledge can help determine the type of incubator most suitable for IBIS. This type of information can help to improve the effectiveness of the programme by having structured recruitment of candidates as categorized by client's business or sector specific areas such as: Agriculture, Information Communications Technology, Media, Manufacturing and Oil and Gas.

In conducting the literature review, the author also discovered that there existed the category of mixed incubator type, this literature informed the creation of a new **Hybrid Incubator**, one of the outcomes of the study. This new hybrid catered for both business

and technology-oriented firms, it combined business development support services with the development of new innovative technologies. It was noted in the findings, there was an absence of technology-oriented services to support the technology oriented businesses. Nagayya & Rao (2011), and Sun et al., (2007) spoke of businesses upgrading their capabilities in innovation, advance technologies, and modern management, this should be an aspect of the future incubator management model by IBIS for adapting to the technology needs of its clients. This information brings to bear the necessary mechanism to support businesses that need certification support and can solve the gap in technology services example in recruitment above and certification which follows.

5.2.3 Certification:

Certification is an important aspect of certain businesses. In considering entrepreneur Ms. Green, who made and delivered frozen fruits packages to customers through an online delivery service, her new innovative product must first meet the certification requirements for the Chemistry, Food and Drug Inspectorate Division (FDI), under the Ministry of Health of Trinidad and Tobago. The FDI Division ensures safe quality of an equitable standard for use by consumers of food, drugs, cosmetics and medical devices. This division assisted with management and technological advice and ensured that proper testing was done on products through laboratory services in accordance with the Food and Drug Act and Regulations of Trinidad and Tobago. They had also been known to give oversight to clients who sought advice on labelling and packaging requirements, a key aspect of product branding and commercializing that needed regulation under this authority. Ms. Green's and Ms. Juice's businesses then had to do extensive laboratory testing for food safety, labelling and meeting packaging requirements, a service not offered by IBIS.

Technology Incubation Centres (TICs) typically offer these certification support types of services (Akhuemonkhan et al., 2014); Qian et al. (2011) explain that technology based incubators offer business knowledge training, marketing, assistance, accounting/financial management, investor and strategic partner linkages, network contract, procurement training and legal assistance. IBIS's offering of technology-oriented type services can lessen the difficulties entrepreneurs had and IBIS can truly embrace the mantra that they spoke of for being a one stop shop for small businesses where they provided a more comprehensive range of services.

Training, Mentorship and Networking were elements of the programme that could then be tailored to the specific type of business and specialized mentors can be selected for candidates. Mentors should then be selected by having specialized knowledge, competence and experience in those areas avoiding many of the incubator pitfalls which revealed from the study the mentors' weak performances, limited competence, poor choice of mentors and mismatched mentorship. Patton & Marlow, (2011) also advocate for experienced entrepreneurs to be selected to become mentors supporting the point raised in having experienced specialized mentors. This can alleviate the challenges faced by Ms. T's as during the interview she spoke of the weak competence and mismatching of the mentor with her and later during the programme her mentor had to be replaced with one who was more akin to her business type.

In general, the results show these challenges were either as a result of management ineffectiveness or some technical inadequacy of the services the incubator provided. This was supported by Ramukumba (2014) who asserts that similar types of challenges are faced by SMEs in South Africa as a result of a lack of management skills, finance, access to markets, developing relationship with customers, appropriate technology, quality product and support for the role that they play in economic

development. From the literature, Meru & Struwig, (2015) point out that the incubator manager is central to the success of entrepreneurs and should have the ability to filter out weaker candidates and provide intelligence, guidance and direction during the incubation process, thereby enhancing performance to produce greater success.

5.2.4 Entrepreneurial Mindset.

It was found from the interview data that candidates were being enrolled in the programme that did not have an entrepreneurship passion and a mindset for business. People are stimulated for a wide variety of reasons stemming from their personal mindset for how they view the world (Astebro & Thompson, 2009, Ndedi, (2013). Clients were driven by the lure of a monetary loan of one hundred thousand dollars (\$100,000.00) which the programme offered. Sriram & Mersha, (2010) highlight this phenomenon and classify entrepreneurs into two types: opportunity entrepreneurs and necessity entrepreneurs. Their findings related directly to this type of phenomenon being experienced with the programme. Entrepreneurs did not seem to have the lure of risk taking as associated with the culture of entrepreneurs; most of the entrepreneurs interviewed were more concerned with paying back the loan than leading a successful business (Kharabsheh, 2012).

Many candidates after being enrolled and participating in the orientation process soon dropped out of the programme when they were told that the money allocation would be a loan and not a grant. For some reason, many applicants had the perception that they would receive a grant; this could have been due to false promotion of the programme or misunderstanding in the advertisement. In standard business agreements for a loan there are conditions for payback with stringent monitoring of key performance metrics that candidates must meet. In the case of a grant which can be a one-time payment, there may be monitoring aspects for conformance but in the unlikely situation that the business

fails, the grantee does not have to payback any of the grant. This was an attractive proposition for most incubatees. A structured organizational sponsorship approach could have solved this problem. Amezcua et al., (2020) give an account of many types of sponsorship mechanisms in practice today. The curating mechanism seemed to be the most adequate for IBIS because of its supplemental approach to assist the entrepreneur, making it a partnership arrangement and not solely the responsibility of IBIS to provide all the funds. This approach considered sweat equity needed on the part of the entrepreneur to raise funds to meet his need and this can help to raise his level of determination toward the business and success.

The interview data showed that persons with a pre-disposition for a grant were ignored during the pre-incubation stages of assessment and experienced no resistance from IBIS to being enrolled in the programme. This mind-set was carried on to the incubation stage at which time candidates chose to exit the programme when the risk became apparent. What was seen was the need for a more structured enrolment process of screened candidates that sought to discern the mindset of the candidate at the induction stage of the process. As a result of this within the programme, levels of success have dramatically fallen and IBIS has not been fulfilling its true purpose. One of the key performance criteria for incubators is its ability to successfully graduate clients. A weak application and enrolment process, not capturing the true mindset of the prospective incubatee at the induction stage can limit the programme's ability to achieve better success.

Although mindset was a key constituent of the incubation process as discussed above, several challenges of the current support services evolved out of the study about inadequacy of facilities services. IBIS offers eleven services to clients and in each case they were found by its clients to be inadequate in meeting standard requirements for

optimal performance. It was established that, there were warehousing insufficiencies and technical support inadequacies. These types of services were more analogous to the IBIS facilities that were provided as they were explored in the next section.

5.2.5 Facilities Inadequacy:

Facilities and space utilization was another inadequate service provided by IBIS. They provided office space, and a small storage facility area. Interviewees shared this was inadequate for their use and had major issues to navigate around. From the researcher's literature Fernandez Fernandez, (2015) study results of 255 incubators worldwide study, showed, an 84.3% high percentage ranking for services in facilities. According to Audretsch & Belitski, (2017), entrepreneurs should be discouraged from establishing a new business when conditions constrain from access to physical infrastructure, transport links, and key technologies. Space in most incubators according to the literature is normally at a premium and therefore, innovative use of space to meet clients' needs failed to deliver on this aspect of clients' needs (Peters et al., 2004). The IBIS facilities had restrictions for its clients; incubatees access to incubator offices was limited to 7am to 4pm, standard opening and closing business hours, Mondays to Fridays. Special arrangements had to be made in advance with IBIS management if clients had to use the building outside stipulated business hours, which posed a serious challenge when having to meet with clients outside of normal working hours including Saturdays and Sundays.

5.2.6 Technical Support Inadequacy:

From the study, fifty percent (50%) of the incubatees were product-oriented and so product storage space was of importance to the client and it became an issue for storage of their products, limited access to conduct business and office space at the IBIS facility. These were limiting factors that worked against the entrepreneur advancement of his business. From the literature review, there were various models of incubators that lend

itself towards providing technology/technical services. Barbero et al., (2012) view the University business incubator as a type of incubator mainly associated with technology services, providing access to university services (faculty such as consultants, incubatee education, training, and library access). The main objective is to commercialize developed technology. In hindsight, IBIS should have anticipated this problem from the type of clients they accepted, therefore catering to their needs. They would have known initially during the registration induction process, the type of business that would be housed in the incubator and could anticipate the type of services needed to support the entrepreneur. Also, Innovative approaches can be adopted by rental of warehousing spaces to accommodate clients or allow clients to operate offsite at their convenience.

5.3 IBIS Programme Support Services - Training Inadequacies

Entrepreneur Training and Development, are key ingredients in the entrepreneurial development process and the incubator is well valued for providing these services (Li et al., 2020). Classroom Training was also a main element in the process of incubation by IBIS. Out of approximately eleven support services provided by IBIS, five were conducted as direct business training courses. There were some positives and negatives associated with each, but mainly, the classroom approach towards training and development was the one that incubatees had the most disdained attitude towards. It was felt that incubatees would have preferred a more practical approach to the training, integrating the theory with more practice. Some candidates commented that they felt they were back in a classroom at school as a student and not actually running a business as an entrepreneur. This sensitivity seemed to influence their personality for motivating them into higher achievement, a noteworthy trait of an entrepreneur (Robertson et al., 2003). Quality of training then became an issue that needed to be resolved.

5.3.1 Quality of Training:

In the Global perspective on Entrepreneurship, Education and Training (Vicens & Grullon, 2011), it was reported that training does not always translate into increased entrepreneurial activities. They suggest that the two main reasons for this assumption are:

1. limitations can impact the training: we saw this in the case where candidates felt they were back in school; creating a mind barrier to embracing what was taught, and
2. quality of training: we saw from the results that the training was not relative or specific to the incubatee needs.

The literature has shown that education and training tend to enhance an entrepreneur's capability to manage a business, improving business performance (Albort-Morant & Oghazi, 2015) and there exists a direct correlation between the entrepreneur education, training and the learner's attitudes, abilities, and skills (Piperopoulos & Dimov, 2015). The findings showed that mentors were inadequate as they did not own or operate a business to guide the entrepreneur from their experiences. Mentor's competence is one aspect of quality training, as it requires mentors to have the knowledge and competence in entrepreneurship to provide the level of stewardship required to successfully develop an entrepreneur (Ndedi, 2013). The discussion continues in the next section with more insightful taught by the researcher.

5.3.2 Mentors Inadequacy:

The lack of timely feedback meetings with mentors was a challenge, which delayed operational decisions by the entrepreneur. IBIS prescribed that clients met once a month and they outlined a minimum number of sessions with mentors that they must attend. This, it seemed was too regimented and did not allow for flexibility between mentors and the clients, thus resulting in poor attendance at mentorship meetings and

mentees keeping to schedule. Conversely, not all mentorship can produce positive results from the experience with mentees. Scholars such as St-Jean & Audet, (2012) raise scepticism of entrepreneurs who may have adopted negative attitudes and behaviours not fully embracing the learning and benefit from their mentorship.

5.3.3 Knowledge Transfer:

IBIS's approach to knowledge transfer may not have been the best technique used under their prevailing situation. In their case they use classroom instructions and mentorship for knowledge transfer. There are many schools of thought on transfer of knowledge and application. (Bruneel et al., 2012; Fang et al. (2010) state that in the learning processes, the manner in which knowledge is acquired, expressed and disseminated is all aligned to the social and cognitive interaction of the entrepreneur. There is scientific knowledge and practice to support such cases, but knowing the gap in the knowledge and skills of the participant can lend itself to preparing a training plan better suited for individual entrepreneurs unique to their abilities and competence. According to Wolcott & Lippitz, (2007), something that works for one can at times not work for another person. This can significantly enhance the training and development of incubatees and build their confidence in the process. The training provided by IBIS seemed more academically oriented and not project or problem-based oriented, therefore there existed a disconnect between the incubator and the entrepreneur.

5.3.4 Project-Oriented Training:

In a project-oriented approach, participants are taught real life application of related knowledge and skills, further deepening their sense of the problem. This was absent from the training offered by the IBIS programme. Vicens & Grullon, (2011) suggest that entrepreneurial education has evolved from the traditional teaching approach of how to prepare a business plan to a new methodology of getting the entrepreneur to

thinking and acting. If IBIS adapts this approach, it can strengthen their training delivery within the programme. Training delivery accounts for over fifty percent of the programme support services and has a significant impact on the overall programme effectiveness.

5.3.5 Use of Technology in Training:

From the study the programme has no mechanism for post reinforcement for those who did not get a full understanding of the lesson during classroom sessions. Many of the incubatees wished for access to videos of the training, so they could review at their own convenience. This was a good idea and could help with the transfer of information, as it can be viewed as a more modern approach to learning and development. Modern technology is now being used in all facets of training, it was the view of the researcher that IBIS can introduce online training, a shared database of training content and use the internet and social media, as currently they are common place in the market. The use of more modern technology in training was support by (Fernandez Fernandez, 2015).

Two other areas that trended in the analysis was marketing and networking within the IBIS programme. These areas were noticeably highlighted as deficient and received a number of complaints from the incubatees.

5.3.6 Marketing and Networking:

These initiatives were two of the support areas that the IBIS programme put a lot of effort into. They tried a number of novel ideas like Mixers and Speed-dating. These were social mechanisms used to promote the incubatee businesses through networking. Kiran & Bose, (2020) strongly support the networking concept outlining its purpose at different phases of the incubation process and promote networking as a critical factor for success. They see entrepreneurial networks as a mechanism for linking entrepreneurs with opportunities, but the incubatees felt the initiative executed was not properly managed by IBIS. Many issues were raised about not leveraging the opportunities to learn from each

other and garnering greater cohesiveness amongst the members of the start-up cohort. IBIS tried to achieve this by promoting Mixers within the cohort. The literature of Kohler (2016) further promotes this aspect of marketing, which involves linking up and connecting with corporate clients to promote products and services.

The incubatees acknowledged that mixers were a good idea; IBIS should encourage the promotion of this activity by preparing a booklet or webpage on all the candidates, outlining a profile of each of their businesses. In this way, candidates can reach out to other colleagues in the programme for advice, learning and sharing from each other's successes. Mr. ICT said that "Mixers were an open event that IBIS did arbitrarily; it was not structured and a kind of hit and miss, it was segmented to bring like-minded businesses together but the attendance was poor". It appeared that IBIS did not make these mixers compulsory and it was up to the individual to attend.

5.4 Entrepreneur Funding Inadequacies

5.4.1 Inflexible Funding Arrangement:

From the literature review and the findings from the study, incubator financing emerged as one of the key services required by entrepreneurs in their start up and can be a major hurdle to overcome (Thillairajan & Jain, 2013). In the interview with Mr. ICT, he remarked that they experienced an inflexible funding arrangement that did not cater for their circumstances. He further suggested that IBIS should conduct an assessment case by case of the type of business being operated and scale or configure funding as appropriate to the different types of businesses. In the literature from Vicens & Grullon, (2011), they support this when they articulate an example of a South American incubation success which receives solid government support for funding. Sponsorship is a central tenet of the entrepreneurial ecosystem; its main purpose is to encourage entrepreneurial

activity in new venture creation, generating economic development (Amezcu et al., 2020).

5.4.2 Entrepreneur Loans:

Incubator funding is a critical component in the development of nascent entrepreneurs; most entrepreneurs seek financing in the early stages of advancing their businesses to help in the growth and development of their product or service ideas through capital financing. The IBIS programme offered funding as a key element of its programme with loans of up to \$100, 000 at four percent (4%) interest to participants meeting the loan criteria. What was noticeable in the discussion with interviewees was that most incubatees got approval for loans quite easily once they provided the necessary documents to support the claim. The challenges they had included the amount of the loan approved and the method of disbursement of the loan. It would seem that although participants made a loan request they did not always receive the allocation they requested, as it was under the discretion of IBIS to determine what was appropriate in their circumstances. This was the main complaint by participants and it created some animosity between IBIS and its clients as incubatees felt they had inadequate funding to achieve their goals.

5.4.3 Draw Down from Loans Approved:

In another observation made from listening to concerns raised, clients were peeved with the method of disbursement used. In the business plan, budget statements were completed, itemizing the capital equipment required. When loans were approved and purchases had to be made, three quotes had to be submitted for the items for purchase. The clients indicated that IBIS would only approve the lowest quote and not the one they endorsed and therefore, IBIS management would only disburse the money for that particular purchase. What they pointed out was the quality issues that can arise through

this approach, as sometimes the lowest price does not guarantee the best quality and brand. There was a perception of micro management of the disbursement process – the client had little to no autonomy in the decision-making. This approach did not empower the incubatee in making the decisions for their company and did not give them the feeling that they were in control of their businesses. This was a bitter pill to swallow for many and it nurtured resentment towards the loan management of the programme. This observation can be linked to the mind-set of the entrepreneur, where it was discovered in the interviews that many of the entrepreneurs chosen during the registration of applicants to the programme process did not possess an entrepreneurial mind-set and were mainly focused on getting a grant or access to money. This further supported the researcher's argument in the creation of the conceptual framework to build into the process a structured enrolment element that can guard against an unsuitable candidate being selected.

5.4.4 Incubator Funding:

In researching the United States funding mechanism, funding for incubation programs mainly comes from capital funds from the legislature and funds that are channelled through the State Economic Development Agency (Al-Mubarak et al., 2010). In Trinidad and Tobago, funding was normally channelled through allocations made to government Ministries and then further budgeted allocations to state enterprise incubator programmes.

Funding was one of the areas of the IBIS programme that got a lot of attention and incubatees were passionate in voicing a very dim view of their experiences. IBIS in their management of the funding process seemed convoluted and disparaging. In some cases, incubatees were saying they were insufficiently financed and in other cases IBIS had no funding available for release to clients. Some candidates mentioned that they were granted

funding approval but there was no funding available, because funding had run out. It then begged the question, why would IBIS go through the process of granting loans knowing they had no access to funding available for entrepreneurs? This is an ethical issue to be considered when making recommendations for enhancing the programme.

5.5 Summary

Generally, the discussion in this chapter dealt with the programme inadequacies and ineffectiveness, some of the challenges faced by incubatees during the incubation process and recommendations which were suggested by clients and the author's own reasoning. The author dealt succinctly with the information gathered from the feedback received from interviewees and gave critical insights into the experiences of the entrepreneur. The author's immersion into the study helped to translate the problems experienced by the entrepreneurs and provided more adept solutions for policy makers, an objective of the study. These solutions will be treated more expansively and detailed in the next chapter where the author gave concluding remarks and recommendations.

Chapter 6 Conclusions and Recommendation

6.1 Introduction

Generally, the findings spoke to the traditional services found in the literature on incubator services the world over. There were little surprises of new innovative services that can be differentiated from what was present in the literature. What was apparent though is the need for a more expansive array of services to cover the many interdisciplinary sectors of businesses which sought assistance from the IBIS and for IBIS to provide better, more effective and efficient services.

The main objective of the study was to investigate the optimal service needs of nascent entrepreneurs within the IBIS program seeking to identify any gap in the service needs of entrepreneurs. This was predicated on the entrepreneur achieving a successful outcome having gone through the incubation process. Success, when measured from this viewpoint is often defined as a favourable result or outcome (Schwartz, 2010).

The outcome of the study revealed key services offered by IBIS and those that were lacking (gaps) in the programme. From the interviews conducted, the data showed that IBIS provided the following services, as shown in Table 6.1, under the three headings: business support, technical/technology and incubator facilities.

Table 6.1: Services Offered by IBIS

Business Support Services	Technical/Technology Support Services	Incubator Facilities
Financing support (Loan Facility)	Nil	Subsidized rent
Business Application Training and Development- Business	Nil	Basic Office Facilities (Cubicle with desk and chairs, Computer, internet)

Plan Development, Basic Financial literacy,		
Mentorship	Nil	Classroom for business training
Marketing and Networking - Mixers and Speed-dating	Nil	Information Technology Communication (ICT) – Internet Wi-Fi.
	Nil	Secured Car Parking

From the table, the researcher distinguished that the category of technical/technology support services were not represented in the list of services offered by IBIS, deeming it a major gap area of services not offered by IBIS which evolved out of the research.

The results also revealed, some of the serviceable areas needed under business support and facilities were also not offered by IBIS and further added to challenges faced by entrepreneurs, hindering their progress. These serviceable gap areas were listed in the Table 6.2.

Table 6.2: Gap in Services areas

Business Support Services	Technical/ Technology Support Services	Incubator Facilities Services
Grant Funding	Engineering services - Mechanical, Electrical, Industrial, Design, etc.	Storage and Warehousing space
Legal- Developing a Corporate Contract, Service level agreement and Intellectual property, preparing a non-disclosure agreement.	Occupational Health, Safety and Environment	Communal space for comingling amongst incubatees.
	Patent development	

Training - Developing a quotation, how to carry out procurement, entering the export market, pricing strategies, innovation approaches, shipping and handling, tendering procedures, e-commerce management, product branding, etc.	Meeting Statutory and regulatory requirement	Skype and Video conferencing.
	Research and Development	
	Packaging and Labelling	
	Manufacturing Workshop Services to build prototypes (Machining and fabrication)	
Website development - Social Media marketing	Product Testing and Certification	Security of goods
Strategic Planning	New Product Development and 3D printing.	Library facilities

From Table 6.2, we got to the point of addressing one of the objectives of the study, to distinguish the gap in services, but it was also critical for us to look at other incubators around the globe to get a wider perspective on the gap in services. This can best be analysed by looking at global best practices research conducted through the literature review.

6.2 Best Practices in Incubator Services and Management

Incubators address the most challenging aspects of building successful new technology companies. Access to early capital and expert mentoring to turn ideas into tangible business models are critical for commercial success. These start-ups were the seeds of innovation that not only create jobs but also drive the technology that elevated the global standards of living. Although many studies focus on the entrepreneur within the incubator, focus were also placed on best practices in the management of the incubator. Gozali et al. (2016) suggested common best practices for running an effective programme

such as structuring for financial sustainability, building an effective Board of Directors and placing the greatest emphasis on the client's assistance.

National Business Incubation Association (NBIA, 2017); Abdur et al., (2007), and Gozali et al., (2016) cited some of the common best practices in servicing clients. These were put into two categories which best capture the two main aspects of the study: common practices of services focused on services to clients of the Incubator system and management. This data was drawn from incubator success factors presented in the literature review.

From the literature, the researcher discerned common incubators services by various authors like: (Qian et al., 2011, Albort-Morant & Oghazi, 2015, Nair & Blomquist, 2018, Surana et al., 2020). These services were disaggregated into two categories of global assessment: 1. Common practices in services focussed on services to clients and 2. common practices of the incubator system and management.

Using a Likert scale of Good, Fair and Weak, comparisons were drawn on the measure of effectiveness of the IBIS programme measuring up to global best practices standards obtained from literature review.

- **Good:** Meets high standards of quality services and operations.
- **Fair:** Meets average standards of quality and operations.
- **Weak:** Does not meet adequate standards of quality and operations.

Table 6.3: Common Best Practices in Services to Entrepreneur and Incubator Services-Effectiveness analysis

Best practices in Services to Entrepreneurs (Global feedback)	Best practices of the Incubator System and Management (Global feedback)
Assistance with business development advice and preparing a business plan	Personnel recruitment IBIS: Weak

IBIS: Good	
Entrepreneurial Training and business development services in elements of business management (Financial, Marketing and networking, and administration) IBIS: Good	Building management teams - Incubator governance structure with clear policies on management of the incubation process. IBIS: Weak
	Provision of information communication technology support: IBIS: Weak
Accessing financial capital other mechanisms through which funding can be obtained. IBIS: Fair	Expert Mentoring and Networking IBIS: Weak
A system of shared Services amongst Incubatees. IBIS: Weak	Facilities infrastructure support IBIS: Weak
Technical support for product or prototype development. IBIS: Weak	Government support IBIS: Fair
Assistance with general legal expertise IBIS: Weak	Specialist Expert and Trained staff IBIS: Weak

Generally, these results seemed inclined towards addressing the objectives of the research question in identifying the gap (Weak areas in services). The services not offered by IBIS can have an effect on the entrepreneur's success. Those weak services identified from the findings can be transfigured into recommendations for key policy makers in addressing inefficiencies and effectiveness of the IBIS programme in achieving its desired objectives. These results were also incorporated into the conceptual framework for operationalizing the entire incubation process, seeking to extensively serve the entrepreneurial needs of the IBIS clients.

6.3 Limitations of the Study

The Integrated Business Incubation System (IBIS) programme was established by the Government of Trinidad and Tobago in 2012 to provide a unique mix of business development support, infrastructure, operations and financial assistance that can assist in the growth of new and existing micro and small enterprises. Since the inception of the programme, many of its incubator clients were finding challenges with sufficiency of services and were seeking out alternative institutions to meet their service needs. This lack of optimum services is what prompted the research to explore the gap in services. This is supported by Yusuf (2010) when he examined incubator effectiveness and his findings suggest that overall, incubator programmes fail to provide entrepreneurs with needed support.

The Aim of the study was to investigate the optimal service needs of nascent entrepreneurs within the IBIS program. Not having all the support services available can be an impediment to success, therefore “understanding these barriers that future entrepreneurs will probably encounter can be relevant for these businesses to have the best chance of success” (Fumo & Jabbour, 2011, p.850). The aim was then disaggregated into four objectives by which the research question was answered.

Objectives of the Study: These objectives were to explore and map the service needs of nascent entrepreneurs within the IBIS programme, to examine the literature on best practices in incubator services, to provide a conceptual framework of services to facilitate entrepreneurial development within the IBIS programme, and to make recommendations to policy makers that may enhance the IBIS incubator effectiveness.

The research question sought to find out what the optimal service needs of nascent entrepreneurs within the IBIS programme were. In setting out to achieve this, a research

questionnaire guide was used during the conduct of twelve interviews to acquire the lived experience of the incubatees and glean from them services provided and those that were not in order to answer the research question.

The first limitation encountered from the study was the **lack of research data on Incubators** in the Caribbean and in particular Trinidad and Tobago. Trinidad and Tobago's business community has always voiced its dissatisfaction with the unavailability of country data by the Central Statistical Office (CSO). CSO is a division of the Ministry of Planning and Development and is the primary organization for collecting, compiling, analysing and publishing statistical information relating to the commercial, economic, social and other activities of the people of Trinidad and Tobago. The Central Statistical Office has been defunct for a number of years not being able to provide a number of key statistics on incubators.

The unavailability of this data has impeded the studies as reliable statistical data on type of incubators that traverse the landscape of Trinidad and Tobago, categories of incubators in the eco-system, the success rate of incubators as a measure of impact to the economy with reference to labour (employment), contribution to Gross Domestic Product (GDP), capitalization, export contribution to the balance of trade and best practices in services locally would have significantly improved the validity of the study results.

The unavailability of local statistical data also impacted the study as most of the data for best practices were gathered from research on international incubators' best practices. This research data may not have fully represented the social and cultural differences of entrepreneurs within Trinidad and Tobago and may not ideally represent best practice results for entrepreneurs in Trinidad and Tobago.

Another limitation revealed during the course of the study is the **non-representative exclusion** of entrepreneurs from Tobago. Trinidad and Tobago is a twin island state, governed by policies that cut across both islands states. The researcher did not interview any participants from Tobago. The sample of interviewees was selected by the IBIS manager and in hindsight no consideration was given to having persons representing both island states.

During the study, in the conduct of interviews and researching different aspects of the IBIS incubator, Trinidad and Tobago went through exogenous financial shocks to the economy. Oil prices fell by almost fifty percent (50%), a new government came into place in 2015, and it highlighted a cash trapped country. Hard economic measures were put in place and directives were given by government to state agencies to operate leaner and “cut the fat” out of state enterprises. Most state enterprises were given reduced allocations for their operations and had to conduct restructuring of their organization to operate with less subventions. The IBIS programme fell under the ambits of the National Entrepreneurial Development Company (NEDCO) which is an agency of the Ministry of Labour, Small and Micro Enterprises Development; they also experienced heavy budgetary cuts to their allocation and this measure has trickled down to the operations of the programme where further budgetary cuts were made.

NEDCO conducted an internal assessment of the IBIS programme and determined that the programme was not performing adequately to the benchmarks set and embarked on a restructuring exercise to improve its performance. IBIS did not renew the contract for its current Chief Executive Officer (CEO) and as a result recruited a new CEO. The new CEO had a new vision for IBIS and set out to create a new Strategic Plan for the organization. During this phase, the organization went into a secrecy mode and garnering data from key staff on the effectiveness of the organization was prohibited. The

effectiveness of the programme was one of the objectives of the study and data to support this objective were unavailable as a result of this position taken by the new IBIS CEO. The researcher had to rely on the entrepreneurial interview data solely, losing the opportunity to verify and validate what the entrepreneurs said in the interview.

6.4 Implication of the Study Results

6.4.1 Introduction

The methodology in using socially constructed means of gathering data turned out to be a very beneficial approach. This approach allowed for direct interface with the entrepreneurs in telling of their experiences, their successes and achievements, the truth constellation according to Sandberg, (2005).

The results of the findings show the majority of interviewees had acquired tertiary education – a significant seventy-five percent (75%) of the population interviewed had either a Bachelors' degree or Diploma from university or college. This sought to imply that persons wishing to do business pursued to get qualification in business before embarking on setting up a business. This may be the mind-set of most nascent entrepreneurs as getting a business qualification can be an advantage for some. For success in business today, business owners have to be astute in business processes to survive in an open market. Businesses today are very sophisticated, complex and fast paced – technology seems to be driving this phenomenon. Entrepreneurs may be of the view that to be successful one has to be equally competent in the processes of business and this may be driving entrepreneurs to want to get qualified and knowledgeable in business operations before embarking on setting up a business.

6.4.2 Implications for Operational Effectiveness

The study results show that there is tremendous opportunity to improve operational effectiveness of the IBIS programme through an expansion of the services offered to participants. The Business incubator as its name implies, caters solely for business services to clients. Although IBIS had an open application for all types and categories of businesses to enrol into the programme, the programme principally catered for service-type businesses and not technology-based product businesses. The results showed there was a 50/50 percentage of product business to service-type business, but an absence of technology services that did not cater for firms that were at the product development stage or idea development stage for their businesses. Yusuf (2010) argued that possible explanation for lack of effectiveness were as a result of ill-matched services being offered. It was analysed from the study that many firms fell into the technology category and did not get that technology support needed and failed to establish successful businesses. Some of the technology services needed which emerged from the study were Patenting a Product, Conducting Research and Development of a New Product, and Building Prototypes that required technical design development skills, manufacturing abilities and knowledge in various engineering disciplines.

The research gathered that the programme seemed amorphous and lacked processes for guiding business improvements. Adesola & Baines, (2005) postulate that it is necessary to have methodologies for systematic and rigorous assessment throughout the process to determine the level of effectiveness at each stage of development. There may be Implications for IBIS lacking key internal services. Those the research gathered were in the development of a commercial contract, service level agreement and knowledge of incubation. These critical areas can hamper future business relations and competitiveness of the entrepreneur as they seek to engage clients for business

development. Not having knowledge of these areas can significantly limit the development of the business to progress in successfully winning over clients. These key opinions were further asserted by Acs et al., (2016) who recognised that incubator structures and training alone will not achieve the desired outcome as it also needs the development of incubation management capabilities. The quality of incubation managers is vital to its success. The implication of inadequacy of these support services can curtail business-to-business arrangements, limit competitiveness in the marketplace and put the business at legal exposure or risk. The implication of these results is directly related to the objective outlined in the study of mapping the service need of nascent entrepreneurs within the IBIS programme.

6.4.3 Implication to Stimulate More Successful Businesses.

The implication of the results can have a tremendous effect to stimulate more successful business within the IBIS programme. One of the objectives of the IBIS programme deliverables is to graduate successful small and micro businesses. For the programme to achieve this, many aspects of their business processes can be enhanced through implementation of the recommendations made in this study. In view of this, many new service offerings can be introduced to expand the services range or fill the gap in services. Nascent entrepreneurs would get the much needed services support stimulating faster growth in the development of their businesses; they can experience an improved ease of doing business with clients, reduce business risk and become more competitive in the market place.

6.4.4 Implication to Drive Economic Impact

Incubators have been used across the globe mainly by government as economic development tools. They are seen as a mechanism to help spur on the development of new business either addressing a social or economic change, as studies have shown. According

to Ramukumba (2014, p.20), “economic growth of any country is closely linked to SME development contributing almost 50% growth of domestic products (GDP).” The Government of Trinidad and Tobago has set out to use the IBIS programme as a major economic strategy towards the development of small and micro businesses that can have an impact on the social landscape and economic development of the country. Economist and Politicians according to Wennekers (1999) tend to believe that entrepreneurship can have an influence on growth of GDP and employment.

The results from the study show that although there was no quantifiable measure used in the study to measure entrepreneurial impact on GDP. The data gathered from the interviewer’s responses showed only two from the twelve businesses were profitable not making any real impact on GDP, in spite of all of the incubatees establishing a business within two years. Eighty-four percent (84%) of them were struggling and could not meet their debt commitment to repay the IBIS loan. Most of the companies were one person operated with no real significant employment to conclude any effect on the labour market. Therefore, their contribution to GDP and labour was seemingly insignificant towards economic development, which could be a topic for future research consideration.

The new prospective conceptual framework can have implications for the future in driving economic growth and development providing a more structured approach to incubation and return on public investment, (Sherman 1999). The researcher gave taught to using a hybrid model at this stage. The hybrid model according to the literature can take into consideration all types of entrepreneurs during the process of incubation, it caters for whether your business is product or service-oriented and maps out a staged level that can be measured on the progress of the entrepreneur instigating less chances for failure.

6.4.5 Implication for Policy Change

The implication for policy change is high as many of the outcomes from the study show. Many of the results from the study can help direct the changes needed to influence a positive turnaround of the incubator. The present management model for the IBIS incubator seemed to be not all encompassing to embrace all the aspects of businesses within Trinidad and Tobago. This has limited the incubated businesses from achieving their goals and reaching their full potential. Kharabsheh (2012) writes about critical success factors for technology parks. He laments about providing research, technology and innovation to facilitate commercialization and competitiveness. These are thoughts that came out from the research study on the need for infusing greater technical support into the programme, a vast gap in the services provided by IBIS.

A new policy will consequently envision an enhanced process flow conceptual model of management that can streamline all operational activities for greater efficiency and effectiveness. It will also visualize the introduction of technical support that expands to Research and Development, Prototype Manufacturing, the use of technology to support an information sharing platform that can improve marketing and competitiveness through social media and engineering in the development of new ideas. New policies will also influence the segmentation of businesses by business sectors; this will bring focus to the specific type of business and relative applicable training and development of the entrepreneurs. This is likely to bring greatest change as lack of these proposed policies can be seen as a major roadblock for participants in attaining the required services that suit their specific business sector.

6.4.6 Implication for Providing a Map of Services

The main objectives of the study were the exploration and mapping of the service needs of nascent entrepreneurs. The study results have shown a number of services that

are not provided by IBIS but were required by the entrepreneurs. The implication of those results is that if these services were to be provided, they could improve the effectiveness of the support given to entrepreneurs. The new services that evolved out of the study could fill the gap in services if implemented and could reduce the difficulties associated with services that are not provided and significantly improve the likelihood of success in the incubation programme. IBIS has in its programme aim advocated in providing a “*one stop shop*” for all the services required by small businesses. The results of the study did not declare this proposition made by IBIS as many of the services required by incubatees were absent from the services they provided.

6.5 Transitioning from the Gap in Services to a Conceptual Model

One of the emerged outcome of this study was towards the determination of a conceptual model. On critical reflection of the doctorate’s perspective Sambrook & Stewart, (2008), spoke of transitioning from the study findings of new services to a new model. To address the gap of emerged inefficiencies in the IBIS model, it brings into mind the main achievement of the objectives set for the thesis. The researcher then reflected on using a 1-5 stepped process cognisant of Fernandez Fernandez et al., (2015) incubation phased system

1. Create a process map of the current IBIS programme
2. Identify the gaps in services along the process path
3. Incorporate the new services where the gap in services exists.
4. Innovate new mechanism to allow new services to address the gap in services
5. Process flow the system to address all the service needs that evolved from the study.

The conceptual framework developed will attempt to limit the gap between the services provided by IBIS and those that evolved out of the study. The framework will address the

key strategic policies for promoting an innovated society of small and medium businesses within Trinidad and Tobago and thus adding to the contribution of new knowledge in the Incubation eco system.

6.5.1 Conceptual Framework:

One of the objectives of the study is to provide a conceptual framework of services to facilitate entrepreneurial development within the IBIS programme. This framework works on the premise of improving the incubator management system to enhance performance and effectiveness in the delivery of services (Hannon, 2007). According to Sithole & Rugimbana, (2014), “little has been written on incubator models to understand how they work and the value they add”.

The Conceptual framework should coordinate a staged/phased process to:

- Initiate a mechanism within the process to distinguish service oriented from product oriented business.
- Identify the specific type of training required as per the need of the entrepreneur.
- Incorporate specific technology needs: Engineering, Manufacturing, Product development and or research and development.
- Be an Innovation system with mechanisms for financing nascent enterprises and creating linkages between research and development and commercialization.
- Incorporate targeted innovation initiatives at areas that have potential to provide high impact in terms of value creation and job generation
- Establish mechanisms to link research efforts to commercial prospects and to industry innovation

The IBIS programme incorporates six (6) stages of the Incubation Process from the selection of candidates to post incubation. These include: candidate selection; entrepreneur orientation; Skills training; Business Investment Proposal; Business Incubation; and Sustainable Graduate Businesses.

The new conceptual framework was designed using a process flow map that depicts each stage of the IBIS entrepreneurial development process from pre-incubation, during incubation, and post incubation Fernandez Fernandez et al. (2015); (Stephens & Onofrei, 2012). In addition, the framework incorporates the gap of new business training, technical services and facilities into the design for improving the overall effectiveness and performance of the incubator.

It follows that the technology gap of services absent from the IBIS processes will be incorporate into the service offering of a Technology Incubation Centre that works in partnership with the IBIS programme. This new Centre will bridge the gap in services by providing research and development services, new product development services, and design innovation, manufacturing, engineering and prototype development services. It will form part of the national ecosystem for incubating clients. It should also be noted, that the ecosystem that this researcher speaks of is premised on the development of a triple helix system that brings the Government, Research Institutions and Private organizations together in a strategic partnering (Milson et al., 1996). They will form a value chain of services for incubating clients and this ideology is built into the conceptual framework proposed in Section 6.5.3.

6.5.2 Contribution to Knowledge:

The new conceptual framework represents the researcher's contribution to knowledge. The model maps the IBIS programme from client's entry to graduation and

post-graduation highlighting various new stages of development addressing the gap in the services identified from the research. New features in the model showcases the sectoral differentiation between product and services at the induction stage, categorization of companies into sectors e.g. Manufacturing, Energy etc.), new technical division for catering to technology firms for new product development, Training is geared to firm category, loans are assigned according to need and not limited to any ceiling limit. Entrepreneurs are matched up to investors and a new commercial section that works with the firm towards commercialization. See proposed framework next:

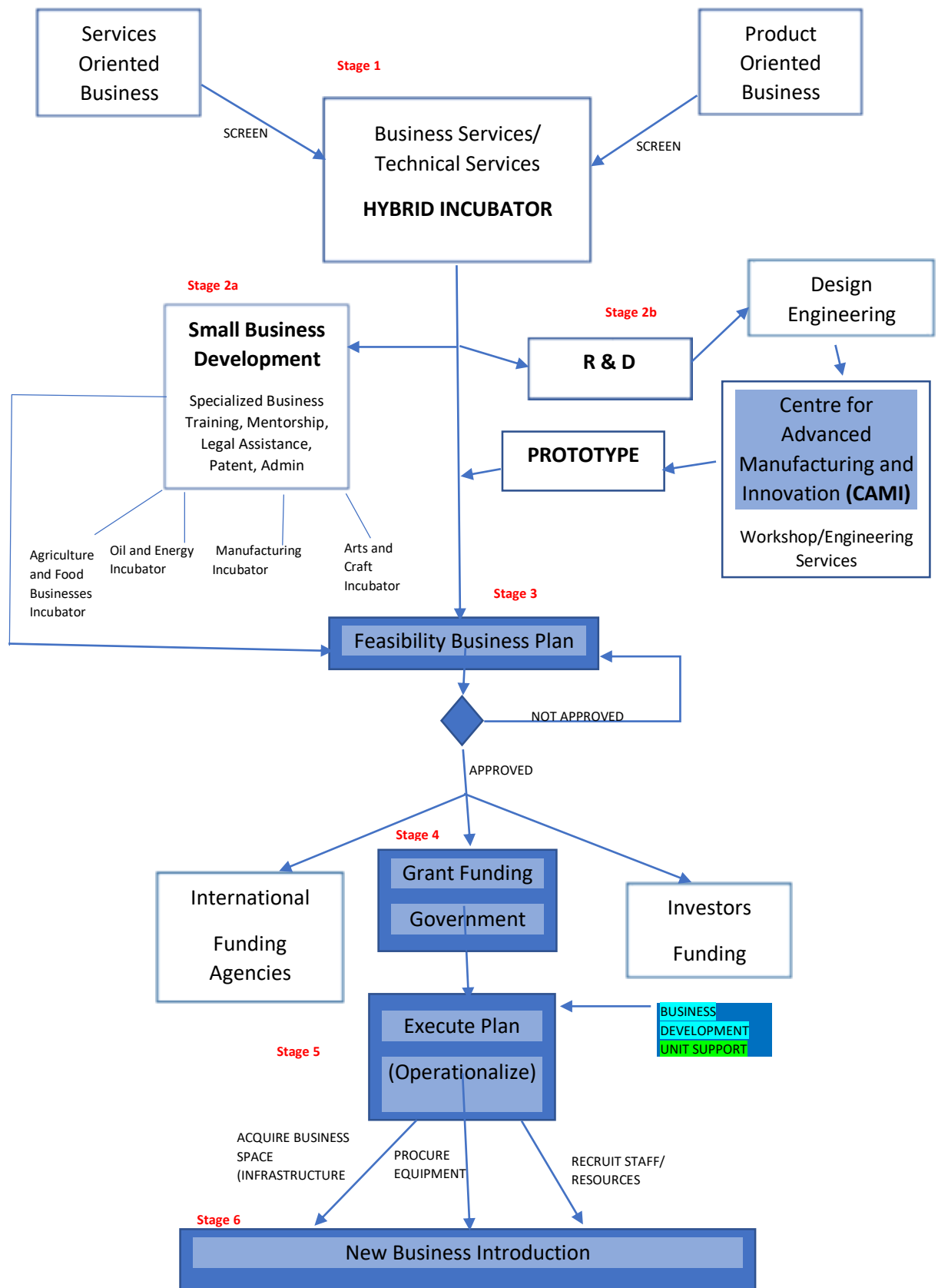


Figure 6.1. Source Researcher: *New Proposed Conceptual Framework for Incubation of IBIS Clients*

6.5.3 New Proposed Conceptual Framework of Incubation Process Flow from Entry to Graduation of Entrepreneur in Trinidad and Tobago.

In the Framework, the prospective candidates enter a Pre-Incubation **Stage 1** seeking to identify the nature of the business and the type of support needed. The framework graphically depicts a separation of the entrepreneur into service or product oriented businesses which is different from what obtains now at the IBIS. This information can be gleaned during the screening process from the applicant's data during the registration process.

The Registration process captures the entrepreneur data on whether the applicants are pursuing a service or product oriented business and determines what business sector the business falls under. A gap assessment is conducted on the needs of the entrepreneur for determining the type of training needed or technical needs. With this data, management can direct the entrepreneur onto the next stage of the process either pursuing business training or product development support or other technical services.

At **Stages 2a and 2b**, depending on the nature of the business and needs, each business can take a different route to pursue further training, research and development, product development and/or get other technical services support. Incubatees are then coached into developing a vision for their business or refining their business idea and are offered business skills development training based on needs as some clients may already possess some of these skills through previous academic programmes at the university or college; or if required technology or technical support for the development of a product or prototype at Stage (2b).

On completion of Stage 2a the entrepreneur then proceeds onto **Stage 3** for the development of a business plan, and mentorship and coaching are provided. If the

entrepreneur had pursued technical support, at Stage 2b then they would be referred to Stage 2a for business training before moving on to the development of the business plan.

On completion of the business plan, the entrepreneur moves to **Stage 4** where he/she goes before an expert panel on presentation of the business plan to assess its viability and sustainability and to access to funding. If their business plan is found to not be satisfactory, they would return to the previous stage for further improvement on the plan. On final approval of the business plan, the client is then given key professional support (Direct specialized mentorship) and seed capital for establishing the business, and accessing the grant or loan facility.

At **Stage 5**, once the business meets all the previous criteria and has access to funding, the business is operationalized towards commercialization in accordance with its business plan for the provision of facilities, equipment, staff and other resources. At Stage 5, a Business Development Unit (BDU) would come into focus, providing specialized support services to the entrepreneur in transitioning to commercialization.

This BDU is solely responsible for commercialization, operational support, marketing and distribution and would provide those special services that are not provided by IBIS but are needed at this stage. That may be:

- Technical support in setting up physical infrastructure (Plant and equipment)
- Setting up a commercial bank account
- Linking the entrepreneur with Laboratory services for product testing certification
- Preparation of a Process Certification Quality procedure manual
- Preparation of Occupational Health and Safety manual
- Recruitment and selection of staff
- Accounting statements, Preparing a payroll and Tax preparation

- Promotional campaign for attracting new clients
- Organizing Contract and Service level agreements

The business is then launched and introduced to the general public and deemed open for business. The client is monitored and mentored during this stage spending two years with the programme before graduating.

When the client exits or graduates the business is now on its own. However, this is **Stage 6**, where IBIS provides support to a lesser degree, monitoring at predetermined times to ensure sustainability and health of the business is maintained.

At this stage of the study, having completed three of the main objectives of the study, we turn our attention to achieving the final objective of making recommendations for policy makers. In the next section of this chapter, recommendations are made for Policy makers.

6.6 Recommendations for Policy Makers:

In this section of the chapter, the researcher reflected on the study outcomes in determining the desired future needs of the incubator. The study set out to address the service needs of incubatees and found many serviceable gaps that hindered the success of entrepreneurs. The following recommendations will attempt to address some of the main concerns of entrepreneurs:

1. The Government should set up a **Hybrid Incubation System** to support both Business and Technology-Oriented SMEs. Based on the study findings, the IBIS focused on providing business support services in the main and not technical support services. With a hybrid system, clients will now get the expanse of services in both areas of product type businesses and service type businesses for improving their overall effectiveness.

2. The Government should set up direct links between IBIS and other state enterprises to offer Business and Technical services in the areas of:

- a. Legal matters for preparation of Patents, Commercial Contracts, Service-level Agreements.
- b. Research conducted through the University of the West Indies and University of Trinidad and Tobago for Research and Development of new ideas, new product development and technical advice.

The reason behind this type of initiative is to provide an alternative to setting up a hybrid incubator. This initiative will leverage the existing technical support of current state enterprises that can be in partnership with IBIS for incubating clients. It can reduce the high capital cost of IBIS to set up a hybrid incubator and these institutions can provide expert technical support.

3. The Government should set up a **direct link** with state development institutions such as MIC-Institute of Technology, a technology-oriented company to provide technical support in the areas of New Product Development, development of prototypes, engineering services and manufacturing and innovation.
4. The Government should make a percentage of local job contracts available to incubated clients within the first three years of their existence after graduation from the programme through the **Fair-share** programme. The fair-share programme can provide that shelter in the interim in building the company to stand on its own and also building the self-confidence of entrepreneurs in operating their business.
5. NEDCO should prepare an entrepreneurship incubation **guidebook** for incubatees, to identify all the services on offer and how they can be accessed. It

should also contain all the training course work for review purposes, all the staff and consultants' names and contact information for key staff and mentors of the programme for ease of access. The booklet should also give guidance for patent application, draft templates of agreements, quotes and contracts, key government Ministries officials and contact information.

- a. The guide book will bring relative ease to entrepreneurs when attempting to get in contact with necessary personnel, having ready access and response to any issue they may have or need assistance with. It can serve as a manual to help guide the entrepreneur through the process and who to contact for assistance.

6. NEDCO should train and develop their IBIS staff in better understanding the incubation process; they must have key knowledge of incubators, types, categories and models and their associated services. Additionally, they need to develop management skills and competence in order to advise or mentor incubatees.

The study findings showed complaints were voiced by incubatees on mentors not having the requisite knowledge and competence in their area of specialization. This initiative can alleviate this by either having mentors adequately trained in running a business or by choosing persons who run businesses as mentors.

7. The Government should provide incentive strategies towards entrepreneurial businesses that reduce imports or offer import substitution to guard against the high balance of trade. This can impact and stimulate local economic growth and employment opportunities, and this was supported by Akhuemonkhan et al., (2014).
8. A Triple Helix approach as depicted in Fig. 6.2 below should be adopted by policy makers to leverage the key skills, resources, competencies and networks between

Government, Universities and Development Institutions, and Private Industries for management of the Entrepreneurial Eco System Value-Chain. This was reaffirmed by Sarpong et al., (2017) who spoke of developing countries transition, in building collaborative relationships and having fluid interaction for developing new innovations.

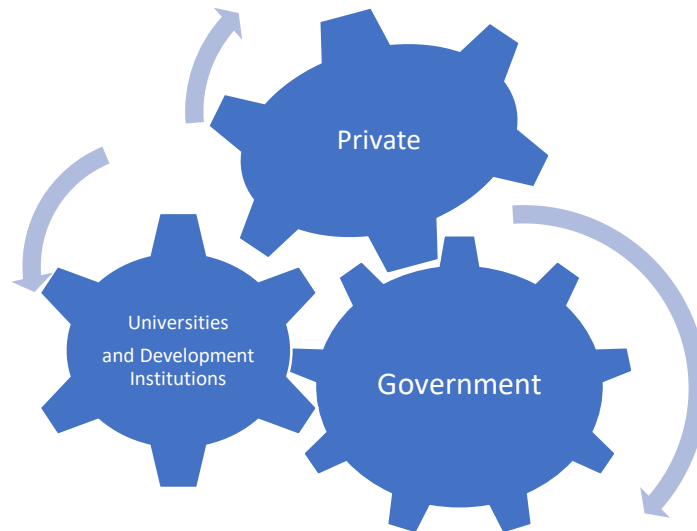


Figure 6.2: Public, Private Partnership Model (Source: Researcher)

9. A more focused approach should be used in the development of Technology oriented incubator services for development of technology based businesses. The context of the study laments the views of the Prime Minister, various Ministers and high public officials in government and private industries. They all pointed to the changing dynamic of the country in shifting its focus from OIL and GAS to Manufacturing, Agriculture and Tourism. Therefore, focus should then be placed on technology support mechanism to support areas of new product development and technical support areas.
10. The focus should be on the development of an entrepreneurial culture starting from Primary schools. This was voiced by one of the candidate Mr. Steel during the interview. The objective is to get students to develop the right mind-set for

business early in their development. All core modules of school curriculum should entail an entrepreneurial element to spark interest in those who may have an inclination for entrepreneurship at the primary and secondary levels.

11. Entrepreneurs should become part of the Board of Management of the Incubation system to allow for challenges, complaints and innovative ideas to be brought to top management. As it exists now at IBIS, there is a disconnect between the incubatees and the Board of Management of the programme. Problems that incubatees are experiencing are unknown at the management level as no forum exists for this type of discussion to take place, thus allowing incubates to ventilate some of the issues and bring resolution during the incubation process.
12. NEDCO should set up a local Incubator network with a database of all entrepreneurs in the system to facilitate networking. This is a novel idea to encourage shared experiences of persons within the incubation ecosystem. This initiative can then breed a National Incubation Association of Trinidad and Tobago, one that is commonly extolled in most countries around the world. It can be of great benefit in bringing together entrepreneurs across the country in sharing their experiences and leveraging one another's knowledge and learning.

6.7 Suggestion for Future Research:

From the study report, the researcher referred to literature that gave varying views on the topic areas of the Incubators, Incubation and Entrepreneurship. Gaps were found in the literature that may need further studies to showcase the success of an incubation programme. These gaps arose from the literature explored and are discussed in this section.

There were gaps identified in the literature which may need further exploration studies for showing the economic situation in Trinidad and Tobago as it relates to Incubator contribution to GDP. This study will be useful to determine the success of the incubator as an economic development tool used by governments. Therefore, the question arises, **how do incubators contribute to the economic growth and development of Trinidad and Tobago in terms of GDP contribution, level of new business formed, asset capitalization and employment growth?**

From the literature, incubators are seen as a mechanism for facilitating the growth and development of nascent small and micro businesses. The measures for determining the growth and development of incubators can be valuable in ascertaining the level of success. The study can also determine the labour statistics from growth of new businesses and asset capitalization growth of new ventures formed which are key indicators used by governments for measuring success (Voisey & Gornall, 2006); Kharabsheh (2012) espouses a similar opinion in the Journal of Economics where he purports that there is little systematic research and empirical studies in the relationship between success factors and the performance of incubation programmes.

It was also determined from the study that entrepreneurs can be very creative and innovative. There is need for further exploration in this area showing the link between entrepreneurship and innovation in Trinidad and Tobago. **What is the impact of entrepreneurial innovation on economic development?** The economic contribution of innovation will be a very useful statistic for showing the level of impact along the elements of business re: economics, labour, systems and technology growth.

The study also explored manufacturing. This researcher was clear on showing manufacturing's contribution to GDP, but further studies can explore manufacturing

specific to being developed under an incubation process. This statistical data is not present in the literature and will be of value for this research as the aim of this study is the development of nascent entrepreneurs in the manufacturing sector. Therefore, the question arises **what percentage of incubators are manufacturing-oriented and what is the contribution to GDP in Trinidad and Tobago?**

References

- Abdur, M; Burley, H.T; D'Souza, C; & Quazi, A. 2007. Investigating and classifying clients' satisfaction with business incubator services. *Managing Service Quality*, Vol.17 (1), pp.74-91.
- Abetti, P. A. 2004. "Government-supported incubators in the Helsinki region, Finland: infrastructure, results, and best Practices." *Journal of Technology Transfer*, Vol. 29 (1): pp.19-40.
- Acs, Z. J; Autio, E; Szerb, L. 2013, National systems of entrepreneurship: measurement issues and policy implications.
- Acs, Z. J; Braunerhjelm, P; Audretsch, D. B; Carlsson, B. 2009, The knowledge spillover theory of entrepreneurship: *Small Business Economics* Vol. 32 Issue: 1 pp. 15-30.
- Acs, Z. J; Desai, S; Hessels, J. 2008, Entrepreneurship, economic development and institutions. *Small Business Economics*, Vol: 31. Issue: 3. pp. 219-234.
- Acs, Z. J; Stam, E; Audretsch, D. B; O'Connor, A. 2017. The Lineages of the entrepreneurial ecosystem approach. *Small Business Economics*. Vol: 49. Issue: 1. pp. 1-10.
- Acs, Z; Astebro, T; Audretsch, D; Robinson, D.T. 2016, Public policy to promote entrepreneurship: A call to arms. *Small Business Economics*. Vol: 47. Issue: 1. pp. 35-51.

- Adesola, Sola. & Baines, Tim. 2005. "Developing and evaluating a methodology for business process improvement." *Business Process Management Journal*, Vol. 11 (1): pp.37-46.
- Ahl, H. 2006, Why research on women entrepreneurs needs new directions.
- Akhuemonkhan, I; Raimi, L; Patel, A. and Fadipe, & Adeniyi O.. 2014, "Harnessing the potentials of technology incubation centres (TICs) as tools for fast-tracking entrepreneurship development and actualization in the vision 20:2020 in Nigeria." *Humanomics* (Emerald Group Publishing Limited), Vol. 30 (4): pp.349-372.
- Albort-Morant, G; Ribeiro-Soriano, D. 2016, A bibliometric analysis of international impact of business incubators. *Journal of Business Research.*, Vol.69(5), pp.1775-1779.
- Albort-Morant, Gema; Pejvak, A, O. 2015, How useful are incubators for new entrepreneurs? A university of valencia, Spain linnaeus university, Sweden.
- Al-Mubarak, H. M. & Busler, M. 2010, Business incubators models of the USA and UK: A SWOT analysis, *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol 6(4), pp. 335-354.
- Al-Saad, M. & Salam, A. 2015, "Managing the spin-off process: A case study from the United Arab Emirates." *The Journal of Applied Management and Entrepreneurship* Vol. 20 (2): pp.8-27.
- Amezcu, A; Ratinho, T; Plummer, L.A; Jayamohan, P. 2020, Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes. *Journal of Business Venturing.*, Vol.35(4).

- Astebro, T; Herz, H; Nanda, R; Weber, R. A. 2014, Seeking the roots of entrepreneurship: insights from behavioral economics. *Journal of Economic Perspectives*. Vol: 28. Issue: 3. pp. 49-69.
- Astebro, T; Thompson, P. 2009, Entrepreneurs, jacks of all trades or hobos? pp. 637-649.
- Audretsch, D. B. 2007. Entrepreneurship capital and economic growth oxford review of economic policy. Vol. 23. Issue: 1. pp. 63-78.
- Audretsch, D. B; Belitski, M. 2017, Entrepreneurial ecosystems in cities: Establishing the framework conditions. *Journal of Technology Transfer*. Vol. 42. Issue: 5. pp. 1030-1051.
- Autio, E; Kenney, M; Mustar, P; Siegel, D; Wright, M. 2014, Entrepreneurial innovation: The importance of context. *Research policy*, Vol. 43(7), p. 1097-1108.
- Barbero, J. L; Casillas, J. C; Ramos, A; Guitart, S. 2012, Revisiting incubation performance. *Technological forecasting and social change.*, Vol. 79(5), p. 888-902.
- Barbero, J. L; Casillas, J. C; Wright, M; Ramos G. A. 2014. Do different types of incubators produce different types of innovations? *The Journal of Technology Transfer*, Vol. 39(2), pp. 151-168.
- Bergek A; and Norrman C. 2008, Incubator best practice: A framework entrepreneurship and entrepreneurial ecosystems.
- Bergek, A; & Norrman, C. 2008, Incubator Best Practice: *A framework publication info: Technovation*; Amsterdam Vol. 28(1/2): p. 20.
- Beugelsdijk, S. 2010, Entrepreneurial culture, regional innovativeness and economic growth: *Journal of Evolutionary Economics*. Vol. 17. Issue: 2. pp. 187-210.

- Bollingtoft, A. 2012, The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated entrepreneurial-enabled environment. *Technovation* , Vol.32(5), pp.304-315.
- Boly, V; Morel, L; Assielou N'D.G; Camargo,M. 2013. Evaluating innovative processes in french firms; Methodological proposition for firm innovation capacity evaluation. *Research Policy* 43. pp.608-622.
- Borissenko, J; Boschma, R, 2017. A critical review of entrepreneurial ecosystem research: towards a future research agenda. CIRCLE Lund University; Paper no.2017/03.
- Bosma, N; Hessels, J; Schutjens, V;Van Praag, M; & Verheul, I. 2012. Entrepreneurship and role models: *Journal of Economic Psychology*: Vol. 33. Issue: 2. pp. 410-424.
- Bradley, C. & Dawson, A, (2013), The art of strategy: *Mc Kinsey Quarterly*.
- Brown, R; Mason, C. 2017, Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*.Vol. 49. Issue: 1. pp. 11-30.
- Bruneel, J; Ratinho, T; Clarysse, B; Groen, A. 2012, The evolution of business incubators: Comparing demand and supply of business incubation services across different incubator generations.
- Burns, P. 2016, Entrepreneurship and small business Start-up: Growth and maturity, 4th Edition.
- Caribbean Industrial Research Institute. 2015, *The value of a business hatchery programme*. <http://www.cariri.com> [Accessed 10 March, 2016].
- Central Statistical Office, Ministry of Trade and Industry- Government of the Republic of Trinidad and Tobago. www.CSO.gov.tt , accessed online June 2016.

- Cho, Yun Hee; & Heon- Lee, Joo. 2018, Entrepreneurial orientation, entrepreneurial education and performance: *Asia Pacific Journal of Innovation and Entrepreneurship*.
- Collier, D. & Elman C. 2008, "Qualitative and multi-method research: Organizations, publication, and reflections in integration ." *The Oxford Handbook of Political Methodology* :Oxford University Press, pp.779-795.
- Crescentini, A. & Giuditta, M. 2009, "Guidelines, Suggestions and Needs": Qualitative research articles: " *Journal of Workplace Learning* Vol.21 (5): pp.431-439.
- Creswell, J.W., 2007, *Qualitative Inquiry and Research Design, Second Edition, Choosing Among Five Approaches*.
- Davoudi, S. 2016, "The value of planning and the values in planning." *The Town Planning Review*: pp.615-618.
- De Waal, A. 2003, The future of the balanced scorecard: An interview with Professor Dr Robert S. Kaplan. *Measuring Business Excellence; Bradford* Vol.7, Iss.1, pp.30-50. DOI:10.1108/13683040310466708.
- Delgado, M; Porter, Michael, E; & Stern, S. 2010, Clusters and entrepreneurship: *Journal of Economic Geography*. Vol. 10. Issue: 4. pp. 495-518.
- Easterby-Smith, M; Thrope, R. & Jasckon, P. 2015, *Management and Business Research* London: SAGE Publications Limited .
- Edirisingha, P. (accessed March, 2012), "Interpretivism and Positivism (Ontological and Epistemological Perspectives)"<https://prabash78.wordpress.com>. 2012/03/14/
- Enabling Competitive Business Strategy 2011-2014, Development report presented by

the Ministry of Trade and Industry and the Ministry of Labour, Small and Micro Enterprise Development of Trinidad and Tobago.

Esteves, J. & Pastor J. 2004, "Using a multimethod approach to research enterprise systems and implementation." *Electronic Journal of Business Research Methods* 2 (2): 69-82.

Fang, S-C; Taiwan, F-S; Taiwan J. L. 2010, Leveraging Tenant-Incubator: social capital for organizational learning and performance in incubation programme. *Entrepreneurship Theory and Practice*. Vol. 30. Issue: 5. Pages: 595-621.

Feiyue, W; Tianran W; Yi Z. & Haibin, Y. 2012, Advance manufacturing technology in China- a road map to 2050, *Chinese Academy of Science*.

Fernández Fernández, M. T; Blanco, J; Francisco, J; Cuadrado, R; Juan, R. 2015. Business incubation: innovative services in an entrepreneurship ecosystem. *The Service Industries Journal*., Vol.35(14), p.783-800.

Financial Express, 2010, Business incubator will help grow entrepreneurship.
<http://login.ezproxy.napier.ac.uk/login?url=http://search.proquest.com/docview/237645720?>

Franco, M; Haase H; Rodini, A. 2020. The Role of incubators in the internationalization process of incubated SMEs: A perspective of international cooperation.

Fumo, N; Dinhucha G; Jabbour, C; Jose C. 2011, "Barriers faced by MSEs: Evidence from Mozambique." *Industrial Management and Data Management* (Emerald Group Publishing Limited) Vol.111 (6): pp.849-868.

- Gozali, L; Masrom, M; Yuri T. M. & Haron H. 2016, "A framework for successful business incubators for indonesian public universities." *International Journal of Technology* 7 (6): 186-1096.
- Grisham, T. 2009, "The delphi technique: A method for testing complex and multifaceted topics." *International Journal of Managing Projects in Business* Vol.2 (1): pp.112-130.
- Guercini, S. 2014, "New qualitative research methodologies." *Management Decision* Vol.52 (4): pp.662-674.
- Handriana, T. and Dharmmesta, B. S. 2013, "Marketing Theory: Overview of ontology, epistemology, and axiology aspects." *Information Management and Business Review* Vol.5 (9): pp.463-470.
- Hannon, P. D. 2007, A conceptual development framework for management and leadership learning in the UK incubator sector: Education and training; p.449
- Harper-Anderson, E; Lewis D. A. 2017, What makes business incubation work? Measuring the influence of incubator quality and regional capacity on incubator outcomes. *Economic Development Quarterly*, vol. 32, 1: pp. 60-77.
- Hartog, J; Van Praag, M; van der Sluis, J. 2008, If you are so smart, why aren't you an entrepreneur?: Returns to cognitive and social ability, entrepreneurs versus employees. *Journal of Economics & Management Strategy*. Vol. 19. Issue: 4. pp. 947-989
- Hausberg J. P; Korreck, S. 2018, Business incubators and accelerators: A co-citation analysis-based, systematic literature review.

- Hirose, Y; Itao, K; Umeda; T. (Jun 2012), Generating a new interview method: European conference on research methodology for business and management studies; Academic Conferences International Limited, Kidmore End: 161-XII.
- Huggins, R; Williams, N. 2011, Entrepreneurship and regional competitiveness: The role and progression of policy, *Entrepreneurship and Regional Development.*, Vol.23(9-10), pp.907-932.
- Hyytinen, A; Ilmakunnas, P. 2006, Entrepreneurial aspirations: Another form of job search? *Small Business Economics*. Vol. 29. Issue: 1-2. pp. 63-80.
- Isenberg, D. J. 2010, How to start an entrepreneurial revolution? *Harvard Business Review*. Vol: 88. Issue: 6
- Jones, R. & Parry, S. 2011, "Business support for new technology-based firms: A study of entrepreneurs in north wales." *International Journal of Entrepreneurial Behaviour and Research* (Emerald Group Publishing Limited) 17 (6): 645-662.
- Kassean, H; Vanevenhoven, J; Liguori, E; Winkel, D. E. 2015, Entrepreneurship education: A need for reflection, real-world experience and action. *International Journal of Entrepreneurial Behavior & Research*.
- Khan, A. A. 2014, "Qualitative research: A case for a multi-angle view to enhance 'validity'." *International. Journal of Business and Management* Vol.9 (9): pp.29-40.
- Khankeh, H; Ranjbar, M; Khorasani-Zavareh, D; Zargham-Boroujeni, A., & Johansson, E. 2015, "Challenges in conducting qualitative research in health: A conceptual paper." *Iranian Journal of Nursing and Midwifery Research* Vol.20 (6): pp.635-641.

Kharabsheh, Radwan. 2012, "Critical success factors of technology parks in australia."

International Journal of Economics and Finance Vol.4 (7): pp.57-66.

Kiran, R; Bose, S C. 2020, Stimulating business incubation performance: Role of networking, university linkage and facilities, technology analysis & strategic management, pp.1-15.

Kohler, T. 2016, Corporate accelerators: Building bridges between corporations and start-ups. ISSN: 0007-6813, 1873-6068; DOI: 10.1016/j. bushor. *Business horizons.*, 2016, Vol.59(3), pp.347-35.

Lasrado, V; Sivo, S; Ford, C; O'Neal, T; Garibay, I. 2015, Do graduated university incubator firms benefit from their relationship with university incubators?

Li, C; Ahmed, N; Qalati, S. A; Khan, A; Naz, S. 2020, Role of business incubators as a tool for entrepreneurship development: The mediating and moderating role of business start-up and government regulations.

Mack, E; Mayer, H. 2016, The evolutionary dynamics of entrepreneurial ecosystems: *Urban Studies*. Vol: 53. Issue: 10 .

Malecki, E. J., Vincent, B; Laure, M; N'Doli G; Assielou, M. C. 2017, Evaluating innovative processes in french firms: Methodological proposition for firm innovation capacity evaluation.

Mas-Verdu, F; Ribeiro-Soriano, D; Roig-Tierno, N. 2014, Firm survival: The role of incubators and business characteristics. *Journal of Business Research*. Vol: 68. Issue: 4. Pages: 793-796.

- Meru, A. K. & Struwig, M. 2015, Business incubation process and business development in Kenya: Challenges and recommendations, *Journal of Entrepreneurship and Innovation in Emerging Economies*, vol. 1, 1: pp. 1-17.
- Mian, S; Lamine, W; Fayolle, A. 2016, Technology business incubation: An overview of the state of knowledge.
- Milson, M; Raj, R. and David W. 1996, "Strategic partnering for developing new products." *Journal of General Management* Vol.34 (2): pp.41-49.
- Ministry of Labour Small and Micro Enterprises Development limited: Government of the Republic of Trinidad and Tobago, retrieved April 2016 www.molsmed.gov.tt.
- Mkansi, M; and Acheampong, E. A. 2012, "Research philosophy debates and classifications: Students' dilemma." *The Electronic Journal of Business Research Methods* Vol.10 (2): pp.132-140.
- Muhammad, M; Zulkifli, C; Abdul K; bin Yaso M. R., and Hassan, Z. 2010, "Small and medium enterprises (SMEs) competing in the global environment: A case of Malaysia." *International Business Research* Vol.3 (1): pp.66-75.
- Nagayya, D; and Rao T. V. 2011, "Enabling small and medium enterprises target globalization." *The Journal of Managerial Economics* (4): pp.15-32.
- Nair, Sujith; Blomquist, T. 2018, The temporal dimensions of business incubation. A value-creation perspective. *The International Journal of Entrepreneurship and Innovation*, vol. 21, 1: pp. 38-46.
- National-Business-Incubation-Association, Website, <http://www.nbia.org> , accessed online November, 2016.

- Ndedi, A. 2013, "Challenges and perspectives facing the development of entrepreneurship education and training in south africa." *World Journal of Entrepreneurship Management and Sustainable Development* (Emerald Group Publishing Limited) Vol.9 (2/3): pp.126-132.
- O'Neal, T. 2005, Evolving a successful university-based incubator: Lessons learned from the ucf technology incubator.*Engineering Management Journal* : Vol. 17, Iss. 3, : pp.11-25.
- Parkes, L.P. & Langford P. 2008, "Work-life balance or work-life alignment? A test of the importance of work-life balance for employee engagement and intention to stay in organisations." *Journal of Management and Organization* Vol.14 (3): pp.267-284.
- Patton, D; Marlow, S; 2011, University technology business incubator: Helping new entrepreneurial firms to learn to grow. *Policy*, vol. 29, 5: pp. 911-926.
- Pauwels, C; Clarysse, B; Wright, M; Van Hove J. 2015, Understanding a new generation incubation model: The accelerator.
- Peters, L; Rice, M; and Malavika S., 2004, "The role of incubators in the entrepreneurial process." *Journal of Technology Transfer* Vol.29 (1): pp.83-91.
- Piperopoulos, P; Dimov, D. 2015, Burst bubbles or build steam? Entrepreneurship education, entrepreneurial self-efficacy, and entrepreneurial intentions. *Journal of Small Business Management*. Vol: 53
- Pitelis, C. 2012, Clusters, entrepreneurial ecosystem co-creation, and appropriability: A conceptual framework; *Industrial and Corporate Change*. Vol. 21

- Pittaway, L; Rodriguez-Falcon, E; Aiyegbayo, O; King, A. 2010, The role of entrepreneurship clubs and societies in entrepreneurial learning. *International Small Business Journal*. Vol.29(1), p.37.
- Porporato, M. 2011, "Management control systems' literature development: Theoretical approaches and critiques within the functionalist paradigm:" *Revista Universo Contábil*, Vol.7 (2): pp.146-173.
- Qian H; Haynes K. E; & Riggle, J. D. 2011. Incubator push or business pull: Investigating the geography of u.s. business incubators. *BusinessEconomic Development Quarterly*, vol. 25, 1: pp. 79-90
- Qian, H; Acs, Z. J; Stough, R.R. 2012, Regional systems of entrepreneurship: The nexus of human capital, knowledge and new firm formation. *Journal of Economic Geography*. Vol. 13. Issue: 4. pp. 559-587.
- Qu, S. & Dumay, J. C. 2011, "The qualitative research interview." *Qualitative Research in Accounting and Management* Vol.8 (3): pp.238-264.
- Ramukumba, T. 2014, "Overcomming smes challenges through critical success factors: A case of smes in the western cape province, south africa." *Economic and Business Review* Vol.16 (1): pp.19-38.
- Review of the Economy. 2016, Shaping a brighter future: A blueprint for transformation and growth in Trinidad and Tobago.
- Robertson, M. C; Amanda, M, Natasha and Slater, J. 2003, "Barriers to start-up and their effect on aspirant entrepreneurs." *Education and Training* (Emrald Group Publishing Limited) Vol. 45 (6): pp.308-316.

- Romm, N. R. A. 2013, "Revisiting social dominance theory: Invoking a more retroductively-oriented approach to systemic theorizing." *Systemic Practice and Action Research* Vol.26 (2):pp. 111-129.
- Rowley, J. 2012, "Conducting research interviews." *Management Research Interview* Vol.35 (3/4): pp.260-271.
- Rowley, K. C. Honourable. "Address to the nation: Re: State of the economy in light of the continuing fall in oil and gas prices." December 29, 2015.
- Saldana, J. 2013, The coding manual for qualitative researchers. *London Sage publications limited*.
- Sambrook, S. and Stewart J. 2008, "Developing critical reflection in professional focused doctorates: A facilitator's perspective." *Journal of European Industrial Training* (ProQuest) Vol.32 (5): pp.359-373.
- Sandberg, J. 2005, "How do we justify knowledge produced within interpretive approaches?" *Organizational Research Methods* Vol.8 (1): pp.41-68.
- Sarpong, D; AbdRazak, A; Alexander, E; & Meissner, D. 2017, Organizing practices of university, industry and government that facilitate (or impede) the transition to a hybrid triple helix model of innovation.
- Saunders, M; Lewis, P; Thornhill, A. 2012, Research methods for business students: Sixth Edition.
- Schwartz, M. 2010, A control group study of incubators' impact to promote firm survival: *Journal of Technology Transfer* Vol. 38. Issue: 3. pp. 302-331.

- Scillitoe, J. L; Chakrabarti, A. K. 2010, The role of incubator interactions in assisting new ventures. *Technovation*. Vol. 30. Issue: 3. pp. 155-167.
- Sherman, H.D. 1999, Assessing the intervention effectiveness of business incubation programs on new business start-ups. *Journal of Developmental Entrepreneurship*. pp. 1-10.
- Sithole, N; and Rugimbana, R.O. 2014, "Commercialisation of research and technology: A multiple case study of university technology business incubators." *African Journal of Business Management* Vol.8 (16): pp.641-659.
- Soetanto, D; Sarah J, 2016, The impact university- based incubation support on the innovation strategy of academic spin-offs.
- Spigel, B. 2015, The relational organization of entrepreneurial ecosystems: *Entrepreneurship Theory and Practice*. Vol. 41. Issue: 1.
- Stam, E. 2015, Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European planning studies*. Vol.23(9), pp.1759-1769.
- Stephens, S. and Onoifrei, G. 2012,. *International Journals of entrepreneurship and innovation*.
- Steyaert, C. 1997, "A qualitative methodology for process studies entrepreneurship." *International Studies of Management and Organization* 27 (3): 13-33.
- St-Jean, E; Audet, J. 2012, The role of mentoring in the learning development of the novice entrepreneur: *International entrepreneurship and management journal*. Vol.8(1), pp.119-140

- Sun, H; Ni, W; and Leung, J. 2007, Critical success factors for technological incubation: Case study of Hong Kong science and technology parks. *International Journal of Management*, Vol.24(2), pp. 346-363.
- Surana, K; Singh, A; Sagar, A. 2020, Strengthening science, technology and innovation based incubators to help achieve sustainable development goals.
- Thanh, N. C., Le Thanh T.T 2015, The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science.*, Vol. 1, No. 2, 2015, pp. 24-27
- The Government of the Republic of Trinidad and Tobago: Innovation for lasting prosperity. Ministry of Planning and the Economy October, 2011. Medium Term Policy Framework (MTPF) 2011-2014.
- The Oxford Business Group: The Report Trinidad and Tobago 2016 edition.
- The Oxford Business Group: The Report Trinidad and Tobago 2017 edition.
- The Oxford Business Group: The Report Trinidad and Tobago 2018 edition.
- The People's National Movement Manifesto. 2015, "Let's do this together", A governing political party of Trinidad and Tobago.
- The Strategic Plan of Trinidad and Tobago titled Vision 2020: (Vision 2020.info.tt framework for action.
- The Strategic Plan of Trinidad and Tobago titled Vision 2030: Many Heart Many voices. Vision 2030. info.tt.
- Thillairajan, A; and Jain, A. 2013, "New and nascent enterprises: Analysis of incubation support in India." *The Journal of Private Equity* Vol.16 (3): pp.69-85.

Trinidad and Tobago Economic Statistics and Indicators: Central Statistical Office of Trinidad and Tobago, accessed online November 2016.

Turkina, E; Van Assche, A; Kali R. 2016, Structure and evolution of global cluster networks: Evidence from the aerospace industry. *Department of International Business*.

Van Stel, A; Carree, M; Thurik, R. 2005. The effect of entrepreneurial activity on national economic growth: *Small Business Economics*. Vol. 24. Issue: 3. pp. 311-321.

Vanderstraeten, J; Matthyssens, P. 2012, Service-based differentiation strategies for business incubators: Exploring external and internal alignment. *Technovation*. Vol. 32. Issue: 12. pp. 656-670.

Vicens, L. and Grullon, S. 2011, "Innovation and entrepreneurship: A model based on entrepreneur development." Paper presented at the Americas Competitiveness Forum V, Santo Domingo, Dominican Republic,

Voisey, P., & Gornall, L. 2006, "The Measurement of success in a business incubation project." *Journal of Small Business and Enterprise Development* (Emerald Group Publishing Limited) Vol.13 (3): pp.454-468.

Voisey, P; Jones, P; & Thomas, B. 2013, The pre-incubator: a longitudinal study of 10 years of university pre-incubation in Wales. *Industry & Higher Education* Vol 27, No 5, pp 349–363.

Weaver-Hightower, M. B. (2014), Writing qualitative findings paragraphs: Educational Foundations and Research, University of North Dakota. Retrieved from <https://www.youtube.com/watch?v=mmKuvwk8x84> [Google Scholar]

- Webber, R. 2004, The rhetoric of positivism versus Interpretivism: A personal view 1.,
MIS Quarterly; 28, 1; ABI/Inform
- Wennekers, S. and Thurik, R. 1999, "Linking entrepreneurship and economic growth."
Small Business Economics Vol.13 (1): pp.27-55.
- Wolcott, R. C. and Lippitz, M. J., 2007, The four models of corporate entrepreneurship.
MIT Sloan Management Review, Vol.49(1), pp. 75-82
- Wrench, A. and Garrett, R. (2013), Society has taught us to judge cultures of the body in
teacher education.
- Yusuf, J-E. 2010, "Meeting entrepreneurs' support needs: Are assistance programs effective?"
Journal of Small Business and Enterprise Development (Emerald Group Publishing
Limited) Vol.17 (2): pp.294-307.
- Zhou, L. 2007, "Ontology learning: State of the art and open issues." *Information
Technology and Management* Vol.8 (3): pp.241-252.
- Zhou, Y. and Creswell, J. W. 2012, "The use of mixed methods by chinese scholars in
east china: " *International Journal of Multiple Research Approaches* Vol.6 (1):
pp.73-87.

Appendices

Appendix 1: Letter seeking approval to conduct study (CEO, IBIS)

3rd April, 2017

Mr. Julian Henry

Chief Executive Officer,

National Entrepreneurial Development Company Limited.

38 New Street,

PORT OF SPAIN.

Dear Sir,

My name is Brian James, I am pursuing a Doctor of Business Administration (DBA) from the Edinburgh Napier University, Scotland. My main study is seeking to explore the IBIS programme in meeting the service needs of nascent entrepreneurs in the manufacturing sector.

The title of the research is:

A study of entrepreneurs within the Integrated Business Incubation System (IBIS) programme in Trinidad and Tobago

Objectives of the study:

- To critically evaluate the literature on best practices in incubator services
- To explore and map the service needs of nascent entrepreneurs within the IBIS programme
- To provide a conceptual framework of services to facilitate entrepreneurial success.
- To make recommendations that may enhance incubator effectiveness.

I hereby request your approval in conducting interviews of entrepreneurs enrolled in the IBIS programme at the four IBIS locations.

NB. Formal written approval required.

Thank you in advance for your kind cooperation.

Brian L. James

DBA Student Edinburgh Napier University-Scotland

General Manager, Industry Services

MIC Institute of Technology.

Appendix 2: Edinburgh Napier University Research Consent Form

Edinburgh Napier University Research Consent Form**A study of entrepreneurs within the Integrated Business Incubation System (IBIS) programme in Trinidad and Tobago**

Edinburgh Napier University requires that all persons who participate in research studies give their written consent to do so. Please read the following and sign it if you agree with what it says.

1. I freely and voluntarily consent to be a participant in the research project on the topic of Entrepreneurship to be conducted by Brian Lennox James, who is a postgraduate student at Edinburgh Napier University.
2. The broad goal of this research study is to explore entrepreneurs registered in the Integrated Business Incubation System (IBIS) in Trinidad and Tobago, investigating whether the services provided are meeting the optimal service needs of entrepreneurs within the programme. Specifically, I have been asked to conduct a study of approximately forty thousand (40,000) words which should entail an Introduction to the study, a literature review, a methodological approach, collation and analysis of findings and a conclusion and recommendation, which should take no longer than one (1) year to complete.
3. I understand from the researcher that my responses will be anonymised. My name will not be linked with the research materials, and I will not be identified or identifiable in any report subsequently produced by the researcher.
4. I also understand that if at any time during the interview I feel unable or unwilling to continue, I am free to leave. That is, my participation in this study is completely voluntary, and I may withdraw from it without negative consequences. However, after data has been anonymised or after publication of results it will not be possible for my data to be removed as it would be untraceable at this point.
5. In addition, should I not wish to answer any particular question or questions, I am free to decline.
6. I have been given the opportunity to ask questions regarding the interview and my questions have been answered to my satisfaction.
7. I have read and understand the above and consent to participate in this study. My signature is not a waiver of any legal rights. Furthermore, I understand that I will be able to keep a copy of the informed consent form for my records.

Participant's Signature

Date

I have explained and defined in detail the research procedure in which the respondent has consented to participate. Furthermore, I will retain one copy of the informed consent form for my records.

Researcher's Signature

Date

Appendix 3: Participant Information Sheet

A study of entrepreneurs within the Integrated Business Incubation System (IBIS) programme in Trinidad and Tobago.

My name is Brian Lennox James. I am a Doctor of Business Administration (DBA) student from the School of Business at Edinburgh Napier University. As part of my post graduate degree course, I am undertaking a research project for my Honours dissertation. The title of my project is: A study of entrepreneurs within the Integrated Business Incubation System (IBIS) programme in Trinidad and Tobago.

This study will investigate the Integrated Business Incubator System (IBIS) in Trinidad and Tobago exploring any short fall or gap in the services offered by the programme. Hopefully, this new information will redound to the benefit of entrepreneurs improving their chances of attaining improved success.

This research is being done independently at the sole discretion of the researcher to advance entrepreneurial services in Trinidad and Tobago.

I am looking for volunteers to participate in the project. They must be a registered member of the IBIS programme for no more than two years. There are no other criteria (e.g. gender or age) for being included – everyone is welcome to take part.

If you agree to participate in the study, you will be asked to sign a consent form. There is no risk associated with participation. The duration of the interview should take no longer than forty-five (45) minutes. You will be free to withdraw from the study at any stage, you would not have to give a reason for doing so. This project will also mean that I may have to access your IBIS file for further assessment.

All data will be anonymised as much as possible, but you may be identifiable from tape recordings of your voice. Your name will be replaced with a participant number or a pseudonym, and it will not be possible for you to be identified in any reporting of the data gathered. All voice recording collected at the interview will be kept in a secure locked cabinet in locked room as well as stored on a pc that is password protected, which only the researcher has access. These will be kept till the end of the examination process, following which all data that could identify you will be destroyed.

The results may be published in a journal or presented at a conference.

If you would like to contact an independent person, who knows about this project but is not involved in it, you are welcome to contact Dr. Gerri Matthews – Smith, Director of Studies; Edinburgh Napier University. Mail to:G.Matthews-Smith@napier.ac.uk

If you have read and understood this information sheet, any questions you had have been answered, and you would like to be a participant in the study, please now see the consent form.

Appendix 4: Interview questions guide template (reformatted)

SECTION 1. Profile of the Entrepreneur/Business: (Interview EL001)					
Can you tell me what your company is all about and how you got started?					
Gender	Male <input type="checkbox"/>	Female <input type="checkbox"/>			
Marital Status	Single <input type="checkbox"/>	Married <input type="checkbox"/>	Divorce/Separated <input type="checkbox"/>	Widowed <input type="checkbox"/>	
Educational Level	Primary <input type="checkbox"/>	Secondary <input type="checkbox"/>	Tertiary <input type="checkbox"/>	Post Graduate <input type="checkbox"/>	
Type of Business	Sole Trader <input type="checkbox"/>	Partnership <input type="checkbox"/>	Limited Liability <input type="checkbox"/>	Non-Profit Org. <input type="checkbox"/>	Cooperative <input type="checkbox"/>
Business orientation	Service-based <input type="checkbox"/>	Product-based <input type="checkbox"/>			
Market	Local oriented <input type="checkbox"/>	Export oriented <input type="checkbox"/>			
Sector of Business	Manufacturing <input type="checkbox"/> • Chemicals <input type="checkbox"/> • Food, Beverage <input type="checkbox"/> • Textile, clothing <input type="checkbox"/> • Other <input type="checkbox"/> _____ -	Oil and Gas <input type="checkbox"/>	Tourism <input type="checkbox"/>	Agriculture <input type="checkbox"/>	Finance <input type="checkbox"/> _____ -

Section II (IBIS Programme Services)						
From your experience in the programme, what were some of the services provided by IBIS? <ul style="list-style-type: none"> • _____ • _____ • _____ • _____ 						
What type of services would you like to see provided by IBIS that are currently not provided? <ul style="list-style-type: none"> • _____ • _____ • _____ • _____ • _____ 						
What were the challenge/s if any, you faced with the services provided by IBIS? <ul style="list-style-type: none"> • _____ • _____ • _____ 						
SECTION III Business Effectiveness of IBIS Incubator						
How effective was it to access finance through the programme?						
Did the programme provide access to networking opportunities?						
Did the programme encouraged innovation and competitiveness?						

Did the Programme encourage good Business Practices?	
Did the programme offer solutions for Work spaces?	
Did the programme offer training and development	
Were there information communication system available	
Did the programme help to establish alliances with stakeholders	
Finally, anything we did not discuss you would like to highlight.	