NOTTINGHAM TRENT UNIVERSITY

FOSTERING INNOVATION AND ENTREPRENEURSHIP IN SMALL AND MEDIUM ENTERPRISES (SMEs) THROUGH BUSINESS INCUBATORS IN THE ARAB WORLD

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ABSTRACT

The Small and Medium Enterprises (SMEs) contribution to innovation and economic growth is part of the economic system, and in the light of this, SMEs policies are reviewed by countries throughout the world. In the Arab countries, which are in transition such as in particular, Egypt, Tunisia, Syria, Yemen and Libya, the SME policy rationale is strikingly consistent in its coherence and consideration of other social and economic issues. SMEs provide employment opportunities for the elderly, youth and women; the creation of new lifestyles and support the development of new forms of work organisation; new working arrangements, fostering innovation and entrepreneurship.

Business incubation facilitates the development and growth of start-up companies by providing entrepreneurs with resources and services. Incubator management usually develops these services which are offered by its wide network of contacts. Therefore, the aim of this research to contribute to general knowledge about the economic growth and development impacts of business incubators, thereby assisting governments and policymakers in establishing environments that would facilitate entrepreneurship and national development.

To meet this aim, both qualitative and quantitative research approaches were used. This exploratory research has used snowball sampling method, 91 responses were obtained out of the 400 questionnaires distributed to SMEs in Libya, leading to a response rate of 22.75%. In addition, 5 incubation units in Jordan and 4 in the United Arab Emirates were examined using questionnaires. Finally, interviews with 12 of Arab experts in this field were also conducted to understand how to establish and implement business incubation programmes.

The results of this research show that businesses that have been through an incubator programme are far more likely to succeed in the long term. The research concluded by providing governments with guidelines for using incubators to foster technology transfer and commercialisation, which contributes to entrepreneurship and economic development in developing countries and other Arab countries, with particular consideration in Libya.

AUTHOR PROFILE

"You cannot lead entrepreneurs, unless you are an entrepreneur"

The author originally comes from El-Bayda city in the North East of Libya. At the age of 17 years, he left school to work in the governmental sector as the lowest level employee. Owing to his desire for further education, he enrolled for an Intermediate Diploma in Accounting, graduating in 1987. This led to his promotion to an accountant position. He continued his studies for a Higher Diploma in Business Administration, and later a Bachelor of Arts (BA) in Business Administration, graduating in 2000. During his studies, he worked as financial controller in several governmental sectors and also as a financial manager in a Libyan company.

Again, in 2001, he pursued a Master's degree in Management and Organisation at the Academy of Graduate Studies in Benghazi, Libya, from which he graduated in 2004/2005 academic year. He was promoted to the post of Assistant Lecturer at Omar Al-Mukhtar University, the city where he was born and grew up. The author was appointed to lead the Faculty of Economics, Al-Qubbah Branch, from 2006 to 2008.

He decided to study for a Ph.D. in the UK to enable him become an expert in his chosen field, which enhances his skills and allows him to obtain an internationally recognised qualification. Furthermore, he wants to obtain proficiency in English as an international language as well as to give his career a boost to broaden his horizons. Being a Lecturer in Libyan Universities and institutes for three years, and teaching topics related to the importance and the role of Small and Medium Enterprise (SMEs), contributed to his area of study, SMEs and Incubation systems. This was compounded by the author's quest to question why there are no institutions concerned with SMEs and entrepreneurs in Libya particularly.

The author has had a long interest in business incubators development, SMEs, Entrepreneurship, Innovation and positive economic change, particularly in the developing societies in the world, throughout his current PhD research.

COPYRIGHT STATMENT

DECLARATION

I hereby declare that no portion of the work that appears in this study has been used in support of an application of another degree in qualification to this or any other university or institutions of learning. I also declare that the work in this thesis was carried out in accordance with the regulations of Nottingham Trent University.

Signed: ……

Date: ……..

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ABBREVIATIONS USED	
AIPyPT	Association of Business Incubators, Parks and Poles Technology of Argentina
ANPROTEC	Associacao Nacinal de Entidads Promotoras de Empreendimentos Inovdores (Portuguese Brazil)
APO	Asian Productivity Organisation
ASIP	Arab Society for Intellectual Property
BIs	Business Incubators
BIC	Business Innovation Centre
CISESE	Centro De Investigation Cientifica Y De Education Superior De Ensenada, Baja California
CONACYT	El Consejo Nacional de Ciencia y Tecnología (Mexico)
DST	Department of Science and Technology
EDA	Economic Development Administration
ESCAP	Economics and Social Commission Asia and the Pacific
EU	European Union
GDP	Gross Domestic Product
FDI	Foreign Direct Investment
HDI	Human Development Index
HPI	Human Poverty Index
IBD	Institute of Business Development
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology
IMF	International Monetary Fund
INTA	International Trademark Association
IPR	Intellectual Property Rights
JEDC	Jordan Enterprise Development Corporation
JPY	Japanese Yen
KRW	Korean Won
LBTC	The Louisiana Business & Technology Centre
MENA	Middle East and North Africa
MSE	Micro Solutions Enterprises
MYR	Malaysian Ringgit
NAFINSA	Nacional Financiera is a development bank owned by the Mexican government
NBIA	National Business Incubation Association
NGOs	Non-Governmental Organisations
NSF	National Science Foundation
NSTEDB	National Science & Technology Entrepreneurship Development Board
OECD	Organisation for Economic Co-operation and Development
PIEBT	Programa de Incubação de Empresas de Base Tecnológica
PHP	Philippine Peso
QSTP	Qatar Science and Technology Park
R&D	Research and Development
SBA	Small Business Administration

SEBRAE	Brazilian Service to Support Micro and Small Enterprises
SERCOTEC	Servizi Controlli Tecnici (Spanish Chile)
SGD	Singapore Dollar
SMEs	Small and Medium Enterprises
SP	Science Parks
SPSS	Statistical Package for the Social Sciences
STBIs	Science and Technology Business Incubators (China)
STEPs	Science and Technology Entrepreneur's Parks
STPs	Software Technology Parks
TBI	Technology Based Incubator
TBIS	Textile Bioengineering and Informatics Society
THB	Thailand Baht
TWD	Taiwan Dollar
UAE	United Arab Emirates
UBICA	Ukrainian Business Incubators and Innovation Centres
UK	United Kingdom
UKBI	United Kingdom Business Incubation Association
UKSPA	United Kingdom Science Park Association
UNAM	Universidad Nacional Autónoma de México
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organisation
UN	United Nations
US	United States
WTO	World Trade Organisation

CHAPTER ONE – INTRODUCTION

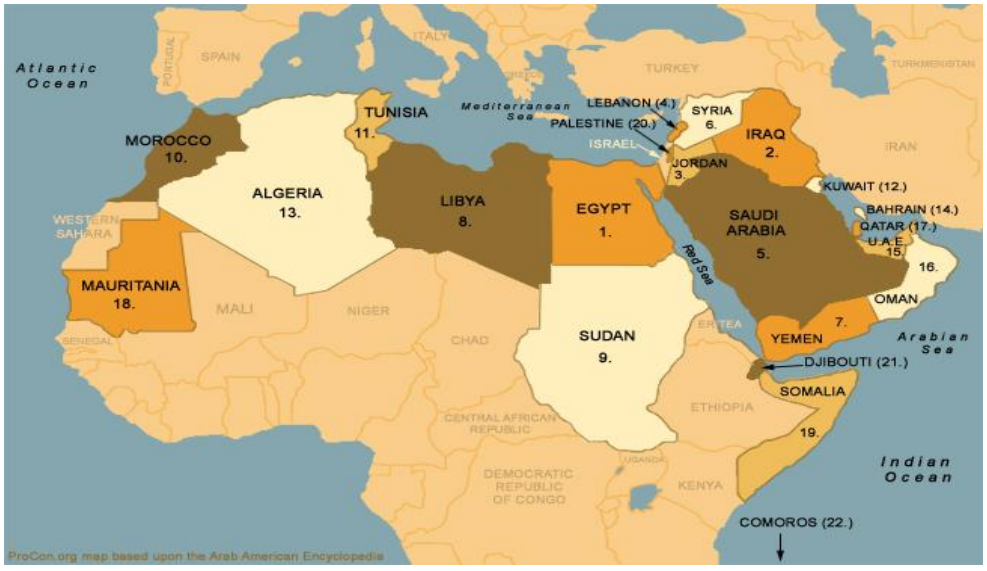
ABSTRACT

This introduction chapter presents the research overview. It presents the main aim and objectives of the research work. It outlines the background and the rationale of the research. In addition, the chapter introduces the concept of Small and Medium Enterprises (SMEs) and the Business Incubator, which leads to the research problem, methodology and the overview of this thesis.

1.1 INTRODUCTION

The Arab World and the Middle East are often confused as one and the same thing. The simplest way to understand which nations represent the Arab World is to look at the members of the Arab League. The Arab World comprises of 22[1] members. These are: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan[2], Syria, Tunisia, United Arab Emirates, and Yemen, (Arab League Online, 2012).

Figure 1. 1 : The Arab League Countries



SOURCE: HTTP://USIRAQ.PROCON.ORG/VIEW.BACKGROUND-RESOURCE.PHP?RESOURCEID=1000

[1] It is 23 countries currently but the Arab League does not take the division of Sudan.
[2] Sudan has become two states after separation in 2011, which are Sudan and South Sudan (Heinrich Böll Foundation and Weis, 2012).

The Arab World, which lies at the crossroads of Africa, Europe and Asia, is the cradle of civilisations and the birthplace of the three great monotheistic religions of the world. The Region benefits from a number of similarities and opportunities, including a long, rich history spanning thousands of years, strong cultural traditions, and a common language. Furthermore, the Region sits atop more than half of the world's oil resources (Mirkin, 2010:7). Although the Arab World has a common language and a shared culture and history, they have tremendous economic, demographic and social diversity (Mirkin, 2010). This is region marked by some differences such as governmental structure, international relations, population density and the size of countries.

The 'Arab Spring' was a series of anti-government protests, uprisings and armed rebellions that spread across the Middle East and North Africa in early 2011. But the events in the some countries went in a less straightforward direction. Egypt, Tunisia and Yemen entered an uncertain transition period, Syria and Libya were drawn into armed conflict. In Libya, the National Congress was then elected through 'free and fair' elections that enjoyed nearly 50 per cent turnout among eligible voters. The political road has been marked by deliberation and compromise, and leaders from diverse institutions have found ways to share power and build bridges with international partners.

The protest movement was at its core an expression of deep-seated resentment at the ageing Arab dictatorships, anger over unemployment, rising prices, and corruption that followed the privatisation of state assets in some countries.

The Arab region is probably the wealthiest region in terms of the economy in the World, as a result of its oil wealth and excellent geographical location. However, most countries in the region still fall into the category of least developed countries (United Nations, 2005). Millions of people in this region are still suffering from poverty. Therefore, bringing the benefits of economic development to the people in the region should be a priority. In this sense, creating jobs and providing opportunities to work in the region is also necessary. This can be achieved when more companies, especially Small and Medium Enterprises (SMEs) are created with close ties and with integration as a goal in the region. SMEs have been playing a vital role in national economic growth

and equitable development in developing countries. SMEs provide many jobs and play critical roles in local development in many countries (United Nations, 2005).

The Arab World has an abundance of resources, natural, human and economic. The region has been implementing a wide range of initiatives that are enhancing competitiveness and strengthening prospects for sustainable development at the same time. The initiatives at country level vary in policy, economic, social, innovation, environmental protection and business climate improvements among others (Mirkin, 2010). Qatar announced the launch of a separate SME authority - Enterprise Qatar - to champion SMEs policies while coordinating debt, equity, training, and business services programmes. The United Arab Emirate (UAE) already at the leading edge of SMEs sector development with various programmes in place targeting SMEs at various stages of their lifecycle and in different sectors, is now considering a national SME promotion law. Algeria also has a Ministry of Industry and SMEs. In Jordan, there is the Jordan Enterprise Development Corporation (JEDC). Finally, members of Kuwait's parliament have presented a draft bill on the establishment of an independent SMEs authority as the country seeks to create new channels for employment and to diversify its economic base. However, many other Arab Countries are struggling in this respect.

1.2 RATIONALE OF THE RESEARCH

According to the Global Competitiveness Report (Schwab, 2010) produced by World Economic Forum 2010-2011, most Arab countries, including Libya, Jordan and the UAE, face numerous challenges related to the inefficiency of their goods, labour, financial markets, as well as an underdeveloped infrastructure and low levels of technological adoption and innovation.

The SMEs contribution to innovation and economic growth is a part of the economic system, and in the light of SMEs policies reviewed throughout the world, whether in developed countries or in the others, in particular the Arab States, which are in transition, such as Egypt, Tunisia, Syria, Yemen and Libya, the SMEs policy rationale is strikingly consistent in its coherence and consideration of other social and economic issues. For instance, SMEs provide

employment opportunities for the elderly, youth and women; the creation of new lifestyles and support the development of new forms of work organisation; new working arrangements, fostering innovation and entrepreneurship.

Business Incubation facilitates the development and growth of start-up companies by providing entrepreneurs with resources and services. Incubator management usually develops these services which are offered by its wide network of contacts. The fundamental purpose of the business incubator is to create successful companies that can operate independently and become viable financially. Business Incubators intend to create companies that can run their business with financial support. Creation of jobs and commercialisation of new technologies and enhancing of local and foreign currencies is the primary aim of these Business Incubators. There is a growing establishment of business incubators in developed countries and some developing countries but not as much as in the Arab World.

However, SMEs in the Arab countries are confronted with many challenges that have not been properly explored within the literature. Therefore, there is a need for further understanding of the barriers facing SMEs, especially in Libya, which will contribute to the overall aim of this study to provide guidelines for establishing and implementing Business Incubators in Arab countries, Libya in particular.

The situation in the Arab countries is of particular importance for Business Incubator research. This is because, firstly, this region launched its first incubation unit in 2002; therefore, policies are changing allowing a unique opportunity to study its initial impact. Secondly, the purpose behind the introduction of the Arab Business Incubators is explicitly concerned with promoting the survival of SMEs, which makes it easier to measure subsequent levels of incubator success. Finally, the connection between incubators and SMEs is directly related to the promotion of specific Arab socio-economic objectives: for example, job creation, economic diversification, and technological innovation.

In this response, the primary purpose of this research is to examine whether the necessary conditions for a successful introduction of wide-scale business incubation projects exist in the Arab World, which takes into account the general conditions necessary for successful incubation design, establishment and implementation.

1.3 RESEARCH AIM AND OBJECTIVES

1.3.1 Research Aim

The research is twofold; firstly, the research seeks to investigate the nature of activities of innovation in the 'Arab world' and how it contributes to their local economies. Secondly, the research endeavours to determine the impact of incubation on the innovation of Business Incubators and the policy implications.

The main aim of the research is to explore the SMEs environment in Libya including the innovation obstacles they faced and to examine how incubators could be implemented to improve their current situation.

1.3.2 Research Objectives

To achieve this aim, the following are the specific objectives. This research aims to:

1. Critically review the literature on innovation and entrepreneurship with a particular focus on SMEs and Arab countries. The review focuses on the impact of information, communication technology, and the development of 'new technology' and the deployment in the Arab world.
2. Explore the contribution of SMEs to regional economic performance in the Arab world.
3. Examine the impact of business incubators on the growth and development of innovative SMEs. Specifically, the research explores the cases of the Jordan and UAE Innovation Centres by comparing characteristics, performance and their behaviour in innovation. This comparison consists of identifying the types of incubator, financial model, funding, and target groups and sectors of incubation in the Jordan and UAE Innovation Centres.

4. Provide governments with implementation procedures and establish guidelines for using incubators to foster technology transfer and commercialisation which will contribute to entrepreneurship and economic development in Arab countries and other developing countries, especially Libya.

Incubators are increasingly seen at a political and academic level as a viable approach to the Arab countries' drive towards greater economic diversification and private sector expansion with the aim of addressing the interacting problems of population expansion and high unemployment (Al-Sheikh, 2009). This raises the following issues: how the politico-economic condition in supports incubators and conditions affect the success of incubators, also what are the guidelines needed by policymakers to establish business incubators.

1.4 OVERVIEW OF EXISTING LITERATURE

Small and Medium Enterprises (SMEs) are increasingly become a major feature for economic development policy in both the developed and developing countries because of their labour absorptive capacity, contribution to poverty alleviation and criteria of employment. True competitiveness requires a business that can establish a strong position in a niche market through innovative products and services (Ndabeni, 2009).

According to Minniti (2009), there are two types of business incubators which exist and accordingly serve a primary role in new business development. The first type is non-profit which focuses on economic development, while the second type is for profit which is usually set up to obtain the shareholder investment return.

This could be suggested that there are similarities between the Business Incubation concept with the terminology used in medicine. From a medical perspective, incubation is a place where prematurely born infants are taken care of and nurtured. The concept originates from the belief that premature infants need provisional care under restricted surroundings to help the infants increase their chances of survival and to grow and develop after they leave the incubator (Aurmo, 2011).

Masri *et al*, (2010) analyse that business support units exist alongside organisations for entrepreneurship and are a significant component of the business support environment. They are non-profit organisations that specialise in providing information, advice and service of training to small and medium sized enterprises or an individual starting a business. Incubator clients have ready access to centralised administrative and clerical services, secretarial services and others different facilitating services such as telephones, copying, power data, terminals, building maintenance, heat, visitor reception and car parking. The SANAD[3] incubator program has been one successful program all over Oman and has promoted the launch of youth for business ventures. SANAD has also become involved in promoting activities for entrepreneurship through incubator programs (UNESCO, 2011).

UKSPA (2004) has noted that the Incubation system combines a variety of small enterprise support elements in a single affordable package. It has targeted a special niche that is early stage nurturing for SMEs through focus with the support and compact environment.

Smilor and Gill (1986) argued that the need to define incubation and illustrate the features which distinguish an incubator from other support programmes. As a result, research in the early 1980s focused on the basic task of identifying the common features of incubators. They identified these features as the collective activities that assist entrepreneurs in the development of new technology-based firms, both start-ups and fledglings. Incubators further seek to effectively link talent, technology, capital and know-how to leverage entrepreneurial talent in order to accelerate the development of new companies, thus speeding up the commercialisation of technology. In a similar manner, Ndabeni (2008), the incubator is a "collective and temporary place for accommodating companies which offers space, assistance and services suited to the needs of companies being launched or recently founded". He identified several main characteristics which are: the availability of modular and expandable space to rent for a limited period; access to shared cost services relating principally to administrative

[3] The SANAD program was established on the directives of Sultan Qaboos (Sultan of Oman) to provide job seekers among citizens with opportunities to earn their living and to support self-employment projects and develop small businesses.

functions and accessing to management or technological support as well as privileged access to business and scientific communities; and a place for interaction between companies and for moral support co-ordinated by the management team.

Moraru and Rusei (2012:170) defined a business incubator as: A place where newly created firms are concentrated in a limited space. The chance of growth and rate of survival of these firms by providing them with a modular building with common facilities (telefax and computing facilities) as well as with managerial support and back-up services. The main emphasis is on local development and job creation.

Lucky (2012) found that Small and Medium Enterprises (SMEs) are uncertain in nature. Entrepreneurs, although technically competent, do not always have the requisite financial, managerial, marketing or administrative capabilities needed to reduce the start-up risk. New companies often fail because entrepreneurs do not have these skills and they have not hired people with these necessary skills (Masadeh, 2008:2). The role of SMEs in growth and development is globally recognised. Both in industrialised and developing countries, governments have been playing a key role in defining policies, programmes and instruments which support the development of small and medium enterprises (Scaramuzzi, 2002:3). Unfortunately, the majority of any start up business's capital is spent on administrative and logistics expenditures (utilities, secretarial services, accountant fees, and on employees' salaries whether full or part time employees), market studies and consultations.

The SMEs and entrepreneurship on various occasions have been used interchangeably. This shows that they are used synonymously for one another. Darren and Conrad (2009) pointed out that the SMEs organisations are generally used as a substitute for entrepreneurship. However, this concept is wrong because both of these aspects are different in many factors. Firstly, the entrepreneurship is important to a point because it is not SMEs and SMEs cannot be called entrepreneurship as well. Entrepreneurship is a procedure that results in the formation of SMEs whereas SMEs are just business ventures or companies that are being operated by owner managers or individuals. Based on

the purpose, the entrepreneurs generally discover, innovate and create businesses. The entrepreneurs search for and discover these business opportunities and then are able to exploit these opportunities of business. However, the SMEs owners are focused on managing the companies or businesses. These owners hardly ever engage in looking for any opportunities for businesses in the way that entrepreneurs do. Therefore, SMEs generate, purchase and sell the goods and services. Furthermore, different types of skills and specialties that are used by the SMEs owners and entrepreneurs. Both of them have various unique skills that they use in their businesses. For example, the entrepreneur has the skills to search and innovate which would always support searching and creating new business opportunities. Whereas, SMEs owners have managerial skills that would allow them efficiently and appropriately to manage their business or companies without any problems.

There are many challenges facing SMEs and Entrepreneurs which include accessing funding, expertise, laboratories/office space and opportunities to network and collaborate. These challenges are partly addressed by the introduction of business incubators, although there are several factors driving this increased concern and the need for business incubators. These other concerns include:

Firstly, SMEs have a significant share in terms of overall job creation and economic development in countries throughout the world (NBIA, 2011). Secondly, a lack of access to financial support and services are considered as important obstacles to small business growth (Beck *et al,* 2008). Thirdly, business incubators help SMEs to avoid market failure which results in disincentives to firm creation. Business incubators originally came from the Industrial Centre of Batavia, which is located in New York. In 1956, this centre was founded by Joseph Mancuso and its main purpose was as a privately owned profit centre that emerged from the economic necessity (NBIA, 2012). In that period the tenants that were allowed were mainly for renting the building space which was based on the business need. The tenants were also required to share the various office service expenses. With the help of this strategy to share the expenses, the founder also wished that the organisation would be

able to gather enough tenants to help the entire centre to achieve the occupancy rate which would allow a generation of profits for the investments. This idea influenced many others and soon, more and more companies started to use this strategy due to the benefits and the impact it would have on the creation of jobs in the community.

The first incubator was not created until two years after the starting first project. In 1980, a Polytechnic Institute of Research, USA, started an incubation system for the students, residents and faculty members who wished to create their own business. Today we see more than one thousand business incubators in North America. This is comparatively a great change from 1980 when only twelve of these organisations came into being. The incubators then started to appear when the global recession was peaking in the 80s. This is when a great number of organisations got shut down which resulted in jobless residents and plants that became vacant. As the number of incubators started to rise, the business incubators were seen as an aspect that would lessen the economic distress through proper renovation and the use of manufacturing buildings so that they can generate profits and would also create new opportunities for jobs. Based on the study of the National Commission on Entrepreneurship, the incubators of North America have created more than nineteen thousand companies and almost three hundred thousand jobs. The same strategy for creating business incubators is also observed in Europe. The governments of Europe have created a series of programs that are used to expand and promote the incubators generally as well as incubators that are technology based, for example, in the UK. In most cases, they offer their inventions and innovations like a commercial business subject, able to bring profit in future or a high level of the technologies used and industrial goods manufactured.

A new era of incubators has also started in which the e-incubators are being financed. In Germany, formation of regional economic policy is given to the spheres of influence of separate administrative units – lands (Melnikas, 2001). Germany itself has more than 33 per cent of the total number of incubators in the European Union (EU). The incubators working in Germany are mainly related to universities and the Research and Development Institutes. France

also has 21 per cent of the incubators in the EU, whereas the UK has nearly 300 programs of business incubators which is about 25 per cent of the EU . Another emerging incubator type that is observed in Europe is the corporate incubators. The corporate incubators are dedicated units of the corporate sector that create new businesses through intangible and tangible resources. The new innovative incubators are greatly popular in many companies which include Ericsson and Nokia. This has led to the changed of research into commercially used products and services.

According to Al-Sheikh (2009), Business Incubators are viewed by many governments as dynamic tools for fostering new ventures with the macro objective of economic development and job creation. The major role of Business Incubators is to help entrepreneurs start or expand their business by providing various functions in a supportive environment. Such functions are composed of hard and soft services that provide physical space, utilities, facilities, equipment, shared services, business and legal advice, financial inputs to facilitate their creation and assist them until 'graduation', when they have the capacity to 'survive' in a competitive environment. These functions can remedy the disadvantages that the SMEs encounter by providing numerous business support services and fostering technological innovation and industrial renewal. Business incubation programmes represent a popular approach that many communities have used to assist new business start-ups. The two main parts of similarity in entrepreneurship and SMEs are being exhibited within this thesis. The first similarity that is shown is that SME and entrepreneurships are focusing on the same target. Both of these sectors are mentioned in the creation of employment, growth and development of the economy as well as the economic transformation. They both also play a vital role in the transformation of social and political economy of the overall national economy.

The Second similarity that the SMEs and entrepreneurship approaches are also affected by the same aspects. This shows that the success and failure of both are based on the same factors. The factors such as culture, location, environment, firm and individual characteristics have an effect on the development of SMEs and entrepreneurship. Studies that are being conducted

on SMEs and entrepreneurship the said factors cannot be ignored because these factors heavily show the conclusion of both.

1.5 METHODOLOGY

The research employed a mixed-methods approach which used both quantitative (survey questionnaire) and qualitative (interviews) methods to collect data. The following are the specific steps for the research methodology:

Step 1: Literature review of relevant SMEs and business incubators and their contributions to the economy.

Step 2: The survey data collection process took place from October 2011 to April 2012. The questionnaires were sent to the selected SMEs during this period. Reminders were sent to the participants and the first reminder was sent two weeks after distribution. The second was sent on after a month and the third and final reminder was sent in April, 2012, especially for non-responsive participants.

Due to the recent uprising in Libya responses from SMEs were extended until the end of April 2012. The final reminder was sent in early April in order to boost the response rate and in case of e-mails being lost or forgotten because of the political circumstances. From a total of 400 enterprises initially selected for this research, 91 usable responses were received (22.75% response rate). Two questionnaires were not completed and were not usable and therefore these two questionnaires were excluded from the final count.

The objectives of the field study in Libya were firstly to focus upon the main constraints for Libyan SMEs. It also examined if the financing problems differ from one industry to another, and if the size of the enterprise is a deterministic factor of accessing funds. This step was necessary as the existing empirical data about Libya is out dated and unreliable. The second objective was to test whether Libyan SMEs may accept using new technology as equity for innovation and whether the acceptance is dependent on the main activity or size of the enterprise.

The quantitative method used is a survey that targeted two case studies, Jordan and the UAE. The Jordan and the UAE business incubators have been selected as they have been established business incubators for several years. The intention is to focus on business incubators in Jordan and the UAE as this provides a comparison between one Arab country with an economy that is oil dependent (UAE) and one that is not (Jordan), which is similar to that of Libya. Furthermore, both countries share with Libya some main factors, such as religion, social culture, climate, and population. Five questionnaire have been collected from Jordan, and the questionnaire data collection process took place from December 2011 to February 2012. The questionnaires were sent to the selected incubators in Jordan during this period.

Four questionnaires have been collected from UAE, and the questionnaire data collection process took place from February to April 2012. The questionnaires were sent to the selected incubators in the UAE during this period.

Step 3: The Qualitative methods used included interviews with 12 Arab experts: the interviewees were chosen based on their experiences in the field of SME policies and development of business support infrastructure. In order to have a neutral opinion, no representatives of any national government authorities or SMEs support institutions were invited. The Experts were interviewed by only open questions, so the structures of the answers were often different. Certainly, there were many similarities in the interviews. The advantage of this step is that it efficiently extracts the salient themes and paths of investigation, including those overlooked by the researcher or not covered in the literature that currently persists in thinking around incubators.

1.6 OVERVIEW OF THE RESEARCH

In responding to the research aim and objectives in conducting the study, a rigorous plan was set out. A brief description of each chapter as a result of the research process is presented in the following sections.

Chapter one introduces the research subject and provides a general background for the study. The aim and objectives of the research are also introduced in this chapter. In addition, this chapter provides a general overview

of the entire thesis which includes the methodology and the contribution to knowledge. It concludes with the layout and the structure of the thesis.

Chapter two presents different aspects and processes of innovation and entrepreneurship observed in literature. The review in this chapter, innovation and entrepreneurship, addresses the research objective one. The significance and association of innovation in Small Medium Enterprises (SMEs) is also presented.

Chapter three provides a critical review of literature on SMEs and their contributions to developing countries' economy with a focus on the Arab countries, which partly addresses the research objective two. The review established the role and importance of SMEs, especially in the Arab countries and some barriers facing them.

Chapter four provides a comprehensive review on definitions, types, strategies and programmes of business incubation. This chapter also addresses the processes of incubation programmes, which comprise start up stage, early stage and expansion stage. Furthermore, the statistical evaluations of business incubators around the world are discussed.

Chapter five is devoted to the approach and research methodology used in this thesis including details of how the study was approached and the processes involved in data collection. A detailed account of the methodological techniques is given.

Chapter six attempts to understand the situation of the obstacles that hinder innovation in SMEs in Libya; the questionnaire was used as evidence for exploring overall trends in the data of SMEs in Libya.

Chapter seven presents a comparative study between Business Incubators (BIs) in Jordan and UAE. A questionnaire was used as the data collection method for both cases to analyse the performance of BIs. Three sets of variables for the analysis were used; these are: management and operational policies, services, and performance outcomes of the BIs. The chapter summarises these results and the analysis of the case studies.

Chapter eight serves as the foundation to provide the guidelines for the establishment and implementation of a business incubation programme. Arab experts were chosen owing to the focus of the study. The interviewees were selected based on their experiences in the field of SME policies and development of business support infrastructure. Semi-structured interviews were adopted for this data collection.

Chapter nine outlines the main findings of this research project. In addition, the chapter presents how the aim and objectives of the research have been achieved through the thesis. Besides summarising the key findings of this research project, the research is main contribution to knowledge and implications of the results are presented. Conclusions and recommendations for future research will be given in the last chapter.

Figure 1. 2: Structure of the thesis

CHAPTER TWO

INNOVATION AND ENTREPRENEURSHIP

CHAPTER TWO – ENTREPRENEURSHIP AND INNOVATION

ABSTRACT

This chapter presents the different aspects and processes of innovation and entrepreneurship observed in the literature. The review in this chapter, innovation and entrepreneurship, addresses the research objective one. The significance and association of innovation in Small Medium Enterprises (SMEs) is also presented and evaluated along with the importance of innovation in SMEs, taking the concept from large companies.

2.1 INTRODUCTION

The purpose of building regulatory, institutional and legal conditions favourable for innovative entrepreneurship is especially demanding for previously planned regional economies that had to build on a market economy setup in a new way. Different sectors of enterprises are dynamic specifically for companies willing to drive innovation: it is the driving force of recent economic progress as they increasingly rely on commercialisation of outcomes, their research, and development processes (Jong and Hippel, 2009).

Research and Development commercialisation is considered as one of the most important elements in the process of innovation. It is important to the versatile relationship of products and service manufacturers, and institutional research (Jong and Hippel, 2009). In recent years, the focus of economic research has been on innovation and it is a key factor for long-term economic development. The outcomes of innovation research have placed more emphasis on the association between underlying innovation research studies and the efforts of entrepreneurship, which aims at commercialising Research and Development (R&D) results (Jong and Hippel, 2009: 17). Innovation has been considered as a prerequisite for competitive advantage for enterprises. Similarly, academics and other programmes of R&D suggest that commercialisation is becoming the main sustainable and consistent driver of economic growth. According to the European Commission (2000) it stated that other researchers' perspectives, market experiment of innovation is probable for bringing sweeping changes which primarily restructure markets and industries. In addition, experts from

European Commission on economics argue that innovation is a strategic aspect of business and investment for creating the capacity to develop and improve products (European Commission, 2000). Current research has focused on irreversible resource commitments for entering new markets, building competitive advantage by output in the value chain. This is termed as entrepreneurship. The relationship between innovation and entrepreneurship is direct. The European Commission (2000:11) emphasised that a business cannot become successful if innovation is not included in its overall operations.

This chapter focuses on both terms, entrepreneurship and innovation. The chapter commences with the understanding of entrepreneurship and innovation. This is followed by a discussion of the key elements of innovation. The discussion is then focused on innovation in SMEs with particular interest in the Arab world. A conclusion was drawn from this chapter which is incorporated in to the empirical data collection discussed in chapters 6 to 8.

2.2 DEFINING ENTREPRENEURSHIP AND INNOVATION

2.2.1Entrepreneurship

More than two centuries ago, J.B. Say, a French economist, said that it is an ability of an entrepreneur to transfer economic resources from lower productivity areas to higher productivity areas with more yield. However, he asked: who is this person, an entrepreneur? This view is also discussed by Drucker (1985) in the understanding of entrepreneur. An entrepreneur was defined in the United States as an individual who starts a personal, small and a new business. Drucker claims that not every small and new business can be considered as entrepreneurial or can symbolise entrepreneurship. Furthermore, he argues that an entrepreneurial business is not necessarily an innovative one. He further identified that entrepreneurs are the people who are able to observe change as standard. The individuals who are entrepreneurs perceive change as vital and greet it as advantageous for the lifecycle of SMEs as well as large organisations.

According to the Oxford Dictionary, an entrepreneur is someone who sets up a business or businesses, willing to take on financial risks in the hope of profit (Black, 2003). Furthermore, Kiam (1986) defines entrepreneurs as those who

understand that there is little difference between obstacle and opportunity and are able to turn both to their advantage: their willingness to seize the initiative sets their contemporaries. Kiam (1986) adds entrepreneurs make things happen.

An example was presented by Drucker that was related to the genius entrepreneurship in the starting days of McDonalds. It is a fact that Kroc[4] did not invent anything and French fries, hamburgers and soda were offered many years before back. A simple question was asked by Kroc regarding the way in which customers describe value. When he got the answer, he developed, standardised and branded these items. This is the reason that Peter Drucker considered this as the best example of entrepreneurship. Similarly, Drucker thought that the risk of being an innovator was that the reputation of the company could be ruined as there are not many entrepreneurs that are well aware of what they are doing. Since the example of McDonalds shows that becoming an entrepreneur does not occur automatically with a particular degree of risk, a systematic approach should be made for it and it should be well managed. Moreover, Drucker further added that there should also be a requirement which is based on meaningful information. This has been changed dramatically in different regions, as entrepreneurship is not only based on meaningful information. In various SMEs, the people wanting to implement change in the system are considered as troublemakers for the company and they usually end up starting their own enterprise. The structure of organisations, silos and layers slows down the creativity of the employee and they prevent employees enhancing the overall experience of the customers. In most of the cases, these structures are planned for the stubbornness of the employees and they are no longer left to follow -up with the change (Susman *et.al*, 2006:55).

2.2.2Innovation

According to the Oxford Dictionary of Economics, innovation is "the economic application of a new idea. Product innovation involves a new or modified product; process innovation involves a new or modified way of making a product" (Black, 2003). Smith (2010:5) also defines innovation as “The first

[4] Founder of McDonald's Corporation, founded: 1955

commercial application or a new process or product, or Innovation is the successful exploitation of ideas". This definition is more effective because It is not just the invention of a new idea that is important, but it is actually bringing it to market, putting it into practice and exploiting it in a manner that leads to new products, services or systems that add value or improve quality. It possibly involves technological transformation and management restructuring. Innovation also means exploiting new technology and employing and generating new value and to bring about significant changes in society. Trott (2008), citing Myers and Marquis 1969, gave a comprehensive definition of innovation. He claimed that 'innovation' is not a single action but a total process of interrelated sub processes. Innovation is not just the conception of a new idea, nor the development of a new market only, but all these processes acting in an integrated fashion.

The Oslo Manual (2005) defines an innovation as "the implementation of a new or significantly improved product, service or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations" (OECD, 2005:46).

This general definition of innovation can be divided into four subcomponents of innovation, defined in McKenzie (2009: 5-6) as:

1) Product innovation: the substantially improved or introducing a good service that is new.
2) Process innovation: the introduction of a new or significantly improved production or delivering a new method.
3) Marketing innovation: the implementation of a new marketing method involving significant changes in product design or packaging, product promotion or pricing.
4) Organisational innovation: involves the creation or alteration of business practices, workplace organisation, or external relations.

Drucker (1985) stated that innovation is an instrument or tool which is used by the entrepreneurs for exploiting change as a prospect. He argued that innovation can be perceived as a discipline that can be a practice as well as learned by the organisations. Drucker was never in favour of innovation theory

as he recognised that there was sufficient knowledge for developing innovation as a practice and this practice was supported on the basis of when, where and which way it looks systematic for opportunities of innovation and which way judgment is made for chances of their success or threat of failure. From the perspective of Drucker, innovation that is made systematically consists of an organised and meaningful search for transformation and a systematic investigation of prospects; these modifications may offer social or economic innovation. In the 1980s, innovation took place in departments of R&D for large organisations and in different universities (Claiborne, 2007). Since people of this era wanted to become entrepreneurs and make innovations, they separated themselves from the corporate environment and made their own setup where they were able to launch any innovation (Claiborne, 2007).

The funding of a start-up venture comes from different sources and entrepreneurs can even mortgage their houses for this purpose. Most of the people take a substantial risk in order to follow their dreams and the term 'lifestyle_entrepreneur' emerges at this stage. Drucker, who is one of the pioneers in the subject of innovation, discusses this term 'lifestyle entrepreneur' (Drucker 1985); since then more ideas related to innovation have been discussed in the literature which include the concept of disruptive innovation.

The explanation of disruptive innovation is conducted on extended practice in order to recognise technical change that is radical in various innovation studies conducted by economists. Contrary to Drucker's approach of systematic innovation is the non-inclusion of incidents in the concept of innovation. Critics argue that 'incidents happen', and planning cannot be made for innovation, thus there is the need for an innovation approach which pays attention to the number of important incidents, mainly known as by-products of incidents.

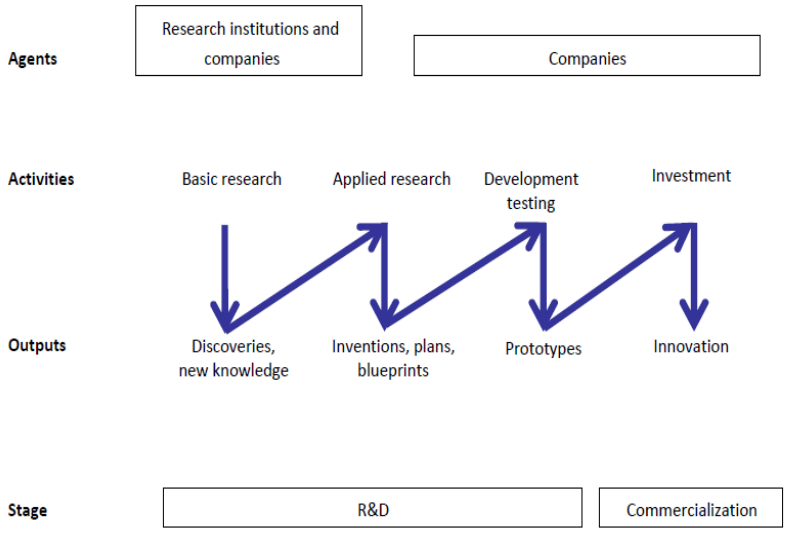
According to Austin (2007), the focal point of organisations should be preparing themselves for both expected and non-expected (incidents). Austin's study stresses the practical implication of accidental innovation which makes it hard for researchers such as Claiborne (2007) to reject its feasibility. The most popular innovations explored or discovered by accident include Cornflakes, Cell phones, Penicillin, Nylon, and Teflon. These examples show the development

of innovation as an adjustment to the diverse landscape of the business (Claiborne, 2007). However, these arguments do not dispute the importance of the systematic innovation approach as suggested by Drucker. This is due to the fact that all innovation should have a purpose and thus should be planned.

2.3 INNOVATION AS A PROCESS

The innovation process involves different stages that starts with inventions from laboratories and finishes with new processes and products that emerge into a market place. Many stakeholders are involved in this process that helps innovation commercialisation to take place (United Nations, 2012: 5). The main actors and stages which are involved in the process of innovation are given in the following figures in which figure 2.1 illustrates the traditional commercialisation and innovation model, whereas figure 2.2 illustrates the feedback or interactive approach for innovation processes:

Figure 2. 1: Innovation Process: Stages and Actors[5] Involved



(United Nations, 2012: 7)

Different stakeholders are involved in the process of R&D commercialisation in which major drivers include the elements that are discussed below.

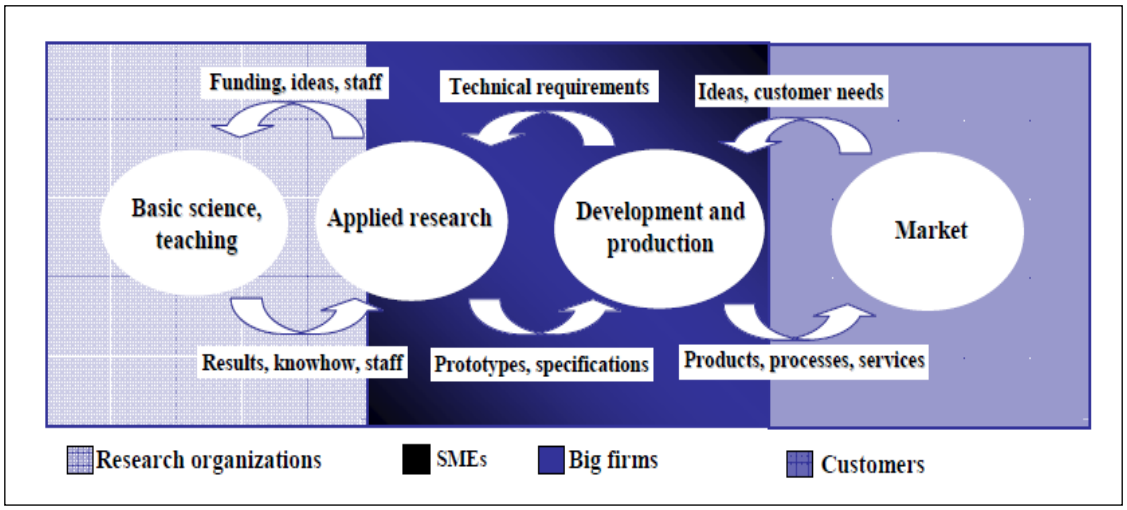
[5] Actors denotes all stakeholders.

2.3.1 Research and Development Scope

According to the United Nations (2012:5), this element evaluates and discovers stocks of inventions and commercialisation of innovation in which the R&D elements are dependent on the number of research institutions and universities in any region, the qualification and number of research workers in organisations established for the corporate sector and public research, more investment in R&D from private and public sources and the usefulness of R&D where indicators are the amount of scientific articles that are published and their citation index.

The R&D effectiveness and scope is also dependent on how research organisations locally and enterprises internationally are connected to each other, which is one of the main aspects of this chapter (De Luca *et al*, 2010). This also determines the level of ease for actors by drawing on results that are obtained abroad and cooperating with international partners for leveraging domestic capabilities and resources.

Figure 2. 2: Innovative process: interaction of major actors and processes



UNITED NATIONS, 2012: 8

According to Freeman (1982), the chain-link model conceptualises innovation in terms of interaction between market opportunities and the firm's knowledge base and capabilities. Each broad function involves a number of sub-processes, and their outcomes are highly uncertain. Accordingly, there is no simple progression; it is often necessary to go back to earlier stages in order to

overcome difficulties in development. This means feedback between all parts of the process. A key element in determining the success (or failure) of an innovation project is the extent to which firms manage to maintain effective links between phases of the innovation process: the model emphasises, for instance, the central importance of continuous interaction between marketing and the invention/design stages, this accords with a very solidly established result in innovation analysis, which is that innovative success depends heavily on the degree to which marketing is integrated with the technical aspects of the innovation process.

2.3.2 Human Resources

The second element or factor in the process of innovation is the human resources that are available for R&D. The availability of highly qualified employees is dependent on the education quality, especially in universities. The other element is determined by allocating funds towards education by a state or a local government for educational and training quality in these universities. The rate of enrolment in universities to reflect these funds also should be considered (Koulopoulos, 2005:14).

2.3.3 Institutional and Regulatory Environment

In the innovation process, the institutional and regulatory environment is helpful for innovation, which means that there is accountability and transparency for investments and public spending, rights for stable property that includes intellectual property rights, judicial independence, regulations that are stable and transparent, simple and low cost processes. These factors govern the operation and registration of enterprises, employing workers and intellectual property registration, transparent administration of tax and tax rates which are reasonable and easy access to finance in different developmental stages of the enterprise, as well as a level playing field for international enterprises willing to invest in the region including Research and Development. All these factors have the capability to influence the business climate where the operation of innovation-based firms takes place and, therefore, these factors determine the demand for innovation in the region (United Nations, 2012).

According to Arab Society for Intellectual Property (ASIP, 2014) which was established on 1987, the idea for establishing a specialised Arab[6] professional body was concerned with organising those working in an Intellectual Property (IP) field and to present technical assistance to the countries in relation to IP. ASIP was devised by leading practitioners and professionals in the Arab world with the aim of promoting and developing IP protection in the Arab world through encouragement, development and modernisation of IP system, laws and regulations. ASIP is also dedicated to the building of capacity and expertise of IP professionals and practitioners, as well as enhancing awareness among the general public. The Society utilises a number of tools to successfully achieve its objectives, such as: holding education programmes, conferences and seminars, and research projects and studies. ASIP has in many ways contributed to innovation in the Arab world (innovation levels has been discussed later in this chapter).

2.3.4 Intensity of Linkage

This element involves the intensity of linkage with different kinds of actors involved in the process of innovation and all these links are given by private, public or public-private firms which assist entrepreneurs to establish their by-product firms, commercialising innovation and transporting these innovations into the market place and finding a financial resolution (IE Group, 2012:25).

2.3.5 Openness to International Technologies

In 2010, at the international conferences of "From Applied Research to Entrepreneurship: Promoting Innovation-driven Start-ups and Academic Spin-offs" held in Kiev, Ukraine, it was emphasised that there should be openness to international technologies and cooperation across borders in innovation. R&D is expanding in different regions across every border and a national capacity for adapting and absorbing technologies that are developed all over the globe is amongst the main innovation drivers. To take part in foreign Research & Development networks and transference of technology, it can be tapped by the nations for accumulated knowledge overseas as well as international innovation

[6] The countries include Libya, UAE and Jordan where this study focuses.

investment and finance sources and this can expand the quality and pace of the innovation (United Nation, 2010).

2.3.6 Broad Usage of Information and Communication Technology

This innovation process involves a broad range of information and communication technology usage as suggested by developed countries. Again, the experience of developed countries indicates the use of smart phones and superfast internet services to support enterprises and provide a business environment geared towards entrepreneurship. In addition, they are significant in order to enable local research firms and organisations to tap into knowledge made overseas and cooperate globally in commercialisation and R&D.

The governments have traditionally made efforts to assist the loosening of these obstacles in various ways; for example, they provide support mechanisms related to finance like tax incentives or funding directly. Loans and subsidies are basic instruments which are used to encourage Commercial R&D. The research on economics indicates that few public funds are used to fuel private expenditures instead of business R&D.

A recent study conducted by Jong & Eric (2008) in Spain established that stronger positive effects in R&D are produced in SMEs from public financing as compared to large companies. In addition, they concluded that there were improved results in industries which were low technology-oriented, such as light industry or timber, as compared to sectors that were high-tech. In this respect they argue that public financing assists SMEs to conduct research, which would normally have not been conducted in reality. The support of a government for R&D is distributed through loans and grants in the universities and institutes, which is referred to as an instrument of technology push for policy of innovation. Recently, importance has been given to the use and development of different types of demand-based policy instruments parallel with more traditional measures (Jong and Eric, 2008).

The most widespread innovation policy instruments linked with demand-based are the development of public procurement, and the execution of standards and

norms including other measures of market development like existing lab consumer platforms. Market economies and public procurement, which are developed, have turned out to be an imperative tool of developing Research and Development and assisting the commercialisation of its outcomes as well. Public procurement has appeared as an influential tool of motivating research and innovation by providing organisations *"lead markets"* for technologies that are new in the top European Union countries, such as the UK, Germany, Italy, Netherlands, Norway, and Sweden. At the same time assuring revenues for innovative products that a knowledgeable consumer is waiting for risk of investing in R&D is reduced by the Governments and at the same time R&D purchase for the public results opens up prospects of improving productivity and quality of public services by the usage of services and innovative goods. The launch of technologies in this way can be move for using it further in markets that are in the private sector. In many countries of the EU, the volume of public procurement accounts for around 16% to19% GDP that is approximately 10 times larger than the particular volume of investments for public and private R&D.

2.4 INNOVATION IN SMES

Most of the SMEs in this decade have dealt with a difficult market environment and the present financial crises around the world. This has weakened the position of SMEs financially and particularly in markets where international producers have been able to provide low-cost products which are a threat to the existence of competitors. Moreover, policies and regulations made by Governments could alter existing profitable SMEs into financial crises within a short period of time. It is normally less disputed that high-tech setups have ability to reduce the cost of production; however, technologies cannot increase the capabilities of channels of distribution that are important for the success of any product. Correspondingly, it is imperative for SMEs to re-invent their operations in such a way where new technology is implemented. There are many constraints faced by SMEs to differentiate products or change models of business such as technological change, financial and technical capabilities (discussed in detail later in this chapter).

One of the main strategies of addressing this technological constraint is by considering technical capabilities and internal financial resources, which remains a major constraint for SMEs. It is therefore deemed that, collaboration should be made with external partners so that innovation can be made successful, new resources of income are developed and reaching to a profitable position in a competitive landscape can be researched. A logical step that many SMEs can take is open innovation as it is defined as purposive usage of knowledge which is both inflow and outflow for accelerating internal innovation and expanding markets to use externally for innovation (Chesbrough *et al*, 2006). In a study of Mel *et al,* (2009), it was established, by using large-scale surveys, that collaboration with external partners for innovation is performed more by SMEs as compared to large organisations. However, a Community Survey related to innovation was conducted in Belgium which revealed that large firms, having more than 250 employees, have been making more collaboration with external partners for enhancing technology as compared to small sized firms. Nevertheless, SMEs rely more on open innovation as compared to large firms where the amount of collaboration deals are divided by the number of employees, therefore calculating the intensity for open innovation. The case is similar for overall indicators of open innovation and for various dimensions for open innovation that include external research, external search, R&D, and cooperative deals with diverse partners (Mel *et al,* 2009: 29).

The current evidence confirms that open innovation is more imperative for SMEs instead of large firms. It could be argued that the latest patterns of research in innovation management focus on open innovation, but it has been primarily studied in large companies that operate in technology oriented markets having large departments of R&D. The issue as defined in various research is that innovation, especially open innovation, has not received much attention in SMEs and present research conducted research for SMEs is not comprehensive and they are not able to exhibit the creative usage of innovation which many innovative SMEs use and implement in their operations. In low technology-oriented industries, SMEs have been flourishing, but only for integrating and using knowledge from external partners for making products or services. Therefore, it could be argued that there is a need for urgent research

which focuses on open innovation and collaboration within SMEs (Mel *et al*, 2009).

The role of SMEs in contributing to job creation and innovation-led growth has been the main focus point of many studies. Much evidence reveals that SMEs that are mostly new in the market make more contribution to the system of innovation by launching new products for the consumers or adapting current products in a new manner according to the requirements of the consumers. It provides an explanation of why the debate has been reopened by economists on whether the failure of the system or few markets excessively affect SMEs and what is the reason that governments have been normally increasing the main concern attached to the regulations for SMEs, whereas giving more focus on encouraging innovation (Schaltegger and Wagner, 2010). The opportunities and challenges, which globalisation and new technologies elevate for SMEs, should be taken into account by these regulations and policies made by governments. The right balance should also be found by measures that address generic issues linked to newness or size and should target responses altered for the varying needs of SMEs (Schaltegger and Wagner, 2010: 20).

This culture of innovation is significant for SMEs, which have proved in current years that they are the principal sources of new employment and engines of economic growth. It is estimated that 99% of businesses in Europe is accounted by SMEs and these firms provide the channels all where new technological development in various fields takes place. Moreover, the sectors, including information technology (IT) and biotechnology that are comparatively small in numbers are also the main suppliers of innovative technologies. Exploiting the latest technologies giving rapid responses to changing market needs is their main ability and these technology based firms that are SMEs play an essential role in the accomplishment of the European economy. The formation of new ventures and development for research organisations and large firms should be supported along with removing barriers, which results in their rapid expansion, and support should also be given for the transference of expertise as their first priority (Palangkaraya *et.al*, 2010).

The detailed interviews in 2010 with executives of SMEs have been able to successfully engage in open innovation and the result of these interviews show the various range of diverse and attractive information on the way these firms take advantage from making innovation and the way they manage and setup relationships with their partners for innovation. This evidence of implementing innovation successfully in SMEs can be mainly evaluated with different projects of innovation for big organisations, for example, Phillips, IBM, Lego and Xerox. In the professional press, the practice of their innovation has been published for many years, as these companies willingly introduce their practices of open innovation because they want to look for benefits by changing closed innovation to open innovation (Palangkaraya *et.al*, 2010:87). However, many research studied teach that these practices such as, risk sharing, cost sharing, rapid introduction of products, cannot be implemented by SMEs because they cannot afford to make frequent innovations as compared to large organisations having vast R&D departments. Most SME's are not interested in open innovation and instead, these SMEs perform open innovation when they want to search for major changes in their overall model of business, and for boosting profitability and taking new opportunities for their business. Therefore, it is not possible to perceive open innovation different from the strategic goals and objectives of SMEs.

It is the limitation of SMEs' human resources, financial condition, and shortage of technological capabilities which drives them to make collaboration with other innovation partners to launch new products and services or make changes in their current products and services (Global Entrepreneurship Monitor, 2010). Most managers in large organisations use this strategy to ensure closed innovation changes to open innovation without making any amendments to the overall organisational objectives and mission. However, SMEs' managers first emphasise changing the overall strategic objectives of their firms before performing any open innovation. They prompt their firms to make long-term relationships with their innovative partners. Moreover, the advantages of strategic changes that are dependent on open innovation of SMEs differ and they are more significant as compared to the classical advantages of innovation pointed out for huge organisations (Global Entrepreneurship Monitor, 2010:44).

2.4.1 Incidence and Trends for Innovation in SMEs

Enterprises should create their own ideas in the model of innovation and then build, develop, distribute, and sustain these ideas individually. The innovation model gives advice to organisations on becoming strongly autonomous and also absolutely recommends systematising innovation in internal departments of their R&D. As a comparison, the open model is recommending organisations for draw on both internal and external facts and the pathway to the market while firms are looking to develop and discover innovative opportunities. Since performing these activities, the model of open innovation determines that smaller firms should take a more important role in the modern innovation scene.

There are few tentative results where researchers have cited figures on the way in which SMEs add to the entire expenses of industrial R&D worldwide. Some studies established that most of the managers had picked up practices of open innovation to some extent having comprehensible focal point on activities that are technology based. An example is that Lichtenthaler conducted a survey on SMEs manufacturers in different European countries (Gerlach, 2006).

Vrande *et.al* (2009) found that more than 32% of respondents by some means were engaging in open innovation. In addition, many compound studies of SMEs have been conducted on the strengths and weaknesses in their firms for the process of innovation. It has been concluded in this work that innovation in SMEs is affected by financial resources deficiency, limited prospects for recruiting dedicated workers and innovation portfolios that are small in nature so that there is too much risk involved with innovation and this risk cannot be spread further. There is a requirement of SMEs to draw more on their networks for finding innovation resources that are missing in their operations because, due to their small size, they can be faced with the limitations of the firm slightly earlier than afterwards. Since the world today has become more complex and knowledge, the life cycles of the products have become short and this behaviour for networking has turned out to be even more imperative as compared to the past. Given these reflections, it is anticipated that all the practices of innovation are not completely utilised by large corporations, but

SMEs will use innovation and therefore will increase to adapt innovation in their operations (Gerlach, 2006).

The impression was given by previous research regarding differences in industries for the trends and incidence of innovation. That there is a difference of services compared with physical goods for inseparability, heterogeneity, intangibility and perishability. Provided that there is a diverse nature of organisations regarding their manufacturing and services offerings, it can be said that adoption of open innovation, differences can be incredibly reasonable. Since it has been observed that physical goods are homogenous and separable, the R&D parts are easier for the outsourcing method or in-sourcing new technologies and ideas that can be vital with existing lines of business. Past researchers have proposed that if industries are categorised by intensity of technology, globalisation, the fusion of technology, new models of business and knowledge then they are more prone to engage in open innovation. However, it is argued by other researchers that the first three characteristics are especially more appropriate to producers instead of service oriented organisations. This means that manufacturing firms are normally more inclined to operating in locations that are large geographically and their process of nature is made in such a way that demands high investments in both technologies and capital.

2.4.2 Types of Innovations undertaken by SMEs

Process innovation can be introduced by SMEs to enhance the ability of production procedures or operations of the supply chain, for example, by reducing cost or increasing reliability. Innovations are developed by the SMEs for their individual use; for instance, internal engineering was utilised for the customisation of a particular product. Product innovations can be introduced by SMEs for a new or present market and it can include new functions, improved performance, and additional features of existing products (Muller and Zenker, 2001). This type of innovation is normally considered as incremental in which technology could be new for the organisation, but it is not new for the world. The radical innovation is a comparatively rare event and it will improve the performance of the product considerably or they can make categories of new products as well. The technical staff can push innovative technology or the

customers can also demand this technology, but there is a risk involved that if they push the product so far from customers, then the chances of product failure will be higher. The pushed technology products need customers to change their perception and behaviour so that it can be used and accepted.

It is a fact that lead-users are so agile and technology-oriented that they often alter the present product or develop new products to fulfil their personal requirements. Therefore, collaborative work can be performed by these users with the technical staff of the firm to fix the deficiency of a present product or design new products to meet their requirements. Apart from all these advantages of lead-users, ideas taken from these users can be damaging for the company because lead-users are mostly above average customers; therefore, it is not possible for them to understand the need for an average product. Moreover, firms should take caution because most of the customers only share their experience and they are not going to suggest innovative ideas to which they give more value (Boer *et.al*, 2009:28).

Another type of innovation is known as 'Application Innovation' in which current technology is applied in the market for new users. The creation of value proposition is involved in the innovation model for business which is able to satisfy the needs of the current or new customer through function, problem solution, or building experience by leasing or sale of a product or service. It has been indicated in numerous studies that large firms mostly discharge innovation known as 'disruptive', where current customers of the firm do not give value to the firm or the new market is so small that firms do not take an interest in it.

Boer (2009) stated that it is the requirement of the business model innovation apart from targeting customers or new value proposition that the value chain should be articulated for producing new products or services and it can plan for maintaining and establishing competitive advantage in front of possible consumers. The various innovation types are imperative for different stages in life cycle of a product; for example, niche strategies can be vital for the firms which offer leading-edge technology to the customers who are early adaptors. The customers can be offered customized products by the SMEs and they can be supplemented with services. Similar SMEs can be quick enough to modify

their strategy in such a way that they can follow-up with various stages of product lifecycle and SMEs that are at the front-end of the product lifecycle are often science based companies. If this strategy works for SMEs, then these are more chances that these firms can become large organisations with the help of new technology or innovation.

2.4.3 Company characteristics and Innovation

The most basic and important characteristics of firms that are willing to perform innovation in their operations is their ability to realise their employees are extremely vital to the implementation of any innovation process. Therefore, these firms reserve more attention for their employees since they are the starting point for innovation in firms. This is the reason it is considered as the basic characteristic of firms and that other characteristics are less prominent as compared to the others. Employment is the first way performance is affected by innovation; for example, product innovation can lead to more employment in the firm, sector or nation level as it is able to develop a product that is a completely new product and service, or it can develop present product in an entirely new way. Therefore, both these methods need diverse production factors, especially labour (Dutta *et.al*, 2007).

These types of innovation, however, can lead to a substitution effect to displace present product demands, so that the net effect is not clear. In contrast with innovation of products, generally innovation processes can directly affect employment negatively because they reduce the need of the labour typically (Dutta *et.al*, 2007). Although a compensating mechanism may be there which operates against labour reduction negative aspects for example, when change of technology involves using new equipment or machinery, and effect of price and income because of increasing labour productivity. Innovation can also be indirectly affected by innovation by the change of technology that can be expanded upon capacity to produce is increased. However, it is argued by Dutta *et.al* (2007) that not all the firms are able to gather profit by performing innovation because there is a need to develop the international market and a limited domestic market is not enough to make more innovation.

The empirical and theoretical models were able to find that the capability of the organisations to operate in the international market can enhance overall productivity and performance with the help of innovation and those organisations that are not up to the level of internationalisation do not get the desired benefits even if they perform large scale innovation in their products or services. Wang found out in later studies that R&D and FDI factors in international trade are not able to attain positive results on the performance nexus of innovation-economic and moderation can be made on their effects with the assistance of technological opportunities and stage of international existence. Since knowledge of corporate innovation has been increasing in recent years, there are many characteristics that innovative firms possess and they should be considered if innovation has to be encouraged. These characteristics are: (Vrande et.al, 2009: 422-453).

1. The management and members of the board continuously give more focus on innovation value and more pain is taken by them to communicate the significance of innovation to all shareholders and stakeholders, especially those employed in the company.

2. To bring fresh ideas to the firm, individuals are willingly hired so that they can make strong associations with present employees and are able to build new opportunities for the firm. There are few companies that hire mavericks in the top management positions. However, it cannot be considered as a compulsory step always because there is an acceptance and sense that valuable input is presented in the process of management by these mavericks.

3. Encouragement is made by the firms for information transparency in various factors by using a sharing system of information by focusing on wide discussion in all the departments of the company.

4. The board members support the management of the firm to take new initiatives and these initiatives are considered more important than upcoming quarterly results and this is the reason that decisions of management receive essential resource commitment for a longer run.

5. Risk taking and failure tolerance has been analysed as an element of the management process and diverse criteria are implemented for taking initiatives in comparison with expected returns from the business.

6. The employees having new ideas making innovation a reality are empowered by the management and it is performed by dividing new

initiatives of main stream business or developing both informal and formal arrangements or dedicated groups or individuals in order to accomplish their desired tasks.

7. The business model of the firm is well understood by the management and that comes into play when support is required for the initiative. The commitment of management towards innovation is strongly supported when the business model is well understood and known by the management, and it also saves time in organising the commencement of new initiatives.

8. The commitment and interest of the firm towards innovation is reflected by the system of rewards. This reward can be given in the form of cash, stock, or any other benefits as it shows that innovators are given recognition and incentives within the company.

9. To stimulate ideas and overcome the traditional and over specialist thinking, it is encouraged by the management that employees can be moved to different parts of the company. The companies wanting to perform innovation always remain close to their workers by using attitude surveys used for encouraging interaction of the employees (Vrande *et.al*, 2009: 422-453).

2.5 THE ARAB CONTRIBUTION TO INNOVATION

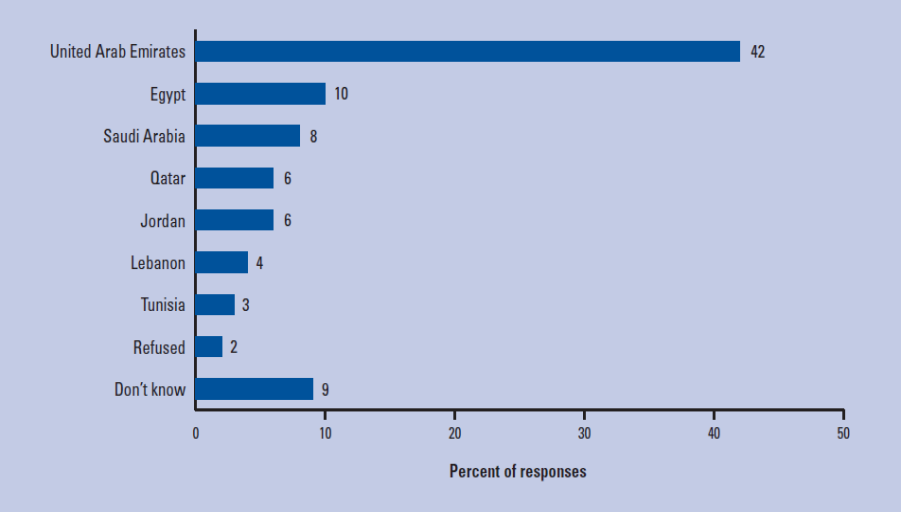
The performance of Arab countries in innovation has been improving for the past five to six years as the region recorded its highest growth rate for accessing the internet which means the region is improving in this regard. But, it can be said that there is a delay in investment in technologies of ICT, human skills and infrastructure for innovation and this is the reason that development in Arab countries related to innovation is slow compared to other countries around some states (UN,2011). The governments of Arab countries have to make more investment in technological developments and skilled human resources if they want to compete with emerging and developing technologies of other countries. The policy should be made in such a way that international investors are encouraged to take part in technological development and business practices should be given leverage so that they can adapt new technologies for their operations. The scale and impact of new policies and regulations is large; therefore, these policies should be reviewed carefully by the authorities operating in Arab countries (UN, 2011).

Most of the issues related to innovation are complex and they are coordinated with different developmental programmes for fulfilling the social and economic needs as well as the political needs of the region. In the Arab region, giving priority to initiatives is imperative and it is significant to support and plan for its implementation. Administrative and cultural challenges for the economy of Arab states in which bureaucracies of the state and cultural change play a crucial role cannot be understated. It can be considered true because the capabilities of innovation and technology move at a fast pace. The new way for connecting users to the Web can possibly increase access to more people at affordable rates.

If the governments of Arab countries have to make any decisions regarding investments and regulations in order to encourage innovation, then the private sector should be engaged through consultation for technology and potential priorities to participate in different public-private relationships. These partnerships should promise to help governments by sharing their expertise and experience including their resources for crafting innovative and regional approaches that can assist the Arab region in advancing their priorities and developmental agenda. It is a fact that the potential for regional partnership is considerable by pooling infrastructure investment, sharing best practices and negotiating with the vendors (Arab Human Development Report, 2009:115). There is an underdeveloped regulatory and legal environment in the Arab countries which prevents the development and innovation of technology in an effective manner. The regulations and laws on the rights of intellectual property have been made to meet international demand including the requirements of WTO instead of giving responses to public demand or local business. The crucial role of enforceable and coherent law to encourage investment and development in innovation is not considered positive or it is not appreciated in Arab countries. An example is that there is no legal protection made by any Arab country for ICT because security and privacy is not currently required by the international entities. There are many countries that have joined different foreign treaties and ratified a few laws related to IPR. Nevertheless, a survey was performed by ‘World Economic Forum’s Executive Opinion Survey’ in the Global Competitiveness Report (Schwab 2010), in which respondents indicated

that IP protection level and enforcement is different for countries and most advanced countries of the region technically cannot reach the level of innovation which takes place in countries such as the US and China.

Figure 2. 3: The level of innovation in the Arab countries



Source: Dutta *et.al* (2007:87)

Qatar is fast developing in innovation, in 2009, Qatar Science and Technology Park (QSTP) became the home of innovation for both of internationally recognised technology companies and start-up businesses(Qatar foundation, 2014). This foundation has joined in the common aim of developing Qatar's knowledge-based economy.

Table 2. 1: Incidence of human poverty in 18 Arab countries in 2006

Income group (number of countries)	Value of HPI (%)	Probability of not surviving to 40 (%)	Adult illiteracy rate (% 15 years and older)	Population without access to safe water (%)	Children under weight for age (%)
Low (4)	35.0	22.8	40.5	31.7	42.1
Lower middle (7)	20.4	7.2	28.9	8.3	6.8
Upper middle (3)	12.0	5.0	11.0	18.0	8.0
High (4)	11.7	5.1	14.7	8.2	13.7
Total (18)	22.3	10.4	29.1	13.9	15.4

SOURCE: ARAB HUMAN DEVELOPMENT REPORT (2009: 115)

The insecurity of human poverty is declining over time along with the falling rate of extreme poverty. From 1996 to1998 and in 2005, HPI declined region-wide by approximately one third from a value of 33% to 22.2%. The above figure shows the accomplishments of Arab countries behind this regional trend. The countries belonging to the high and upper middle income groups achieved the highest rate of decline and contrasting Arab countries with other developing countries demonstrates that the previous could have executed well on the HPI providing their human development and levels of GDP. An example is that the United Arab Emirates has a Human Development Index (HDI) rank of 31, but in terms of the HPI, the United Arab Emirates fares three times compared to Hungary that has an HDI rank of 38. The expression is true for most other Arab countries apart from Syria, Jordan, and Lebanon and the comparatively weaker performance of the Arab region on the HPI compared to other countries with a comparable HDI is attributable to superior rates of adult illiteracy and higher rates of malnutrition among children under 5 to some extent (Arab Human Development Report, 2009:115).

2.5.1 Encourage innovation in SMEs – the Arab region

The SMEs comprise of more amount of service companies as they provide employment to the leading overall numbers of employees in the Arab region and because of their collective importance, technology start amongst SMEs might bring considerable economic benefits to Arab countries provided that SMEs can innovate and adapt in their practices of business for capturing productivity improvements. It is unfortunate that SMEs in encounter difficult obstacles in adaptation of innovation and technology in their business practices.

There are many owners and managers of SMEs that measure technology related to instant cost rather than perceiving it as an investment for innovation, capturing more customers, reducing long-term costs, and enhancing performance. It is difficult to change this attitude; however, they must expand if the Arab countries want to enjoy the possible social and economic benefits stimulated by technological progress. On the other hand, in defence of traditional Arab SME owners and managers, it is important to note that they are far away from being alone in being uncertain in using technology ahead of basic

functions of administrative and accounting. The SMEs of Europe have been slow as well in integrating technology into their businesses and if considerable numbers of Arab SMEs have to implement technology in an aggressive manner then the governments must formulate enduring and constant efforts to change long-settled methods of business (Arab Human Development Report, 2009:115).

2.6 BARRIERS TO INNOVATION

It is presented in the evidence that innovation is an imperative internationalisation driver at the level of the firm and barriers to innovation consequently proceed also as internationalisation barriers. Some of the most common barriers that both large scale and SMEs face are discussed below:

2.6.1 The lack of knowledge for available technologies

The barriers of knowledge for innovation relate to the lack of knowledge of available technologies, knowledge sources and markets and past research has confirmed the presence of considerable barriers to innovation related to knowledge of technologies and markets, accessing finance and the deficiency of skilled labour. Econometric analysis results revealed that firms that are not a division of a big business group or SMEs are more likely to experience barriers of knowledge. The main cause of this barrier is that a large organisation or allied grouping has an advantage of size and they can increase fixed costs related to activities of knowledge sourcing or measures management of internal knowledge for an outsized output. Therefore, SMEs have a drawback that they mostly do not have enough money to discover information about technologies and markets in a systematic way. Consequently, the outcome of the result shows that firms are already internationalised in a systematic way and they report experience of more barriers of knowledge to innovation (Loewe and Dominiquini, 2006:30).

2.6.2 Financial barriers for the firms

One more barrier that restrains the activity of innovation is considered as financial barriers towards innovation for the firms. Past studies have revealed that financial barriers have an advanced impact on innovation for young firms as well as SMEs. The huge organisations or companies which are division of a big

business groups are less likely to experience these issues and because of their size it is not difficult to set up collateral funds inside the groups. Barriers related to finance are mainly vital for SMEs with narrative technologies and products (McMahon *et al*, 1993). It was shown in the past research that firms which are less concentrated are furthermore expected to experience financial barriers. It is shown in the results that this accounts for firms that are dependent greatly on superior knowledge, for example, universities or research institutes. However, it is important to consider IPR in this regard because SMEs can show a few forms of IPR for the effect of their innovation actions which are less likely to be affected by financial constraints.

2.6.3 Companies heavily affected by skill constraints

An additional factor which is important in this regard and constrains innovative firms across Europe is the shortage of skilled workers. A research study performed on the impact of skill shortages on innovation demonstrates that innovative, small, young, and growth oriented firms are more expected to be affected by the constraints of skills particularly in the more superior economies of the European Union as compared to the firms that do not possess these characteristics. It is maintained by many contributions that firms in nonessential regions having thin local skills support are more likely to be affected by constraints of skills. The framework of institutions and economic conditions is usually shown to have a noteworthy impact on the skill constraints perceptions of the elevation of innovative firms. The countries in which firms produce a relatively low share of tertiary graduates and which are advanced economically and technologically are likely to be constrained by shortages of skills (Loewe and Dominiquini, 2006: 30).

A survey of innovation practices was performed by Strategies for about 550 big corporations in which most of the respondents belonging to each industry rated innovation as significant by stating that the significance of innovation will increase in the future. However, most of the respondents were decisive on their company's effectiveness for innovation. An example is that there were only 19% respondents who stated their companies take innovation seriously and most of them rated that the effectiveness of their firm for innovation is below average.

The most common six barriers for innovation recognised by respondents were same for every industry and they were:

1. No long-term strategy.
2. Less resources and no time.
3. The perception of the leadership is not realistic.
4. The structure is made in such a way that management do not get rewarded for innovation.
5. Process of Systematic innovation is not there.
6. Belief that innovation is intrinsically dangerous or risky in nature.

In discussion with the respondents on attempting to deal with these barriers, it became obvious that these respondents were dealing with them gradually instead of dealing with them in a systemic way. Few organisations, for instance, required to develop their incentive plan for the management more related and focused on innovation. However, they cannot bend their leaders to spend their energies on the most recent exercise of cost reduction. The other respondents dedicated more persons to innovation but failed to get time and consideration from the management of the organisation. An elaborate innovation process was implemented by others in place; however, they did not recompense innovators and business leader's success in innovation. Numerous methods and techniques of innovation only deal with the apparent symptoms of a innovation problem in an organisation. An example is that if lack of ideas is an issue, then a frequent method is holding more sessions of idea generation and if resources emerge as an issue, subsequently a standard solution is to employ a team for innovation to carry efforts of innovation forward (OECD, 2000:13).

2.7 THE NEED FOR ENTREPRENEURS AND SUSTAINABLE INNOVATION

The core of Sustainable entrepreneurship is the understanding of its innovations that are pointed towards the mass market and give advantage to a large part of society. It should be realised that these sustainable entrepreneurs frequently deal with the unmet demands of stakeholders which are larger in groups. Groups or individuals considered as stakeholders significantly affect the activities of the company. Many demands of the stakeholders go further than constricted and are the final sources of entrepreneurial opportunities for

sustainability innovation and the development of which is at the centre of sustainable entrepreneurship. The present understanding is also consistent with current work disagreeing that detailed market failures are the original root cause for activities of entrepreneurs intended to realise social goals and environmental improvements. Environmental improvements can be demanded by the stakeholders, for example, environmental NGOs or social improvements, for example, consumer associations or stakeholders concerned with child labour. These comprehensive demands of stakeholders also matter economically and they can predict demand from a big group of customers (INNOVA, 2011:35). Stakeholders with currently weak bargaining positions and incomplete significance for the maintenance of a firm's operation can in this respect be lead users in an economic sense. Stakeholders provide an important input on entrepreneurial opportunities which are ultimately revealed or exploited by sustainable entrepreneurs because lead users indicate the potential demands of a big mainstream of market members. This has been neglected by the economics and management theory of entrepreneurship for a long time, but for the last couple of years additional authors have started to deal with entrepreneurship following the work of past researchers and this has partly contributed to the growing focus on sustainable entrepreneurship as a precise entrepreneurship type.

A financial crisis obviously changes the expectations and needs of the customers in developed countries as it brings consumers back to basics in many main categories which are known as trading up and trading down. Hunger for gadget Innovation has been declining sharply and few organisations are developing products with below average features of the product because they are going back to the central notion of "value for money". Another example can be 'Dacia's Logan' : that is a car having great success not only with customers who normally do not have the capital to pay for a new car, but also with customers that do not have a close relation to their car enjoying the "value for money" or "smart buy" feature of this product. It is a fact that customers also have elevated expectations from companies and governments in relation to sustainable growth. Different surveys have indicated that customers consider that companies and governments can be more effective than private individuals

in acting on sustainable growth or environmental issues. It was found in a survey that 73% of all clients believe that it is important that firms have a good track record linked to the environment (INNOVA, 2011). All these insights call for a growing stream of innovation in all kinds of products and processes which range from clean techs to bio fuels to new methods of preventing pollution and hybrid cars. A convergence was also observed between the business and the political customer having high expectations for government intervention. In general, it means that many prospects are present to perform an even enhanced job in adapting to the context that is changing consistently. At the end it is concluded that innovation will remain a basic precedence for most businesses and it is changing its objectives and the way it has been undertaken; therefore, hopefully sustainable growth will become a major parameter for innovation (INNOVA, 2011:35).

2.8 CONCLUSION

This chapter provided a context within which the study's findings are to be interpreted and understood in terms of defining Innovation and Entrepreneurship, and the process of innovation which is related to entrepreneurship. The significance and association of innovation in SMEs.

The chapter discussed the concept of entrepreneurship which could be concluded that it all starts with an individual having an innovative idea to commence a business. This idea is developed through the process termed innovation. The term entrepreneur was previously discussed in the Arab context as ‘Issami’. This is equally related to a self-reliant person. There is no need for one to be born to have the characteristics of an entrepreneur.

The main actors and stages which are involved in the process of innovation were also discussed, which include R&D, HR, the institutional environment and openness to international technologies. Furthermore, innovation in SMEs, including incidence and trends for innovation in SMEs, types of innovation and company characteristics, have been addressed within this chapter. The current researchers focus on open innovation with particular attention on large firms; however, less attention has been given to SMEs. Therefore, it is argued that there is a need for urgent study which focuses on open innovation and

collaboration within SMEs. Finally, the Arab contribution to innovation and its content of innovation encouragement and some of the barriers of innovation in SMEs have been discussed.

The next chapter provides a literature review on Small and Medium Enterprises (SMEs), which includes definitions and strategies of SMEs, and their contributions to developing countries' economies.

CHAPTER THREE
SMEs CONTRIBUTIONS IN THE ECONOMIES OF DEVELOPING COUNTRIES

CHAPTER THREE – SMEs' CONTRIBUTIONS TO THE ECONOMIES OF DEVELOPING COUNTRIES

ABSTRACT

This chapter presents a literature review on SMEs and their contributions to developing countries' economy with a focus on the Arab countries, which partly addresses the research objective two. The review establishes the role and importance of SMEs especially in the Arab countries and some barriers facing them. However, there is a need for further understanding of the barriers facing SMEs especially in Libya[7] which will contribute to the overall aim of this study to provide guidelines for establishing and implementing business incubators in Arab countries, Libya in particular. (The analysis of the data collected is discussed in chapter 6).

3.1INTRODUCTION

The Small and Medium Enterprises (SMEs) play an important role in providing job opportunities, in addition to their significant share in total value added. They also provide goods and services at affordable prices for a substantial segment of the low income groups (Elasrag, 2006 and Namani, 2009), which is seen as a useful tool to guide the small saver to invest. It is also able to play a needed positive role in the development of exports, in helping to develop new products, and at certain levels of productivity, can behave like nutritious large industrial enterprises (Kongolo,2010), which are currently exhibiting in the context of globalisation. Through these businesses, new strategies channel are led in each country, in harmony with their own systemic, cultural and political models. With the active participation of the International Labour Organisation (ILO) for more than twenty-five years, the ILO has been carrying out programs of technical cooperation, information networks, research and brokerage with international financial institutions and SME entrepreneurs. There is little doubt among public officials, legal and economic scholars and businessmen alike about the importance that SMEs have for the economic and social development of countries. However, there is no consensus on how these companies should

[7] As discussed in chapter 5, Libya is the target case of this study.

be identified since the concept of “small business” is not clearly defined. The concept, although commonly used, is vague, suggesting that an undertaking that is not large is a “small business", without being more specific (Ojala and Tyrväinen, 2009). The aim of this chapter is to examine the developmental role of SMEs in the Arab countries in the light of the growing interest, through the identification of the concept and importance of SMEs for the Arab States, and the most important challenges facing their development.

The chapter is organised by firstly discussing the concept of innovation, the entrepreneur and SMEs together to establish their connectivity. This is followed by the brief context of SMEs and definitions read in the literature. The essential contributions, roles and characteristics of SMEs are also described. The attention was then narrowed to the Arab countries, where their role and importance are also discussed. The chapter concludes with some common problems faced by SMEs.

3.1.1 Innovation and Entrepreneurship and SMEs

Innovation is the cornerstone of success for any small and medium sized enterprise (Dalota,2010). Innovation is the only way of avoiding a vicious circle of business, which is comprised of external factors that dominate business decisions. Small and medium sized companies require incorporating innovation, so that they can grow steadily, retain loyal customers, increase market share and generate profits. Innovation also helps entrepreneurs to take control of their businesses and their ability to continue generating profits. In a global market in a constant state of change and with the emergence of serious threats from other countries’ industries, launching new products that add value and are useful for the end user, is essential not only to survive, but to grow in the long term (Awang, 2004). Many economists advocate the idea of the unique role of small business in the deployment of scientific and technological revolutions. The most significant activity in the area of innovation often includes venture capital firms.

SMEs successfully compete with large companies, achieving a rapid pace of implementation of scientific and technological progress. Small research firms actively conduct research and development, more willingly take risks, and use

research funds and equipment efficiently. In addition, SMEs hire qualified personnel, thus making a significant contribution to the innovation process and technological renewal of production. Small innovative firms and their mobility with the competitive new products, when the market factor is the rate of renewal of the range of products, have found their place in the economy. They are involved in the initial stages of innovation, leaving large firms to the capital-intensive stage of industrial deployment of new industries. Furthermore, scientific and technological progress allows SMEs to quickly connect to knowledge-based industries (Awang, 2004).

3.2 BACKGROUND AND DEFINITION OF SMES

In general terms, there is no standard definition of SMEs: instead the concept has been used in different contexts using various meanings. McMahon *et al,* (1993:9) stated that, to define SMEs there is "a vexing enduring difficulty". The authors pointed out that the SMEs are simpler to describe than to define in exact terms. Stokes and Wilson (2010); Wong and Aspinwall (2004); and Holmes and Gibson (2001) found that one important issue is how to define SMEs clearly and how they can be differentiated from large companies.

The definitions used by federal and provincial governments, as well as by private parties are usually based upon qualitative or quantitative criteria, or on a mix of both which, it could be argued, are the ideal scenario for the purposes of defining and identifying SMEs. The most common qualitative aspects used to define the term include an SME's geographical scale or operations, degree of independence and type of management (Intarakamnerd *et al*, 2002).

SMEs differ markedly in size, organisation and type of activity. The complexity and structure of the management of an undertaking also serve to discern SMEs from larger entities. Usually, large enterprises tend to be managed by skilled professional people who are charged with hierarchical authority. Administrative roles are also divided up according to a company's operational functions (traditionally: production, sales, financing and marketing). Conversely, SMEs are frequently administered by personal or direct management (Balzat and Hanusch, 2004). The concept of personal or direct management in SMEs refers

to persons who usually own and operate the undertaking and do not receive remuneration in the form of a salary for the services they render to the SMEs.

SMEs stand for small and medium enterprises. This is the company's commercial, industrial or other that has a small number of workers and moderate-income records. Another such term is MSMEs, the acronym for micro, small and medium enterprises. In this case, it also includes smaller firms such as sole proprietorships. The definition of SMEs varies by country. Argentina, for example, ranks companies according to their annual sales and its area (industrial SMEs can have a turnover that in other economic sectors would place the company among the largest). In other countries, the concept of the SME is associated with the number of employees. Between 1 and 10 employees, we talk about micro, between 11 and 50, SME. These figures, however, may vary according to region (Awang, 2004). SMEs have specific needs that must be met by the State. Such companies generate huge revenues for each country, and are also one of the main drivers of employment. However, because of their size, they need protection and incentives to compete against large corporations. Credit lines with special conditions, tax benefits and free consulting are some of the tools that are offered by the state for SMEs to develop.

Categorisation of SMEs could be twofold; it could be based on either ‘turnover’ or the ‘number of employees’. However, there are some businesses which have a limited number of workers that may be considered small but they have high turnover. Curran and Blackburn (2001:9) found that the use of number employed in the enterprise is extremely popular with researchers and policy-makers alike; while being highly popular and easy to use, this needs some care when adopted. The authors also explained financial turnover is used as an alternative and also apparently attractive measure of size. Despite the number of employees being one of the most widely employed criteria, it needs to be used with some care, for instance, treating a part time worker as the equal of half a full time worker. Moreover, from country to country, the number of employees used varies according to the objective of the definition. For example, one industry may define businesses as small but this does not mean that all

other manufacturers have the same standard to define their small businesses (Eltaweel, 2011).

Bolton (1971) suggested that to be defined as small, the turnover of a retails must not exceed £200,000. In the EU, according to the European Commission (2011), number of employees, balance sheet and turnover are used to define small firms. Medium-sized enterprises should have between 50- 250 employees, not more than 50 million Euros as turnover and a balance sheet not exceeding 43 million Euro. Small businesses should have between 10-50 employees, not more than 10 million Euro as turnover and a balance sheet not exceeding 10 million Euro. Similarly micro businesses should have fewer than 10 employees, with turnover and balance sheet not more than 2 million Euro. Therefore, the following table (3.1) summarises the EU SMEs definitions as following:

Table 3. 1: Standard Definitions of SMEs in Europe

Enterprise category	Headcount	Turnover	Balance sheet total
Micro	**< 10**	**≤€ 2 million**	**≤€ 2 million**
Small	**< 50**	**≤€ 10 million**	**≤€ 10 million**
Medium-sized	**< 250**	**≤€ 50 million**	**≤€ 43 million**

SOURCE: EUROPEAN COMMISSION ENTERPRISE AND INDUSTRY, 2011

According to the Asia-Pacific Development Information Programme, SMEs are usually enterprises that employ a range of 250 employees. Furthermore, the technical definition varies from country to country in the Asia-Pacific region but is usually based on employment, assets, or a combination of the two. Some countries have different definitions for SMEs in the manufacturing and services sector. The following tables (3.2 and 3.3) illustrate the range of SME definitions in the Asia-Pacific region and MENA.

Table 3. 2: Standard Definitions of SMEs in the Asia-Pacific Region

Country	Definition of SME	Measurement
China	Varies with Industry, usually less than 100 employees	Employment
Hong Kong	**Manufacturing**- 100 or fewer employees **Other**- 50 or 100 employees	Employment
Indonesia	Less than 100 employees	Employment
Japan	**Wholesale**- less than 100 employees or JPY 100 million assets	Employment and

	Services- less than100 employees or JPY 50 million assets **Retail**- less than 50 employees or JPY 50 million assets **Other**-less than 300 employees or JPY 300 million assets	Assets
Malaysia	**Manufacturing**- less than MYR 25 million or 150 employees **Services**- less than MYR 5 million or 50 employees Different for enterprises	Shareholders, Funds and Employment
Philippine	Less than 200 employees or PHP 60 million assets	Employment and Assets
Republic of Korea	**Manufacturing** – less than 300 employees, or KRW 8 billion assets **Wholesale** – less than 100 employees or KRW 10 billion annual sales revenue	Employment, Assets and Sales Revenue
Singapore	**Manufacturing** – fixed assets worth SGD 15 million or less **Services** – less than 200 employees	Employment and Assets
Taiwan	**Manufacturing** – less than TWD 80 million of paid-in capital or less than 200 employees **Other** – less than TWD 100 million annual sales revenue or less than 50 employees	Sales Revenue and Employment
Thailand	**Manufacturing and services** – less than 200 employees or THB 200 million assets Wholesale – less than 50 employees or THB 100 million assets **Retail** – less than 30 employees or THB 60 million assets	Employment and Assets

SOURCE: HTTP://WWW.APDIP.NET/PUBLICATIONS/IESPPRIMERS/EPRIMER-SME

Table 3. 3: Standard Definitions of SMEs across MENA

Country	Small	Medium
Egypt	5 to 14 employees	15 to 49 employees
Lebanon	10 to 49 employees	50 to 99 employees
Oman	6 to 20 employees	21 to 100 employees
Jordan	5 to 19 employees	20 to 99 employees
UAE	10 to 49 employees	50 to 499 employees
Tunisia	11 to 49 employees	50 to 99 employees
Libya[8]	Less than 25 employees	Less than 50 employees

SOURCE: JORDAN HUMAN DEVELOPMENT REPORT, 2011.UNITED NATIONS DEVELOPMENT PROGRAMME (AMMAN-JORDAN).

[8] National Council for Economic Development- Libya, 2011.

3.2.1 Criteria for Defining SMEs

It can be seen from the previous tables (3.1 to 3.3) that there are many different ways in which the SMEs sector is defined. It is obvious in the analysis that three main quantitative criteria are commonly used in the SMEs' definitions. In addition to these quantitative criteria, a few countries have added qualitative criteria into their definitions of the SME sector. It is important to cover both the quantitative aspects and the qualitative measures. On one hand, the quantitative criteria include:

1. Number of employees: One of the most widely used criteria to define SMEs.
2. Value of fixed assets: This criterion is used by a number of countries.
3. Turnover per enterprise: This criterion is also used by some countries.

On the other hand, the qualitative measures tend to focus on particular characteristics of SMEs that are inherent in their nature. Some of the SMEs qualitative criteria include: (a) management and ownership are rarely separate; (b) control over business operations and decisions reside with one or two persons who are usually family members; (c) project's equity is not publicly traded; (d) personal security of the owners is required to secure debt acquisition and repayment; (e) the level and number of formal contractual relations are kept at a minimum level; and (f) personal objectives of the owners guide and influence business decisions directly (Elasrag,2007).

3.3 CONTRIBUTIONS OF SMES

There are significant contributions of small and medium enterprises (also known as SMEs) in the economic development of countries. Among the various benefits, some of them are: (a) SMEs highlight the key issue of poverty and generate jobs and employment; (b) SMEs increase the standard of living by incomes; (c) they diffuse economic activities in the country, and act as a mean of economic growth; (d) they supply and provide auxiliary services to large organisations; (e) they encourage managerial skills among the people; and (f) they play a significant role in transforming local firms into large corporations. Small and medium enterprises constitute most of the companies in developing countries and developed countries as well. Furthermore, SMEs contribute

toward a large share of a nation's job creation, and the aggregate productivity of a country. It has been recognised that a powerful, active and efficient SME industry acts as a decisive component in achieving competitive advantage at the international level. Furthermore, it ensures consistent growth and development of the economy. It has been many years since governments in developing countries have been focusing on developing SMEs for various reasons. For example, in Asia, developing countries have been working on cutting the poverty rate and increasing the number of jobs through SMEs. The emphasis was stronger during the period of 1970s and the 1980s. In spite of this, the financial crisis that struck Asia in the later part of the 1990s made the weaknesses of the impaired economies prominent, due to which, the attention was moved away from SMEs to programs that promoted technological advancements. This was done to widen and expand the structure of the industries (Anuchitworawong *et al*, 2006).

According to the Jordan Human Development Report, (2011), its findings indicate that the SMEs have contributed to job creation in Jordan between 2000 - 2007, whereby employment in formal enterprises increased by almost 18% to reach 425 thousand workers, up from 361 thousand in 2000. SMEs were the largest single contributor to job creation during 2000-2007, employing 1-4 employees per firm and creating almost 20 thousand new jobs. Regarding continuing businesses, most new jobs came from large firms employing 100 or more employees. These firms were the largest contributor of all the segments; they introduced almost 71.5 thousand new jobs between 2000 and 2007.

3.3.1 SMEs and the Economy

The development of SMEs impacts the economy with respect to their numbers and size. Furthermore, they are easy to multiply, and show growth and dissolution for each manufacturing concern, as well as their role in introducing new products, industrial modernisation, level of interaction union versus macroeconomic variables, and in this case with particular interest in production and employment (Intarakamnerd *et al*, 2002).

The following table shows large differences in the incidence of SMEs. In Indonesia, India, and Lithuania, SMEs account for 45 to 60 per cent of jobs in

the manufacturing sector, while the share in the UK, USA and Germany is between 18 to 28 per cent.

Table 3. 4: Percentage of Employees in SMEs in the Manufacturing Industry

Percentage of Employees in Small and Medium Enterprises in the Manufacturing Industry			
Developing Countries	SMEs	**Developed Countries**	SMEs
Indonesia	58.9	**Austria**	39.0
India	57.6	**Netherlands**	38.8
Malaysia	38.1%	**Belgium**	32.8
Brazil	43.8	**Germany**	19.2
Lithuania	44.1	**United Kingdom**	22..0
Bangladesh	43.4	**USA**	23.7

SOURCE: ELMANSORI, 2007:17.

Job creation due to SMEs is growing rapidly in the goods producing sector. Jobs in SMEs increased 7.8% in mining and 3.2% in the services sector. Between 1980 and 1986, companies with fewer than 500 employees were responsible for creating approximately half of all jobs. Other studies conclude that eight out of ten new jobs were generated by companies with fewer than 100 employees (Intarakamnerd *et al*, 2002).

It is not easy to specify exactly which company falls under Small and Medium Enterprises (SMEs). Numerous factors affect its determination such as: capital, machinery, production, profitability and number of staff.

SMEs are usually the suppliers of products and services or supplies for large companies or directly supply the domestic market. The role of SMEs may even extend to exporting goods across the borders, which depends on the economic policies of a country. SMEs provide around 80% of total employment in developing countries. Furthermore, SMEs have a responsibility that is central to the creation of employment and supporting the viability of their growth process (Todtling and Kaufmann, 2002).

From the corporate point of view, SMEs are organised in the shape of sole ownership in smaller companies, and as limited liability companies. In most of

the cases, SMEs occur as family businesses. Access to new technologies and new activities are now difficult to deal with by existing entrepreneurs. Moreover, access to credit is one of the common denominators which have created difficulties for the sector. However, the thrust of entrepreneurs, upgrading and training of professionals and entrepreneurs, and support of government and educational programs show a glimpse into a brighter future for SMEs. It is essential for an organisation to incorporate training, corporate responsibility, and quality of goods and services, which constitute the very foundation of business success.

SMEs have been associated with job creation without inquiring too much into the subject. This assertion is based on the idea that these companies use more labour and less capital than large companies, which in turn is associated with the reality of a growing supply of labour, and the chronic shortage of capital. However, this argument is not quite true. There are micro enterprises as well (Todtling and Kaufmann, 2002). There is also a tendency to consider only manufacturing SMEs being that they cover a multitude of activities. Therefore, it is necessary to take into account certain considerations to establish the relationship between small and medium enterprises and employment generation. It is imperative to explain the differences between formal and marginal SMEs. The former are handled within the legal market, have a high level of capital and use of technology is important for them. Furthermore, they are often linked to big business. The latter are usually small production units which are characterised by low capital endowment, production of an artisan and a combination of wage labour and family (Wattanapruttipaisan, 2003).

An important phenomenon, related to the recovery of SMEs, is the fall of the profit rates of large companies during the '60s and '80s, which led to the incorporation of technology and changes in the organisational work by passing part of their production to smaller companies. With regard to the first group, labour policies are also linked to the strategies that affect large companies in the field. Therefore, the government's actions in making the issue should be addressed to ensure compliance with the laws that protect workers. In contrast, the second group can become a potential source of employment generation.

However, it depends on the degree of economic recovery, and the existence of government policies and technical and credit support (Arocena and Sutz, 2000).

3.3.2 The Role of SMEs in National Economies

The majority of SMEs employ not more than 20 people. They contribute to national economies by providing jobs, which significantly reduces unemployment in developing countries. SMEs are effective not only in the consumer sector, but also as producers of individual units and small machinery, intermediate goods and other items needed to produce the final product, whose production is unprofitable to large enterprises. All this justifies the need for an integrated approach to defining the role and place of SMEs in the national economy (Balzat & Hanusch, 2004).

SMEs significantly contribute to the gross domestic product. SMEs may incorporate the manufacturing sector, construction businesses, wholesale trade, and the service sector. These sectors are also comprised of large companies. However, the role and contribution of SMEs in such sectors to the national economy is significant. Moreover, SMEs provide for the creation and development of about half of all innovations in the economies of developing countries falling within the scope of scientific and technological progress. SMEs generate healthy competition, which means full control of the economy, including the free development and diversity of ownership, and opposition to the monopoly of big companies (Anuchitworawong *et al,* 2006).

SMEs revive investment activity, as overflow resources into a small economy entails radical changes in the whole structure of economic turnover. Most significantly, they are associated with the emergence of the regional economy as a complex work, based mainly on the local market for industrial and agricultural production, building organisations, units of production and social infrastructure. A quality management, which is a must for any SME in an economy, should be carried out in terms of maximum efficiency. There is a significant role for SMEs in the national economy. The national economy is the constant challenge of strengthening the competitiveness of its manufacturing and service industries, mainly in the field of SMEs, which constitute the real engine of the economies of developing countries (Wattanapruttipaisan, 2003).

In a highly competitive environment for SMEs, there are stagnant sales along with unchanged prices. As a result, the best alternative is to improve the costs, including one of the most important which is the cost generated by the lack of quality (waste, rework, customer complaints). Therefore, quality management is a must for any SME in an economic sector, which should be carried out in terms of maximum efficiency. However, to develop an effective quality system, an SME must overcome the drawbacks derived from its own conditions:

1. Small size and lack of economies of scale.
2. Frequent lack of infrastructure.
3. Lack of trained human resources and culture in the area of adequate quality.
4. Inadequate resources and material resources to develop projects for implementation and improvement of quality systems, and so on.

In this way, SMEs can overcome efficiency issues and contribute more effectively toward the development of national economies.

3.4 CHARACTERISTICS OF SMES

An economic unit of production and decision-making, by organising and coordinating a number of factors (capital and labour), aims to make profit by producing and selling products in the markets. The definition of a business regardless of its size or place of origin is the same anywhere in the world. It is due to the similar characteristics each business must share, which are essential to call them a business (Arocena and Sutz, 2000).

One of the most deeply rooted opinions that prevail in the Western world is, "... SMEs do not have significant contributions toward the economy of countries and that sooner or later its role will diminish significantly "(Audretsch, 2004:267). The prediction was such as they used the example of the manufacturing sector, where large firms were superior to small once in all aspects, economic productivity, technological advancement, job security and compensation.

In evidence to the contrary, in the mid-70s, the structure of the manufacturing sector in most developed countries began to show "cracks" and left best performing small businesses. As for the production of steel, "mini-mills" were created and rapidly expanded, while the large plants were closed and the number of workers was reduced (Caputo *et al*, 2002).

A precise definition which identifies a small business does not exist. However, there are at least four characteristics:

1. The small businesses play significant roles in the process of technological change, and are a source of considerable innovative activity.
2. SMEs act as agents of change in a globalised economy which is generating a lot of turbulence. Competition creates an additional dimension that cannot capture the traditional and static market structures.
3. An international level creates a level of market positioning and promotion of competition.
4. Small and medium enterprises are a source of job creation.

3.4.1 Features

Once the company has been defined, we can expand more on its characteristics, observing the relationship it has with its definition. Therefore, any company will have the following characteristics:

1. It has human, capital, technical and financial resources.
2. It engages in economic activities related to production, and the distribution of goods and services that satisfy human needs.
3. It combines factors of production through the processes of work, technical and social relations of production.
4. It plans activities according to the objectives it seeks to achieve.
5. It is an extremely significant social organisation that is part of an economic and social environment of a country.
6. It plays a significant part in the process of growth, and social and economic development.
7. To survive, it must compete with other companies, requiring modernisation, rationalisation and programming.
8. The business development model is based on notions of risk, profit and market.

9. It is the place where people develop and combine capital and labour, by administration, coordination and integration, which are the functions of an organisation.

10. Competition and industrial developments promote the efficient operation of the company.

11. A company is influenced by everything that happens in the natural, social, economic and political environment, while their activities impact social dynamics.

3.4.1.1 Features of SMEs

Generally, all small and medium enterprises (SMEs) share almost the same characteristics. Therefore, one might say that the following are the general characteristics of SMEs:

1. It may be a combination of several small-business activities;

2. Lack of specialisation, the desire for maximum self-reliance;

3. Low technological level and low-technology equipment, combined with significant potential for innovation;

4. Relatively high level of skills and low level of management, high adaptability to difficult economic conditions;

5. Inadequate infrastructure to support small businesses, which prevents the desire to successfully operate small businesses entering the international market, the lack of complete and accurate information on the status and market conditions, inadequate information systems and consulting services;

6. Little or no expertise in administration: in essence, a single person may be in charge, who has very few assistants and in most cases is not trained to perform this function.

7. Lack of access to capital: it is a problem that occurs for two main reasons which are firstly ignorance of small business owners that there are funding sources and how they operate; the second is the lack of knowledge about the best way to describe the situation of their business and their needs to potential funders.

8. Close personal contact with the director of the company: the ease with which the director is in direct contact with subordinates is a very positive aspect that facilitates communication.

9. Position dominated by low consumption: given their size, SMEs are considered to have a limited or small market, so their operations do not have a significant impact on the market

10. Close relationship with the local community because of their limited resources in all aspects, especially small businesses are linked to the local community, which provides goods, administrative personnel, skilled and unskilled labour, raw materials, equipment.

3.4.1.2 Role of SMEs employment in Developing Countries

The need for job creation and employment has become an important agenda for policy makers. How do small and medium enterprises (SMEs) function to create job opportunities, and economic development? Organisations are prepared to invest heavily in the development of SMEs. Nonetheless, there is not adequate research or published accounts, which talk about different policies that support SMEs, especially in developing countries. Furthermore, the experimental evidence of the relationship between a firm's size and growth has been mixed.

3.4.1.3 Advantages of Small and Medium Enterprises

This section lists the advantages of SMEs as it is essential to know the benefits which these types of companies provide. The advantages are given according to their size:

Table 3. 5: Comparing between Small and Medium Firms

Small enterprises	Medium enterprises
• They have the ability to generate jobs. • They have the ability to adapt and assimilate technology. • They contribute to regional development as a result of their establishments in various regions. • They can be flexible according to the market size (they can increase or decrease supply when necessary). • They require their employees to have simple knowledge, which provides solutions to problems in hand (for the low occupancy of staff). • The planning and organization do not require much capital. • They maintain control units to allow an adequate link between the administrative and operational functions. • They produce and sell goods and services at competitive prices (because their expenses are not excessive and they generate significant profits)	• They have the ability to expand and adapt to market conditions. • They are highly mobile, which allows them to increase or decrease the size of the plant, and exchange the necessary technical processes. • Through their dynamism, they have the room to grow and turn into big companies. • They have the ability to absorb a significant portion of the population economically, due to their ability to create jobs. • They have the ability to assimilate and adapt to new technologies with relative ease. • They are established in various regions of the country and contribute to local and regional development. • They have effective management, although, in many cases, decisions are influenced by personal opinions or business owners.

SOURCE: ELMANSORI, 2007:15.

3.5 SMES IN ARAB COUNTRIES

The role of SMEs is evident in countries around the world as this sector provides a significant percentage of employment and job opportunities to people, economic development and prosperity. With respect to the Arab countries, SMEs play a significant role in the economic development. In countries such as Egypt, SMEs contribute to 99 per cent of the entire enterprises in the non-agricultural private sector. Moreover, SMEs in Egypt contribute to approximately three-quarters of job opportunities. Similarly in Kuwait, SMEs contribute to nearly 90 per cent of the entire labour force in the private sector and the import of the work force accounts for nearly 45 per cent (Balzat and Hanusch, 2004). In the Lebanon, SMEs account for approximately 95 per cent of the entire businesses, and nearly 90 per cent of the workforce. SMEs in the UAE constitute nearly 95 per cent of the developmental projects along with 60 per cent of the labour force. In addition, SMEs play a significant role in the UAE as they account for nearly 75 per cent of the GDP.

In Yemen, SMEs play a vital role as they constitute an estimated 96 per cent of the gross domestic product, whereas in Algeria, Palestine, and Saudi Arabia, SMEs account for 76, 60, and 26 per cent of the GDPs respectively. There is a need for the governments to focus more on the development of SMEs due to their significant contributions to the economic development as compared to large companies with respect to job generation, efficiency and development. The significant factors which can reinforce SMEs in the Arab countries are as below:

1. Role of SMEs in the reduction of poverty and generation of employment. SME contribute toward a significant percentage of the entire labour force in most of the Arab countries.
2. There are significant contributions of the SMEs to the national economy of the Arab countries, and acceleration of exports and growth.

3.5.1 The importance of SMEs in the Arab countries

According to Elasrag (2007) and Elmansori (2007), SMEs need support and attention for their improvement in developing countries due to the following reasons:

- SMEs constitute about 99% of the total economic institutions in the private non-agricultural sector in Egypt, and contribute around 80% of the total added value produced by the private sector and employ nearly two thirds of the labour force and three quarters of workers in jobs outside the private sector for agriculture. As in Kuwait this sector constitutes about 90% of private institutions, including immigrant labour totalling about 45% of the labour force, employment and the national rate of less than 1%. In Lebanon, they form more than 95% of the total enterprises, and contribute roughly 90% of the jobs. In the United Arab Emirates the SMEs from about 94.3% the economy in the state, and employ about 62% of the labour force and contribute about 75% of the GDP of the State.
- SMEs provide employment opportunities for a broad base of the Arab labour force estimated at about one third of the workforce or more.
- SMEs are involved in the addition to the national economy where this contribution was estimated at about 96% of GDP in Yemen in 2005, and about 77%, 59%, 25% in each of Algeria, Palestine, Saudi Arabia, respectively during the same year, while its contribution ranged between 25% - 40% of the Egyptian GDP.
- SMEs represent a successful way to mobilise small savings and re-inject these in the form of investments.
- SMEs are effective mechanisms in providing goods and services at low cost and price for segments of special citizens with low incomes.
- SMEs represent the basic foundation of the private sector in the Arab States and therefore supporting these projects is to support and strengthen the role of the private sector in economic activity.
- SMEs attract foreign investment: report praised the release of the UNCTAD's leadership role SMEs from the reality of a field survey and study certain situations in the Asian financial crisis in seven Asian countries. The possibility is that these institutions raise their share of Asian foreign direct investment to more than 10%, and that it could attract as much as few foreign investments to enter into joint ventures with foreign partners. This could contribute to the transfer of modern technology and expansion of the productive base and improve product

quality and enhance export capacity, especially in the productive sectors emerging in the country (APO, 2002).

In short, the importance of SMEs is their ability to contribute to the achievement of development, economic and social goals. These are as following:

1. Support for economic growth, prosperity and the economic revitalisation of the wheel.
2. Providing job opportunities.
3. Doubling the value added to the GDP of the economy.
4. Promoting policies to combat unemployment and poverty reduction.
5. The composition of forward and backward linkages in the national economy through supply networks, distribution, maintenance and other terms are mutually complementary and provide large enterprises in services.
6. Encouraging the spirit of innovation, creativity and inventions.
7. Attracting foreign investment and the exploitation of available local resources and market expansion.
8. Contributing to development and human capacity development.
9. Enhancing the competitiveness of the country.
10. The ability to create groupings of competitive production (Clusters), which works to deepen the capital formation through the lines and reciprocal link networks, which seek to deepen the added value generated by these industries.

3.6 OBSTACLES FACING SMES

There are a number of barriers which SMEs can face. These barriers may be considered from the following perspectives: Systems and Communications, Human Resources and Skills Development Knowledge, development of Strategic and Operational Planning, Logistics and Administration materials, Foreign Trade as a lever for development and the Regulatory Framework. In addition, there are other barriers which SMEs may face in the form of Political Influence and Macroeconomic Context in the management of SMEs, Knowledge Resources and Value Added present in these organisations,

Policies, Customer Service and development of Organisational Design (Anuchitworawong et *al*, 2006).

It is assumed that the most significant barriers that prevent the emergence and development of SMEs in most parts of the world have more to do with internal factors and attitudes than external factors. While it seems to have been generally accepted that internal factors carry the most weight, the internal factors also have an increasing influence on the external factors (such as lack of strategic vision and consistent policy making by the state or the effects of macroeconomics in general in the national and international contexts), without means ignoring the incidence of the latter.

3.6.1 Financing Obstacles and Problems Faced by SMEs

SMEs are perceived as high-risk entities, so the banks prefer to divert their resources to larger organisations that can meet their obligations. The heterogeneity of SMEs is a major problem when trying to direct credit and this makes credit more costly for the financial institutions. It automatically reduces the likelihood that a bank is interested even to advance the selection process with requests for the small amounts that SMEs request. A further difficulty is in the underdeveloped capital market (venture capital), which is significantly discussed in the academic institutions. The Arab region shows a strong tradition of debt financing by the companies themselves, which is a serious problem of democratisation of resources. Regarding the financing conditions for SMEs, a significant number of SMEs have been facing the obstacle of reduced funding (Awang, 2004). According to Eltaweel (2011), academic research on financing of SMEs in the developing world, including North Africa and particularly Libya, remains sparse. Therefore, this research undertakes an empirical study has Libya's current situation of SMEs and addresses the question of whether the financing problem still exists and the obstacles that hinder innovation in SMEs in Libya are discussed in chapter 6.

On the other hand, SMEs have been facing financial issues pertaining to more expensive fees and expenses. Financial institutions have also increased the demands for guarantees and warranties, whereas banks ask SMEs to provide personal guarantees. Besides the above, there are also problems of the tax rate.

Instead of further exemptions, government do not differentiate, nor provide appropriate incentives for these companies, which leads to the weakening of the production network.

3.7 CONCLUSION

This chapter critically explained the role, the importance and contribution of SMEs with a particular focus on the Arab countries. The review indicates that SMEs contribute significantly to all economies. Among their benefits are creating jobs and employment, thus increasing incomes and economic growth; providing auxiliary services to large firms and transforming local firms into large organisations.

Despite these benefits, SMEs are faced with some problems and research on SMEs in the Arab countries is sparse, especially in Libya, which is of particular interest to this study. It is therefore of importance in this study to investigate the obstacles facing the development and improvement of SMEs in Arab countries, with particular interest in Libya. This will ensure a complete understanding of the problems and contributes to the overall aim of this study which will provide guidelines to decision markers (usually governmental institutions) for establishing and implementing the Business Incubators. To complement this, the following chapter reviews the Business Incubators.

CHAPTER FOUR
BUSINESS INCUBATORS

CHAPTER FOUR- BUSINESS INCUBATORS

ABSTRACT

The chapter provides a comprehensive review of definitions, types, strategies and programmes of business incubation. This chapter also addresses the processes of incubation programmes, which comprise the start-up stage, early point and expansion stage. Furthermore, the statistical evaluations of business incubators around the world are discussed. This indicates the growing establishment of business incubators in developed countries, and some developing countries, but not as much as in the Arab countries.

4.1 INTRODUCTION

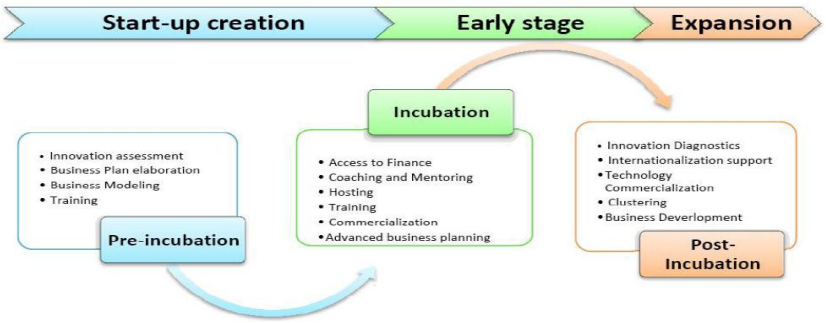
UKBI, (2011:3) sees business incubation as a powerful tool that supports the creation and development of SMEs. The structure and functions of an incubator depends on local and national needs. Well-structured business incubators will provide some of critical resources and services needed to enable the survival and growth of small businesses. Despite the different types of business incubators, their processes and services are generally similar (United Nations Industrial Development Organisation, 1999:85). The major role of Business Incubators is to help entrepreneurs start or expand their business by providing various functions in a supportive environment for business. They are composed of services that provide work spaces, utilities, facilities, equipment, cafeterias, post office, banks; and soft services that provide coaching, mentoring, making an effective business plan, counselling, legal advice, upgrading skills and techniques, networking, links to industries, access to market channels, assistance with intellectual property protection, financial resources for R&D, access to capitals, access to potential private investors and strategic partners, administrative services, finance and accounting, and other shared services (UKBI, 2011). It is widely recognised that SMEs during the start-up period face many unavoidable difficulties and challenges in bringing their businesses to life (United Nations Industrial Development Organisation, 1999:85). Therefore, many early-stage companies choose to locate themselves in science parks or in business incubators in order to take advantage of their supportive services during the period of the development of their businesses. They can obtain

privileged links to universities and research centres; access to bespoke facilities and equipment; and dedicated support from business advisers. Such business incubation is significant in the current competitive business environment due to some of the main issues that SMEs come across. These issues include the lack of capital for business start-up, liability, and absence of enough resources to continue the operations. One imperative solution to these issues is the business incubation that facilitates the SMEs in the new venture process, and allows technical development of growth sustainability. This paper discusses the business incubation with respect to its role and impact in the economic growth in developing and developed countries. It also highlights the basic concepts, type and services related to business incubation.

4.2 THE BUSINESS INCUBATION PROCESS

According to Zuping, (2007) in widespread practice, business incubators support the process of nurturing small and start-up businesses to relative maturity in order to become self-sustaining, healthy, wealth generating entities of the economy (Wagner, 2006:569). Business incubators set the entry criteria to select potential entrepreneurs. Only entrepreneurs with feasible projects are selected into the incubators. In general practice, the exit policy for graduates of the non-profit/publicly-funded incubators typically have established limits on how long an incubate or a tenant can stay in the incubator (Zuping, 2007: 35-61). Some incubators set this limit at 3-5 years, while for-profit incubators usually leave it more open. Figure 4.1 illustrates the three stages of incubation.

Figure 4. 1: Three phases of incubation



Source: Aurmo,(2011:23).

4.2.1 History

It is believed that the first Business Incubator appeared in 1952 in Batavia, New York and the process of incubation became an industry in the 1980s. In Europe the first Business Incubator appeared in Great Britain in the 1980s. In Romania the first Technological Business Incubator was created in March 1992 (Tiberius, 2010). However, then it was a single project and the real popularity of this form of business organisation was out of the question. The actual development of business incubators has been overseas, since the beginning of the computer revolution (around 80 years ago). However, even if they are not created for the development of technological enterprises, they just had to fill some dense areas and create jobs (Greene and Butler, 1996:51-58). Business incubators have coped with this task with enthusiasm. Today, this form of assistance to businesses can be found in virtually every country. Throughout the world, business incubators help entrepreneurs develop their business in the early stage, providing significant benefits and assistance (Wagner, 2006:56). Benefits are typically expressed in the provision of cheap rent offices and all the necessary equipment (printers, computers), infrastructure (dining room- usually a simple kitchen, meeting room and so on) (Greene and Butler,1996: 51-58). At the same time, there are always a large number of companies for which the infrastructure is shared. All firms in the incubator are beginners (It is rare that some company uses a business incubator for more than 3 years).

In the context of the help start-ups receive, firstly, there is an entire infrastructure around the business. An individual can build business relationships, find partners, suppliers, or sometimes just get some expert advice (Greenwood, 1992:3-6). Secondly, the owners of incubators provide entrepreneurs with preferential access to the services of accountants and consultants (if incubators are working in a university, the consultants, usually free of charge, are the teachers and already existing businesses). In addition, incubators often help entrepreneurs find investors. It is an absolutely normal situation when a trader warrants the organisers of the incubator (Zuping, 2007: 55). They can usually even be responsible for implementing the business plan (this situation is typically observed in cases when it comes to university incubators). Guegan's (2000:23) view is that for investors, business incubators

are a great place for the simple reason that they represented a variety of promising projects that are already running. Anyone needs only select those that are able to be interested his idea. In turn, we should understand that companies generally go out of business incubators, surrendering themselves into the hands of investors. Usually this is as follows: at the stage of sowing the company helps business incubator, which appears the first version of the product. Then comes an investor who invests in a company and it goes beyond the incubator.

It is not known exactly when incubators arose in other parts of the world such as the USA. The first signs of their existence appear to the closure of a factory in Batavia, USA, in the decade 1950, as constructions of multiple leases started new businesses in the late 1970s (UKBI, 2011). It is in the United States where this tool of economic development started. In the late 1970s the Economic Development Administration (EDA) and the National Science Foundation (NSF) set about assessing the impact of business incubators (UKBI, 2011). The NSF, for example, founded the first incubator technological base. Later in the 1980s, other organisations, NGOs were also beginning to promote and create incubators. Such is the case of the U.S. Small Business Administration (World Development Report, 1997:10). Apparently, this was the period of greatest boom which began an unusual interest in this type of mechanism, and communities began to establish business incubators as a specific tool to achieve development goals.

The incubators were first mixed-use businesses and then industries began to emerge specific incubators such as empowerment, heavy manufacturing, food processing, biomedical and computer programs (Thierstein and Wilhelm, 2001: 15–31). In January 1990, over 385 business incubators were operating in the United States, a number that rose to 530 in 1996 (World Development Report, 1997:16). The industry has been growing at a steady rate since the early eighties. For example, in United States January to August 1999 the number of incubators rose to six months, and September to December 2000, became 25 (Wolfe, 2000:56). long with these indices has the number of incubators in other countries (80 in the former Soviet Union, 600 in Western Europe, 210 in the

East, 50 in Australia, 200 in China and 100 in India), in late 2010 the business incubation programs pass 5,000 (UKBI, 2010: 9). By 2013 there were more than 7000 business incubators worldwide (NBIA, 2013; Al-Mubaraki *et al*, 2014).

Business incubators facilitate entrepreneurship around the world. It is known that in the first year approximately 90% of new companies ceased trading. In cases where companies are formed in a business incubator, only 20% of new firms cease to operate in the first year (UKBI, 2011). It is agreed that these statistics show how business incubators can be useful to entrepreneurs. But these institutions still may help if the company is looking for an investor.

A flexible system of tenancy, and possibly equipment, administrative support (accounting, reporting, secretary, lawyer), shared services, advice in establishing contacts and concluding business deals, as well as proximity to the similar active and dynamic young entrepreneurs is the assistance provided by the incubator to overcome the difficulties of the initial stages (UKBI, 2011). Business incubators designed to revive the collapsed business activity in regions with the unused industrial infrastructure market. These incubators have the support of local authorities and fulfil the social function of reducing unemployment and using the assets, in consequence, by increasing tax revenues to the “grown up” in such business incubator companies (Wolfe, 2000:54).

The first incubators of this type, and business incubators in principle, have appeared in the last 50 years in the USA. However, the most widely used business incubators especially after 1983 were in the U.S (Mian, 1997: 251-285). In the past ten years, their number has increased from less than 100 to 575, united in the National Association of Business Incubators. Incubators, created under the scheme, opened the free areas of plants and factories in the former warehouses, schools, restored buildings, in general, in any room that could be adapted for forming and nursing a small business. They are designed to support and accelerate the innovation and entrepreneurial activity at universities (OECD, 2001:139).

4.3 KEY DEFINITIONS

4.3.1 Different Scholarly Reviews

According to Wagner, (2006), business incubators are a shared office space facilitate that provide another company with the value adding intervention system in assisting the business. This system controls the resources with the objectives of facilitating the new venture is development while monitoring the cost of their potential failure. In contrast to this definition by Wagner, the view of O'Shea and Stevens, (1998) is that the most effective business incubators are those which have been provide by the government since the government supported view is that the BIs need to include all the types of the companies. Wolfe, (2000) believes that the business incubators are best when making money from the renting of offices or the real estate. In light of this view, they are required to support the companies in deciding to solve the problem of getting an office space.

Campbell *et al*, (1985) established a framework that offered the link of the incubator and incubation to the process of business development. This framework recommends the four areas where the incubator-incubation process creates value, that is, the analysis of the business need, the choice of the monitored application of the business service, the financial provision and the provision of the access to the network of the incubator. In comparison to the definitions of Wagner and Wolfe, this definition also describes the business facilitation view in the context of the benefits received by the incubators.

Seconding Wagner's definition, according to a report by UKBI (2011) a Business Incubator is an entity that provides space and assistance in the 'Acceleration' of the successful development of an entrepreneurial venture. Their role goes beyond functioning as a landlord advisor (Samsonova, 1997: 84). The main goal of an incubator is 'producing' successful companies that leave the program when they are independent and financially viable; this is when people are 'graduating'. Companies leaving the incubator graduate with great potential to create jobs, revitalise the local economy, commercialise new technologies and strengthen the economy on regional and countrywide grounds.

A Business incubator is a structure that specialises in creating favourable conditions for the emergence and effective functioning of small innovation (venture capital) firms that implement the original scientific and practical ideas. This is achieved by providing these firms the material, information, consulting and other services required. A more holistic view of Business Incubation has been given by Markley and McNamara, (1996):

1. Providing space for offices / workshops on a rental basis, often (in some cities / centres) at below market prices with flexible terms for more space on demand.
2. Administrative and technical services (telephone, copying, rooms for conferences / meetings, secretariat).
3. Consulting / business planning for both beginners and potential entrepreneurs.

Similarly, following up on the above characteristics, Albert and Gaynor (2001:6), defined the incubator as a 'collective and temporary place for accommodating companies which offers space, assistance and services suited to the needs of companies being launched or recently founded'. They identified four principle characteristics which are: the availability of modular and expandable space to rent for a limited period; access to shared cost services relating principally to administrative functions; access to management or technological support as well as privileged access to business and scientific communities; and a place for interaction between companies and for morale support coordinated by the management team.

4.3.2 Differences among the Definitions

The main difference among these definitions is the area where they define the benefits of incubation. For example, Wagner, (2006) defined incubators as the most feasible for the start-up business, whereas Campbell *et al*, (1985) believe that they are workable when the business needs to sustain growth. Harley, (2002) believes that the incubation is significant for the technological innovation. Therefore, the significant definition differences are in the context of the nature of the benefits that incubation provides to the business.

4.3.3 Selecting the Best Definition in Understanding Business Incubators

The definitions by Wagner, (2006), Campbell *et al*, (1985), and Wolfe, (2000) can be adopted as these definitions provide a holistic purpose of the business incubation instead of focusing on any one area that incubation facilitates. It is also possible to conclude a wide range of other (consulting) services, technology transfer, proposals for workshops and training sessions. These definitions are selected on the basis of the fact that they provide an operational view of the business incubation process. The main task of business incubators is to help those who open their own business, especially in the initial stage. The greatest benefit to entrepreneurs in business incubators is to generate full concentration on the business objectives and reduce costs for administrative staff. The ease of incubator schemes for venture capitalists is that they can thus control a number of parameters of their customers, while creating conditions for their work. These incubators provide support, for high-tech firms and non-technological entrepreneurship (Samsonova, 1997: 86).

An example of the successful development of an incubator for the third scheme can serve as a business incubator in Austin, Texas (Austin Technology Incubator). It was established in 1989 and then occupied a small area of only 400 square meters. However, in 1997, its area increased to 20,000 square meters, and the number of companies belonging to it had increased to 28 (Guegan, 2000: 52-61). Now the total capital of these companies has reached $ 100 million. 90% of all the companies that were born here are developing successfully (Guegan, 2000, 52-61). At the same time, 33 companies were released from the hatchery to float freely, and 6 of them are publicly listed. Business incubators have been so successful as a form of support for new businesses in recent years, their number continues to grow rapidly, but not only in the U.S., where they joined the National Association of Business Incubators, but also in other countries around the world. Around the world, there are already more than 7,000 independently operating business incubators (NBIA, 2013; Al-Mubaraki *et al*, 2014). After the U.S. the most common were in Western Europe (O'Shea, 1998: 398).

4.4 TYPES OF INCUBATORS

An incubation programme can be classified according to its specific area and its property. The most common is for a specific area: technology-based, using multiple micro types. In developed countries, there can be an incubators sector (e.g. services, manufacturing and commercial). According to property (and even administration) there can be incubators including public, private (profit or non-profit), and educational ventures. Although these different types of incubators are active and have general services, the goals may be different. For example, while the purpose of technology incubators (public or private) is to develop and commercialise new technologies, a micro-incubator type of rehabilitation, usually public, could focus on "building" companies to thrive in a community with great industrial backwardness (Greenwood, 1992: 6). The types of business incubators are discussed below.

4.4.1 By Funding

Some of the incubators are characterised on the basis of the funds that they receive. They fall into the category of the incubators by funding. The grants can be in the form of state incubation grants, federal economic development grants. They are divided into the non-profit and profit grants as seen in the follows section:

4.4.2 Non-Profit Based

According to Hallberg (2002), the non-profit incubators have the following characteristics:

1. Public incubators run by government and non-profit organisations equally promote economic development.
2. Academic-related incubators mainly located in the university or research institutions are for facilitating technology transfers and for stimulating innovation through the interaction of ideas between researchers and entrepreneurs on creating spin-off companies.
3. Joint Public/private incubators are joint efforts or a partnership programs between government and private/not-for-profit organizations to encourage the creation of new entrepreneurs by combining the expertise of the private sector and the use of federal funding (Greene, 1996: 57).

4.4.3 Profit Based

Lalkaka,(1997:11) believes that the profit-based incubators are typically owned by the private sector and seed capital investment groups that are generally seeking a profit return on their investment. In objectives defined by OECD in 1997, the classifications of business incubators were the following:

1. General/Mixed-Use Incubators are incubators committed to promote regional industries and community enterprises.
2. Economic Development Incubators are incubators that stimulate specific economic objectives such as job creation and industrial restructuring.
3. Technology Incubators are incubators that promote the development of technology based firms by encouraging entrepreneurship among researchers and academics (Greene, 1996:58).

4.4.4 By the Stage of the Target Companies

These incubators comprise of the small scale businesses that are at the initial stage of their operation and require funds, or the companies that need to maintain their growth. Usually, the micro companies also fall into this category since they operate in a challenging work environment and need grants.

4.5 SMES AT THE STAGE OF START-UP OR GROWTH

Initially, the SMEs require incubation to seed up the businesses and for this purpose both private and the government aids are available. As they achieve initial success in their operations, they become stable. Gradually, they might need the funds to sustain their operation, thus requiring the incubation at the stage of growth. Incubation has been so far most successful for the small business to either finance their services or to ensure stability in the long run.

4.5.1 Micro-Incubation

The business incubators promote entrepreneurship in areas with major economic challenges, but with little chance of development in the medium and long term. These are regions with large problems of unemployment and subsistence where the private sectors hardly have access. Often these incubators are a mixture of different types of businesses and are usually channelled towards minorities (women and racial groups). They are investments

normally assumed by the State. Incubators can differentiate themselves from the services they offer, their gainful or not, or the type of projects they are targeting (Greene, 1996: 39).

Most incubators are non-profits structures, linked to public or semi-public organisations. Their primary mission is to foster the emergence and implementation of projects to create innovative companies by enhancing the skills and laboratory results of public research and higher education. They can accommodate projects from government research laboratories, but also by different criteria, innovative projects (Campbell *et al*, 1985: 43–49). These incubators can provide professional coaching, and funding for external services such as market research or the filing of a patent, generally on the principle of an advance refund in case of success. A number of engineering schools and business schools have set up incubators to support projects to support businesses of their students, graduates or alumni (Campbell *et al*, 1985: 43-49). These incubators can provide local coaching and privileged access to teachers and researchers from the school. For example, in France, they have the particularity to offer coaching, training and facilitate the link to former students, who themselves succeeded in their entrepreneurial journey (Greene, 1996:46). They allow more easy access to all aid (unsecured loans, other incubators) deemed to be selective and more easily in contact with investors to hold a first round of fundraising. Incubators have been created by economic development agencies or clusters. Some incubators are designed for specific audiences, such as female entrepreneurs.

4.5.2 By Business Focus

The incubation may depend on the nature and the focus of the business. Some of the examples in this area are given in the following sections:

4.5.2.1 Technology Incubator

This type of incubator involves promoting high-tech companies such as software, biotechnology, robotics and instrumentation. The purpose is to create new companies with high value added, based on innovation and technological development (Lalkaka, 1997:65-79). The intermediate technology incubator supports the creation of companies whose requirements of physical

infrastructure, technological and operating mechanisms are semi-skilled and incorporate innovative elements. The incubation time in these centres is approximately 12 months, and includes, for example, simple network development, web applications, and simple technology for the food industry, telecommunications and semi-specialised software. Incubators systems like IT are mostly of such incubators. In terms of the high technology incubator, the support is provided in terms of the establishment of companies in advanced sectors such as information technology and communications, microelectronics, micro electromechanical systems (MES), biotechnology, food and pharmaceutical industries, among others. Projects entering these centres can take up to two years to be hatched.

4.5.2.2 Multiple Use Incubators

The use of multiple incubators drives the generation of companies engaged in different kinds of businesses. There is no focus on the creation of companies in specific niches, but they promote the creation new businesses in a fairly wide area (Lalkaka, 1997: 65-79). Companies can promote services commerce or even manufacturing technology base.

4.6 THE CORE SERVICES

The clients of business incubation are usually start-up firms. For a start-up firm to enter a business incubator program, it has to apply for admission (European Commission Enterprise Directorate-General, 2002: 27). Incubators provide their clients with basic infrastructural support, such as shared office facilities and workshops, as well as business assistance services. Incubators also provide technology-related support including technology transfer programs to their tenant firms. Such value-adding support is expected to enhance the performance of the tenant firms and contribute to their successful graduation.

A business incubator is a programme that aims to facilitate the emerging business enterprises based or traditional or technological development providing assistance to new businesses to survive and grow during the take-off stage, which are most vulnerable. In general, offered a time-limited physical space shared with other companies, and once overcoming this, companies may

choose to graduate to a new location and independence from the incubator (Mian, 1997: 251-285).

The incubator offers business and technical advice management, training and consulting, preferential financing, contacts commercial rents, access to equipment and flexible logistics conditions such as sharing with other firms for water services, energy, communication, computer, maintenance, cleaning and monitoring (European Commission Enterprise Directorate-General, 2002: 27). Thus, the incubated companies can access services necessary for their operation at lower costs than the market. But the incubator concept is not limited to an outline of splitting expenses or shared space and services but is also an incentive program to create competitive firms where selected participants share experiences and information with each other, creating a synergy that contributes to the creativity and capacity gain. In this framework, each business is assisted and monitored separately and is encouraged according to its own stage of growth, unusual needs and relative size, so that the stimulus is appropriate in each case (Wagner, 2006: 134).

More specifically, incubators support entrepreneurs with technical, financial, logistics and project markets. They also provide legal services and advise on administrative and marketing plans, advertising and public relations.

Since the aim of creating business incubators is to have a long-term impact, and because of the limited resources with which these organisations operate, the management teams of incubators have established selection criteria for candidates to join projects of their work patterns. Among the criteria that score high on these selection processes are: technical, economic and financial projects, industry, quality of entrepreneurial team members as well as adaptation to the specific objectives of the incubator.

Once an incubator entrepreneur has accepted the proposal, this draft goes through a process of variable length according to the type of project but is usually divided into stages of pre-incubation, post-incubation and incubation. In the classical approach, the incubator supports companies that are already established, or often the company was formed at the start of cooperation with

the incubator. However, the incubator does not remove all barriers to the development of new business.

Often there are problems that prevent the development of the projects, and even threaten the existence of the company. In that way the incubator will in no way be a remedy. Some of them are common, but there are new, specific issues for business stemming from the scientific community. This can be particularly difficult due to the personality of the trader. The new entrepreneur is usually an expert in their field, from which the product or service is offered by the company, but he does not have sufficient knowledge of economic, financial or legal advice. It may also happen that the person is doing well in academic work, but the team does not have the typical characteristics of an entrepreneurial attitude.

In the context of the role of universities in a knowledge-based economy, it is important to support the process of innovation, with particular emphasis on the fact that the company is formed in the environment or in the vicinity of the academic centre, and entrepreneurs are academics, teaching the students and PhD students. Traditional measures to support entrepreneurship focus their attention on helping the newly formed company. Meanwhile, academic entrepreneurship is crucial to assist the person or group of people who decide to convert their knowledge, experience and research results in a commercial product or service. The purpose of this is to develop the sense to help make decisions about business, rather than the development of the activity itself.

Often, they also have the assistance permanently an academic institution (In Brazil, 70% of incubators have links with universities). These enterprises also seek multi-sectorial interaction between public and private agencies as well as knowledge sharing and experiences with the institutions of science and technology, promoting the regional and local development by encouraging employment, the creation of value addition, training and industrial restructuring. In the cities, business incubators also act as a mechanism for the revitalisation of certain areas and buildings and spaces are transformed from underutilisation to centres of productivity and competitiveness. A remarkable finding is that 75% of the companies graduating in Brazil decide to remain in the same city, which

means that the development achieved through incubators in the area has an enduring effect, even though the assistance instrument is for a limited time.

Incubators can provide five major types of function: real estate and management of this property: improvements, various installations, rentals meeting rooms, basic services, often time-sharing: secretarial, reception, conference rooms, cafeteria, broadband lines, etc., consulting services and assistance that may be relevant to both operations daily (legal, personnel, banking relationships, accounting) and aspects strategic advice, developed in business plans, marketing consulting, financial advisory, industrial property, training in various aspects of management and coaching and establishing a relationship through financial networks, technological, commercial allow the company to have access to partners, customers (Al-Mubaraki *et al* , 2010:8).

4.7 ENTERPRISE DEVELOPMENT

The mission of a business incubation program is to help entrepreneurs in the formation and development of a new company or product and service for this can survive and be successful. To do this, an incubation programme provides a framework that helps with the process by which an entrepreneur develops a business concept and transforms it into a viable commercial enterprise. A successful incubation programme focuses on the implementation phase of a signature, and provides support to transform a business, not just to maintain the existing situation of a company. For example, an engineer and a seller, both lovers of cycling, raise a common idea for a new shift system. They enter programme incubation with a concept, a business plan and a minimum capital. Three years later they have built $ 5 million, have a staff of 12 people and an international list of clients. There is often a large distance between the starting points to the destination point (UKBI, 2011).

The aim of an entrepreneur is to create or capitalise on new opportunities through profitable innovation, finding new solutions to existing problems or connecting existing solutions with unmet needs or new opportunities. In other words, the challenge for entrepreneurs is to create a product or service and to be commercially successful. The employer acts as a broker between what is desirable from an economic point of view and what is possible from a viewpoint

of technology. The definition of innovative or entrepreneurial behaviour always corresponds to some context or set of circumstances (O'Shea and Stevens, 1998:369-401). What is innovative in one context may not be in another. Typically, the management team in place at an incubator has to record and present periodic data that report their effectiveness in successfully graduating clients, recruiting new clients, and managing the daily operating requirements of the incubator. While each incubator may already collect and report such information to support the specific requirements of their supporters, there is currently no single source of information which could allow state government and national agencies to target effectively the business incubators based on their task, need, and development. Many stakeholders will want to consider the performance and effectiveness of the business incubator they support or affiliate with (UKBI, 2011).

During the pre-incubation stage entrepreneurs learn to develop their business plan, using all the necessary tools to enable them to define and realise the idea here, where quality, professionalism and entrepreneurship is a hallmark. Business training, counselling, business links and links are vital for the process of entrepreneurial learning. This stage lasts 3 to 6 months, depending on the time it takes the entrepreneur to conclude its business plan.

Once the entrepreneur has developed his idea into a defined and approved plan, the incubating companies receive all the support for this and have the powers and abilities necessary for the development, operation and consolidation of the company, through a series of integrated services ranging from physical installation to business support (training, business, personal tutoring, and specialised counselling, among others).

Post-incubation occurs when the company undertakes its development and growth outside the Business Incubator Physics, in which the support offered, is specialised business training, personal tutoring, and a business assessment by a public or private among other services.

The Incubation process is imperative in identifying and structuring business ideas with business potential, with elements of differentiation, innovation and

value added at different stages of the business process that is accompanied by the entrepreneur in making the business plan and the initial concepts of modern business management. Business Incubators offer specialised tutoring services, advice on strategy, management training, information, guidance, and business links. For the design, development and completion of the business plan, the business incubation process ensures that each project is in a controlled environment to develop the process of conceptualisation, structuring, simulation and planning activities.

4.8 STATISTICS OF INCUBATORS WORLDWIDE

The business incubator concept took its first steps in the 1950s in Batavia, NY, in 1959, and in 2009 celebrates its 50th anniversary, which created an industrial park and, later, a technology park (Stanford Research Park), with the aim of promoting the transfer of technology developed at the University to enterprises and creating new technology-intensive companies, mainly in the electronics sector. The success of that experience stimulated the replication of similar initiatives in other locations inside and outside the United States. In Europe, incubators emerged first in England, subsidised by the British Steel Corporation, which stimulated the creation of small businesses in fields related to steel production. The current structure of the Incubator was set in the seventies, back in the United States. From the end of this decade and the early eighties in Western Europe, local governments, universities and financial institutions met to evaluate the process of industrialisation of less developed companies or under decline due to the recession of the seventies and eighties (UKBI, 2011).

The motivation was economic and social, envisioning the creation of jobs, income generation and economic development. European incubators were designed, therefore, within the context of government policies that were aimed at promoting regional development so that, in addition to new technology-oriented companies, incorporated companies in traditional areas of the economy. The international incubator concept has been successfully applied in the whole world, but America is certainly the most advanced nation in the creation and operation of business incubators, according to estimates by the National Association of Business Incubators (NBIA) in 1980 There were 80

incubators throughout the country, a figure that increased to about 500, by the year 1994, there were about 1000 incubators (O'Shea and, Stevens, 1998: 369-401). Between 1995 and 2000 the incubator rate of growth was one per week. Currently we can find business incubation programs in virtually all leading world economies, as well as in many developing countries such as China, India, Mexico, Brazil, Turkey and Poland, among others.

The Latin American country most advanced in the development of business incubators is Brazil, which began working on incubation in 1984 when five foundations were created for technology transfer from universities to industry (UKBI, 2011). Later that year the first business incubator was established, which was also the first in Latin America. ANPROTEC was created in 1987 (National Association of Entities Promoting Advanced Technology Ventures) in order to articulate the process of creating business incubators. In 1991, SEBRAE (Brazilian Service to Support Micro and Small Enterprises) began supporting the creation of new incubators by financing feasibility studies, training, and financial support as an alternative within their development projects to create SMEs.

There are approximately 300 business incubators throughout Brazil. In Argentina, there are 33 business incubators and 22 technology parks, but the economic conditions that affect the financial crisis seriously the operation of these; in addition, the lack of a system of economic support and seed capital has so far hindered the development of an efficient network of incubation. In Chile, the emergence of business incubators started in the late eighties, engineers Technical Cooperation Service (SERCOTEC), an institution dedicated to fostering the productivity, and officials of the Municipality of La Cisterna began the task of creating an organisation designed to accommodate potential entrepreneurs to develop their entrepreneurial skills and build their business, from the point of view of their negotiating capacity, production and administrative processes and evolution of their heritage. In doing this, SERCOTEC provided the technical design of the project and the town concurred with a building originally intended for a school, but at that time was in disuse. Furthermore, the City adopted the old school, so it could practice as a

business incubator, according to the design and technical specifications proposed by SERCOTEC (UKBI, 2011).

On January 19, 1990 an agreement was signed in which the municipality loaned free SERCOTEC the property to an institution which, in turn, is committed to managing and promote the activity of small businesses that qualify to be incorporated into the project. Subsequently, new incubators have emerged, the most ancient Santiago Innovation created by the Municipality of Santiago with the support of the European Economic Community and the City of Barcelona. In its fourteen years of operation, the incubator has assisted nearly 9,000 business ventures, incubating 70 new companies. Chile has promoted a model of university-based incubation; under this scheme twenty one incubators have been established, the most successful of these are Octantis, University Adolfo and 3IE Technical University Federico Santa Maria. Each one has managed to generate about 20 companies in 4 years of operation. In the Sixth Region, the Municipality of Rancagua made an attempt to create a business incubator focused on the generation of small manufacturing firms. However, the incubation model has limitations in generating the flow of projects and unclear policies required graduation incubated companies, made this refuse to independence from the incubator, which prevented the entry of new projects (Thierstein and Wilhelm, 2001: 22).

Business leaders have increasingly recognised the need to encourage, and more, not to discourage these programmes. Economists now agree that there are direct links between the level of entrepreneurship and innovation and economic growth. As the performance of start-ups depends on many sociological, economic, financial, technological, fiscal, legislative and institutional factors, government pay them now greater attention (Wennekers and Thurik, 1999). The OECD and the European Union, among others, make entrepreneurship a priority of economic policy. Recognising the fragile nature of new businesses established to competitors, so it is seemed useful to help to balance the competitive situations in their favour and gradually appeared in public systems of support for business creation, using a range of levers: tax benefits, derogatory status and training (O'Shea and Stevens, 1998: 369-401).

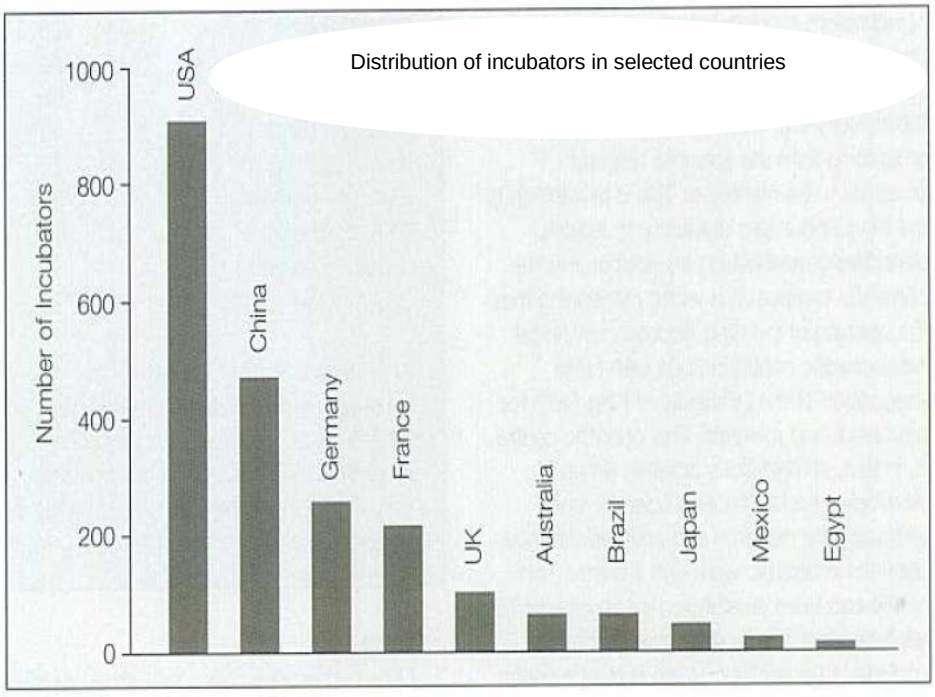
Among these tools, incubators (before creation) and nursery (after creation) appeared convenient means to welcome, advise and meet ups. In 30 years, incubators have been proven, have spread worldwide, and in recent years have been created by a growing number of economic actors (the local governments and universities in large companies). Their business models have evolved, their objectives have diversified, and with experience, a specific business accompanist developer of new companies was born (Thierstein and Wilhelm, 2001). Today, incubation is a business, recognised by the U.S. industry - which has its methods, tools, its standards, its appropriate structures. It is still a young business, constantly changing. While for 20 years, the incubators were existing structures of parastatals local economic development, a new breed of private incubators was born with the Internet; they are enriching and complicating the landscape (Thierstein and Wilhelm, 2001). Business incubators in the world emerged first in the U.S. and Europe during the decade of the 50's. In the latter country, the first experience is the technology-based incubator in Silicon Valley, California, in the directly involved Stanford University (NBIA, 2011).

After five years, the average survival rate of the enterprises that were born and developed in Business and Innovation Centres is around 89%, which is higher than the average Europeans do not reach 50% for companies that were created without any assistance, after ten years, the success rate remains above 80%. In the Latin American countries, incubators emerged in the mid-1980s, achieving a substantial growth in the 90s. As often, the transfer of the experiences of industrialised countries to Latin America has been incomplete and not always validated or adapted to the circumstances of the region. With the exception of Brazil, there is few reflections theory in this area.

All experiences in the region are recent, so it is premature to conclude on the success or failure of the same. In 1987, there were in Brazil 2 incubators. In June 2000, the number had risen to 135, an increase of 35% last year. In the number of incubated companies, this amounts to 1,100 which employ 5,200 people who are generally highly qualified. Moreover, the graduated in 2000 were 450, contributing to the maintenance of another 2800 jobs (Thierstein and Wilhelm, 2001). With respect to Argentina's experience, the institution that

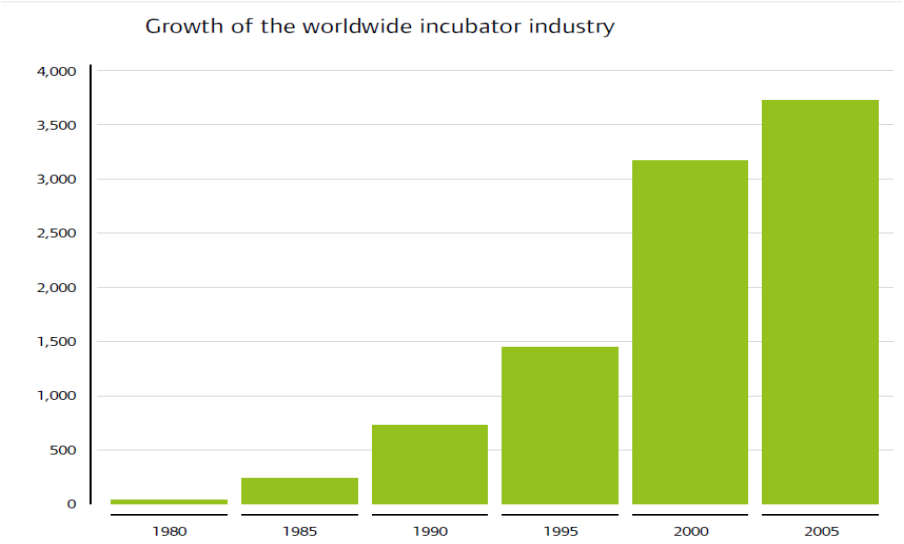
brings together the incubators is the Association of Business Incubators, Parks and Poles Technology of Argentina (AIPyPT), where the relative share of universities is 57%, 14% of municipalities and associations of 29%. Partners and supporters include the Polo Tecnologico Constituent Foundation for Business Incubation of Cordoba National University Lujan, the Foundation General Pacheco, Buenos Aires Industrial Park Moron- the Cantabrian Argentina, UBATEC SA., EMPRETEC, University of Technology National PRODIAF, Technological Park of Mendoza, Industrial Union of Quilmes and the Buenos Aires Institute of Business Development (IBD). For the year 2000, AIPyPT received contributions from the national government and the IBD, some of which were non-refundable. They are currently operating within AIPyPT 55 incubators, of which 61% is dedicated to assisting utilities. On the other hand, the International Trademark Association (INTA) plans to create seven innovation parks Rafaela technological, Marcos Juarez, Parchment, Castelar, Balcarce, Upper Valley and Mendoza, in which a function will be to incubate companies' based on technology.

Figure 4. 2: Distribution of incubators in selected countries



SOURCE: http://www.nabil-shalaby.com, 2012.

Figure 4. 3: Growth of the worldwide incubator industry



SOURCE: ZUPING, 2007.

4.9 THE ROLE OF INCUBATORS IN DEVELOPED AND DEVELOPING COUNTRIES

The most developed economy in the countries in the world today is based on the growth of high tech. Exports of computers and software for them, as well as multimedia content, has allowed companies such as Intel, Cisco, Microsoft or IBM to turn from small firms to large multinational corporations and the U.S., country which is home to these companies, to one of the leading world powers. However, in order for innovation to work and generate income, the country had to make no slight effort, because the investment in any business during its inception around the world is considered unstable (or venture capital). To minimise these risks the country needs to support the company in the making. This situation has determined the appearance of reputed business incubators (Thierstein and Wilhelm, 2001).

The idea of business incubation as such is not new. Such institutions were introduced in the U.S. and UK in the late 1950s and early 1960s. The well-known Silicon Valley has become a launching pad for the development and cultivation of ideas of business support in the early stages of its development. The fact is that no more than 20% of all new businesses survive in a capitalist

market, despite the fact that the basis for the remaining 80% may lie with quite productive and innovative ideas (Markley and McNamara, 1996:17-27). Hence, absolutely, logically, the solution is to facilitate the early, most difficult stage when the founders of the company lack the experience and capabilities, both financial and administrative, to solve problems. With the help of business incubators can be reduced to 60-80% survival rate (National Business Incubation Association, 2000).

The progenitor of the modern business incubators can be considered the industrial park at Stanford University. Its start was when graduates of Stanford, William Hewlett and David Packard Professor Terman of instruction founded this private company on the industrial development of the oscillator, having received financial and advisory support. Hewlett-Packard - the world leader in the manufacture of personal computers and peripheral devices for them was the first venture project in Silicon Valley. Industrial park itself was finally formed in 1951. By the time, of filling 100% (in 1980) it has hosted 90 companies employing about 25 million people (three times more than were participating in the university). The business incubator, in its modern form emerged in Batavia, NY, in 1959, and in 2009 celebrates its 50th anniversary. The model was so successful that the number of incubators and innovative companies and themselves increased rapidly. Naturally the U.S. experience has been adopted in other countries, after adjusting for socio-cultural aspects of business and investment. A conditionally divided model of building a venture capitalist company outside the United States can be put into four categories (Harley, 2002: 96-103):

1. Development of leading technologies is used exclusively for the domestic market; narrowly focused companies produce products or content imported technologies.
2. Technology sector sells services: contact programming, business outsourcing, and contact production. Such a path is India, China and other East Asian countries, as well as Brazil and Mexico.
3. The country exports ready-made their unique technologies. This is the highest level of development. Scandinavian countries, Israel and Canada

are developing this approach. Accordingly, its implementation requires more resources, but the output is a product with higher added value.

4. The Governments of France and Germany strongly influence the economy and market, respectively innovations here are in proximity to the state apparatus, in other words, universities, combined into a single network, get some financing of innovative projects, becoming the likeness of the American business incubators (National Business Incubation Association, 1997: 83).

Table 4. 1: Ratio of performance indicators of incubators in selected countries

Incubators	Ratio of performance indicators over the years'			
	Companies created with the centre's support	Companies graduated from the incubator	Entrepreneurs assisted	Jobs created with the centre's support
Belgium (Innotek)	4.52	1.09	43.48	50.00
Belgium (La Maison de l' Enterprise)	12.43	12.43	93.00	41.57
France (PREMICE- Pole de Resources et de Management de l'Innovation et de la creation d'entreprises)	4.00	6.82	2.27	141.00
France (Promotech)	15.33	5.47	83.33	40.00
Italy (BIC Lazio)	109.80	3.10	3.10	164.70
Luxemburg (Technoport at the Henri Tudor Research Centre)	4.67	1.00	55.00	26.00
Netherland (Business Development Friesland)	7.88	n.a	12.50	37.50
Portugal (BIC Beira Atlantico)	1.13	0.75	12.50	10.00
Spain (Gipuxkoa Berrilan)	4.88	3.53	9.59	37.65
Spain (Cein Navarra)	85.32	5.42	570.18	185.59

SOURCE: WORLD DEVELOPMENT REPORT, 1997.

A particularly illustrative example is that of Israel as a country that has created a special program of business incubation, in an extremely short period of time. Its feature is that the low-interest loans issued by a development company starts to be paid only after the successful launch of the product companies in the free market. In other words, all the powers of an innovator in bringing the product drop to a logical conclusion, involving third-party investments. All parties interested in the success of projects as part of the company owned. Within two years, the firm must create a prototype product, develop a business plan and prepare for attracting business investment. Projects that were considered unsuccessful and were closed, assume no liability to the State to pay grants (NBIA, 1997: 85).

Since the mid-90s internet projects have received wide distribution. Developed by Russian companies, search engines Yandex and Rambler have become very popular and powerful brands, so they were able to survive the crisis of the early Internet-2000s. Like Israel, the Russian government launched a program to support small businesses in the area of innovative technologies (Markley and McNamara, 1996:27). Together with the regional governments the federal budget plays an equal part in creating innovative business incubators across the country. The evaluation Committee selected the most promising projects, which are placed in an incubator, where companies, according to the international experience, assist in all areas of business. Thus, the appearance of the Nizhny Novgorod Innovation Business Incubator is the result of federal and provincial governments, setting a goal to develop in their region, a high-tech business area using the international experience and best business developments. The detail of the statistics and impact of the business incubators in developed and developing countries is given below:

Table 4. 2: Summary of the countries' economic development

Country	Economic Development	
	No. of Client Firms	No. of Graduated Firms
China	2123	609
Australia	358	90
Bahrain	35	30
Jordan	6	3
Morocco	8	4
Syrian Arabic Republic	7	6
Indonesia	9	11
Philippines	13	2
Thailand	173	145
Total	**2732**	**900**

SOURCE: WORLD DEVELOPMENT REPORT, 1997.

UK

According to UKBI, there are over 300 incubators containing more than 12,000 companies in the UK. Interestingly, the scheme regularly attracts private investors to finance the venture capital firms and university incubators or business incubators. In particular, now works as the Oxford Centre for Innovation in the UK. To date, incubators are formed in an equivocal fashion,

but as they "mature" they tend to specialise. An example is incubators for companies that produce software or are working in the field of biotechnology. Business incubators facilitate entrepreneurship around the world. It is known that in the first year to be approximately 90% of new companies cease to be. In cases where companies are formed as a business incubator, only 20% of new firms fail in the first year. This statistic shows how business incubators can be useful to entrepreneurs (United Kingdom Business Incubator, 2010)

These agencies can help in the event that the company is looking for investors. Important advantages of the business incubator are also a creative atmosphere and the possibility of contact with their peers, the image of a serious company, a set of inexpensive but essential services, flexibility of management in an incubator. There is a national business incubation association that provides thousands of professionals with the education, information, and networking resources to bring excellence in assisting the early companies in the incubation process. UK business incubation is the leading body for business incubation. It is recognised by the stakeholders and the practitioners as a driving force behind the future of sustainability, and development of incubation in UK[9]. UKBI is a non-profit independent company with an aim to enhance the quantity and quality of incubation in the UK, and employment and opportunity to local, regional and national economies across communities (United Kingdom Business Incubator, 2011).

USA

The idea of business incubation has been fruitful. Business incubators are widely used. In the world, there are about 3950 business incubators. But the largest number of business incubators is in the U.S., according to various estimates, from 850 to 1100. But the idea of business incubation is not promptly made their way. The rapid increase in the number of business incubators started in 1985-1995. Business incubators in this period were mostly non-profit organisations supported by local authorities, research institutes and universities. In 1998, according to the American National Association of Business Incubators

[9] In the UK and NTU where this study was conducted have established Hive and Future factory which are in the form of business incubators to support both students and SMEs. Also bridge the gap between academia and practitioners.

in the United States, the figure was 90 percent. The predominant factor influencing the decision to open a business incubator for quite a long time was the state of the economy of the region. In many cases, business incubators were created in order to increase "social capital", promoting entrepreneurship, filling the empty space, preventing the outflow of labour, especially – qualified labour (Markley and McNamara, 1996: 22).

The social function of business incubators in the United States was fully opened up during the recession in the early 90s. By that time, 49 states had regional programs for business incubation. It soon became clear that business incubation brings not only direct benefits. This conclusion was made by U.S. researchers Markley and McNamara in 1995. Business incubators, along with the fact that contribute directly to increased employment, incomes, broaden the tax base, encourage investment, create the missing components of infrastructure and promote the creation of additional jobs in the environment. Companies located in business incubators, service providers, are about 34 percent of U.S. firms. However, it should be said that from about 2000, Non-profit, incubators are increasingly pressed by commercial (for-profit) incubators. Currently, the number of non-profit incubators is reduced to 75 per cent of the total number of business incubators in the United States. Some researchers have predicted business incubators have a bright future. For example, one of them is Morales. Morales believes that in the next few years, half of the total number of incubators will be commercial (Markley and McNamara, 1996: 26). In the U.S., there are regions where business incubators, created at the initiative of local authorities and business development all closed. For example, in Orange County, California, the last such business incubator was eradicated in 1999. In their place came 7 new private investment companies. In contrast to "non-profit", for profit business incubators pursue a specific purpose - to make money. It also determines the conditions under which the business incubators have a range of necessary services for budding entrepreneurs. In exchange, they require a 30-70-percent stake in the company's business.

A Business Incubator is an important indicator of SMEs and its strength and viability. Economic development most often is defined by and translated from

business development. It is the aggregate force of many Small and Medium Enterprises that comprise the mighty influence of business development with the creation of the U.S. Small Business Administration (SBA) in 1953. The economic support structure in the form of laws, policy, and federal assistance was positioned to purposively support and strengthen the many small businesses that exist all over the United States of America (Lyons, 1990: 272).The SBA has its national headquarters physically in Washington, DC, but it has come to exist as a regional office in most major U. S. cities to more directly serve the small businesses that are so important to the national economy. The SBA partners with local agencies and maintains an extensive network of service to support people in every state in the country and in the protected United States territories, as well. The SBA has been responsible for assisting in the creation and development of millions of businesses both directly and indirectly.

The ability of the SBA to successfully arrange for funding for small businesses on a very large scale has made a *significant* difference in the survival rate of many small businesses (Lalkaka, 1997, 79). Business incubators in Louisiana have consistently worked to grow businesses for the purpose of economic development over the years. Collectively and singularly it has made a significant difference in improving the business climate, furthering area economic revitalisation, and revitalising communities. According to the NBIA (2011), the LBTC, the business and technology incubator of Louisiana State University, was awarded, in 2005, the prestigious Incubator of the Year Award by the NBIA identifying it as the top business incubator in North America (and arguably, the world). Last year, two Louisiana business incubators, the LBTC and the Louisiana Technology Park, were nominated for the 2009 NBIA Incubation Innovation Award (Harley, 2002: 103).

China

While the number of business incubators began increasing substantially across the world in the 1980s (Link and Scott 2003), it was not until 1987 that science and technology business incubators (STBIs) were established in China, according to the Torch Centre under the Ministry of Science and Technology. In China, almost all the STBIs are founded and operated by local governments

and universities. Since most universities are state-owned, the STBIs are almost all government-supported incubators. The managers of the STBIs are quasi government officials appointed and paid by local governments or universities. The Torch Centre predicts that the total number of STBIs will reach 1,500 by 2015 and that they will nurture more than 100,000 technology- oriented start-up firms. Despite the increasing presence of STBIs in China, empirical research has yet to be carried out to assess their performance (Hallberg, 2002: 38).

In China, the STBIs are granted privileges by the government, such as subsidies and exemptions from corporate income tax and real estate income tax. A typical STBI occupies several floors of a publicly-owned office building and provides client firms with laboratories, workshops, and shared office space, together with subsidized telecommunication network access, at reasonable rents. Some clients have factories outside the STBIs' premises. Including such factories, the average floor area per STBIs is 32,653 square meters as of 2006. According to our interviews with a Torch Centre official, the rent can be half of the market rate or less. The STBIs also provide financial assistance and management advice to their clients. Financial assistance usually takes the form of loans, but it can also be in the form of gifts of small amounts of money. It is only recently that some STBIs have begun investing in their tenant firms on a trial basis (Hallberg, 2002: 33).

When the STBIs screen incoming tenant firms, attention is paid to the applicants' technologies, business plans, and market potential. In China, the market failure problem is by no means less serious than in developed countries and, hence, it seems reasonable to assume that STBIs endeavour to correct such a market failure. More specifically, STBIs would target ventures that would not be viable without incubation services, but that have the potential ability to compete with other firms in the market after receiving incubation services, and STBIs would be interested in nurturing as many such ventures as possible, as argued by Rice and Matthews (1995) among others. In what follows, we explore the factors associated with incubation performance measured by the number of successful graduates and then consider the relevance of this performance measure (Hallberg, 2002: 40).

Russia

Russia has set itself the task of building an updated state with a competitive economy. Currently, competitive advantage is determined either by the size of the country and the level of natural resources, not even the power of financial capital. It is clear that in the coming years those states that provide the most complete manifestation of professional skills and talents of its citizens will be able to get ahead of others in the development of new knowledge and advances in the transformation of their latest technologies and products. This requires the use of market mechanisms to ensure a quick update, implementation of widespread advanced technology, increase in the globally competitive products. The core of the structural changes in technologically advanced countries is the rapidly developing state innovation strategy and an active science and technology policy and regional firms, focused on the promotion of advanced technology breakthroughs (Guegan, 2000: 61).

The sector of scientific research and their effective commercialisation is the foundation of a competitive industrial production (Hallberg, 2002). In developed countries also developed an innovative system includes not only innovative designs and implements them afterwards innovative business, but the research sector, education - everything is in one cluster. The basic elements of this system have produced today science cities, special economic zones, industrial parks, technology transfer centres, reputed business incubators. A prerequisite is the availability of the innovative development of an effective innovation infrastructure to support the transition of research results to market products and services. The leading role in this process is take by innovative business incubators.

Among the most important intellectual resources of the innovation process are scientific knowledge, new technologies, techniques and methods of organisation and management, entrepreneurial potential, innovative literacy and culture at all levels of personnel and professional affiliations, and knowledge of international experience. Naturally, the availability of these resources is a necessary condition but not sufficient for the development of the innovation process. It needs more motivation and a corresponding state of the environment

- legal and regulatory framework and infrastructure. Currently, the main problem of the innovation sphere of Russia is the inability to convert assets into intellectual potential, capable of effective management in the global market knowledge and high technology. Therefore, the infrastructure of an innovative economy is needed to ensure the functioning of the entire chain of intellectual production, from receipt of orders for new development to promote the results of intellectual activity in the domestic and global markets. National efforts in innovation should be aimed at establishing mechanisms of capitalisation of intellectual capacity and the formation of modern economic and industrial institutions. Business incubators in this play one of the most prominent roles - they help create and develop small and, as a rule, innovative companies. This feature is becoming increasingly important, since over time the entry of new companies will be more difficult, primarily because of increasing competition (Hallberg, 2002:40).

In practice, a business incubator provides an infrastructure facility, which provides support to businesses at an early stage in its infancy, and business formation. This phase is associated with one hand, the material investments in the organisation of the workspace, such as preferential rent, access to office equipment, postal and secretarial and consulting services, and with, on the other hand, the need to identify markets and excellent product promotion, finding partners and investors. The main goal of business incubators is to grow new businesses, assisting in the initial period, at a time when they are most vulnerable. In addition, the incubator is a real school of business: in a small space is all the necessary information, and often the first customers of small businesses, are companies that are also posted in the areas of the hatchery. All of this ultimately increases the chances of business survival and reduces the cost of creating and organizing activities. Currently in Russia there are over 150 business incubators in the 75 federal regions, most of which were built under a federal program to support entrepreneurship. At present, the Russian Economic Development Ministry and Education Ministry of Russia (as part of a youth business incubators in the higher educational institutions) identified infrastructure requirements (premises, equipment), and the recommended list of

services which should provide an incubator, entrepreneurs proposed criteria for placement on the areas of business incubator.

An Innovative system for the whole country is impossible without regional innovation systems. In the regions, there is an increasing awareness of the role of business incubators in economic development and social welfare. First, these structures contribute to the growth of small businesses (Markley and McNamara, 1996:27). The international practice and experience of leading Russian business incubators convinces that it is a business incubator that creates optimal conditions for the principal development of small businesses. The statistics show no more than 30% of small companies survive, while in the business incubator is about 80%. In addition, companies that have passed the process of incubation are more stable and prepared to work in market conditions. The function of growing new companies in the business incubator is particularly important for regions where the number of small businesses is now declining. Secondly, solving the problem of unemployment, business incubators not only relieve social tensions in some municipalities, but also promote the growth of economic activity, the development of the domestic market and expand the tax base in the region. Third, creating a business incubator of a certain type (innovation, agricultural, IT) can assist small businesses, whose activities are consistent with the priorities of the region and thus to address emerging economic and social problems. Fourth, with the growth of business incubators, small companies promote innovation activity of enterprises in the region, introduction of new technologies, use of innovation to solve problems, medicine, housing, environment and other areas within the responsibility of provincial government structures. The development of business incubators can solve some problems of a socio-economic character, so the latest business incubators are considered an important element of social, economic and innovation policy, as well as an element of the strategy of the innovative development of the regions and the country as a whole (Thierstein and Wilhelm, 2010).

The Economic Commission for Europe, namely the Working Group on Industry and Enterprise Development, recommends that governments take the practical

measures that are most effective in terms of costs that would stimulate the formation of an environment conducive to entrepreneurial activity. It is business incubation, that it recommends as one of the most efficient and effective ways to support entrepreneurship. The process of "incubation of Business" is aimed at helping the organization to support their individual business and start-up companies to develop innovative products.

Mexico

The Business Incubation Technology of Mexico In Mexico, largely due to the influence of the successes in other with latitude (OECD, 1999) the problems caused by changes structural observed in the Mexican economy, created the conditions for the emergence of different initiatives IEBT. In 1990, in Ensenada (Baja California), the first incubator was established for the mainstream Technology Based Firms (involving NAFINSA and CONACYT) and the Centre for Scientific Research and Higher Education in Ensenada (CISESE). Then came the Business Innovation Centre (CEMIT, established in 1990 in Morelos, under the patronage of the State Government, Local Association of Industries, CONACYT, NAFINSA and the Electric Power Research Institute, UNAM) and the Incubation System Science and Technology of the UNAM (sponsored by CONACYT and UNAM NAFINSA).

Derived from these experiences in 1992 the programme CONACYT Incubators Technology Based Firms (PIEBT) was created with the aim of promoting IEBT building, which were aimed at the feasibility stage and design IEBT. From this ten IEBT emerged (see Table 4.1), plus incubators PIEBT arisen before, joined it. However, in 1997 the CONACYT cancelled the program. Thus, it closed one phase of support to government Incubators to create technology-based companies. Until 2000, public policies were aimed at industries (either of their size enterprises), which undoubtedly had considerable implications. So from 2001, there is a recognition of the role of small and medium companies and an opening of a new phase of public support for the development of businesses through the IEBT, where the creation and enterprise development Innovative is positioned as the major focus of the strategy. To achieve this, programmes and mechanisms were designed that seek to promote innovative activity production

plants ranging from SME Fund for R & D, support for Business Accelerator in Silicon Valley (TechBA) coordination with other organizations (United States-Mexico Foundation for Science, Foundation Produce, ADIAT) for programmes and reforms. Thus in Figure 3 by setting aside the trend in the creation of incubators in Mexico and the other, the fabric institution established to promote entrepreneurship from the incubators (National Business Incubation Association, 2000).

India

According to Tang at el. (2010) by 2004, only 15 TBIs were established in India by NSTEDB, mostly in Institutions of Excellence such as Indian Institute of Technology, Bombay; Indian Institute of Management, Ahmadabad; Birla Institute of Technology, Pilani; Vellore Institute of Technology, Vellore; and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad (Ministry of Science and Technology, 2004). By the end of 2009, there were approximately 120 TBIs in India (National Business Incubation Association, 1997). Of these 53 TBIS, 14 are in Science and Technology Entrepreneur's Parks (STEPs). Out of these 53 TBIs, 24 are in South India (Andhra - 4, Karnataka - 7, Kerala - 3, and Tamil Nadu - 10); 14 are in North India (Delhi - 2, Haryana - 1, Rajasthan - 1, Punjab - 2, Madhya Pradesh - 1, Uttarakhand - 1, and Uttar Pradesh - 6); 10 are in Western India (Gujarat - 5, and Maharashtra - 5); and 5 are in Eastern India (Jharkhand - 1, Orissa - 1, and West Bengal - 3). Tamil Nadu province in the South India has the highest number of TBIs set up by NSTEDB, i.e. 10 (NSTEDB, 2009). These 53 TBIs were established in collaboration with premier, academic and research institutions with an investment of Rs 10b (about US$21m; i.e. at US$1=Rs 47). The incubated enterprises have generated a cumulative revenue of Rs 59.5b (about US$125m) by 2009 (NSTEDB, 2009). TBIs under NSTEDB focus on technology areas such as Information and Communication Technology (ICT), Biotechnology, New materials including nano materials, Instrumentation and maintenance, Manufacturing and engineering, Design and communication (Media & Infotainment), Health and Pharma, Agriculture and Allied fields, and Energy and the environment. Tenant companies in a TBI may number 10 to 20

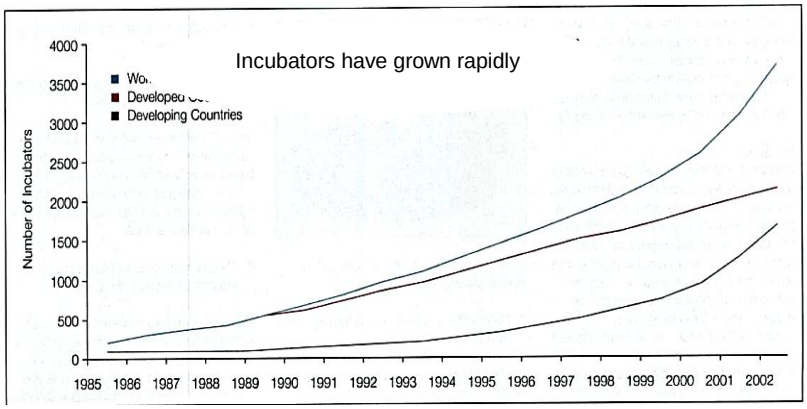
and they generally graduate out after 2-3 years of incubation (Thierstein and Wilhelm, 2001).

Ukraine

In 1998, the first Ukrainian Business Incubators were created by the Association of Ukrainian Business Incubators and Innovation Centres (UBICA). Members of the Association are 100 individuals and 60 entities. Mainly it includes the leaders of business incubators, business support centres and other community organizations. At the same time, members of the Association are successful entrepreneurs, scientists, Ukrainian and foreign consultants. However, a mature form of Ukrainian Business Incubators still has not happened. Despite official government support (for example, the Cabinet of Ministers of 2001 on the full support of local authorities and operating the existing business incubators), this idea has not found comprehensive application and proper development.

In Ukraine, at the end of 2008, the de facto existed and has 75 business incubators, in fact, engaged in the activities of just one. In Ukraine, a business incubator for a long time is open to international donor organisations. This leads to what is a business incubator is stopped after the completion of financing programs, as means of regional and local development of small businesses cannot provide sufficient volumes of business incubation. Many incubators have become common commercial entities who rent rooms. Some existing business incubators are not engaged in incubating new businesses, and operate as continuing firms on the basis of open-ended contracts (OECD, 2001, 146).

Figure 4. 4: Worldwide Incubators growth



SOURCE: http://www.nabil-shalaby.com, 2012.

4.10 CONCLUSION

In light of the review of the studied definitions and the analysis of the core services of business incubation, it can be concluded that a business incubator is: an organisation designed to accelerate growth and ensure the success of entrepreneurial projects across a wide range of resources and business services that can include physical space rental, capitalisation, coaching, networking (network access contact) and other services such as telecommunications, cleaning or parking. For a country's economic growth, it is necessary to promote enterprise development innovative projects and attainment of a positive movement in the economy such as job creation, higher household incomes and permanent businesses. Recent statistics from NBIA showed that 85% of firms established within incubators are maintained in the market. Business incubators are support centres supporting entrepreneurs and facilitating the creation of new organisations through comprehensive and required support during their creation and maturation as a business. Traditional incubators channel their support services to areas of trade and industries, such as: Pharmacies, stationeries, companies manufacturing or clothing, food stores. These Traditional incubators usually provide no cash but the tools to start a business and then can help to obtain venture capital to continue their development outside the incubator.

Business incubators are usually sponsored, supported and operated by private companies, government agencies or universities. Their primary purpose is to help to create and grow young companies by providing them with the necessary support of technical and financial services. Business incubators are an economic model that helps to support and guide all those who want to grow business projects but they need that push to become successful. Business incubators, at the local level, have long served the purpose of enhancing the economic development of a community and creating small businesses, which intend create jobs, distribute wealth and capital, and revitalises a stagnant economy.

In spite of these benefits, the establishment of business incubators are limited in the Arab countries and even unknown in many other countries such as Libya,

which is the main focus of this study. Literature on the guidelines for establishing business incubators does not exist. Therefore, the study aims to provide guidelines for establishing and implementing business incubators in the Arab countries, especially in Libya.

CHAPTER FIVE

RESEARCH METHODOLOGY

CHAPTER FIVE - RESEARCH METHODOLOGY

ABSTRACT

This chapter presents the research methodology selected and implemented for this study. Research strategies in the field of Business are usually divided mainly into quantitative and qualitative methods; although, both could be used together. These strategies have their advantages and disadvantages; however choosing a strategy depends on the research aim and type of research to be conducted. Therefore, this chapter discusses both strategies and outlines the advantage and disadvantage of each type to provide the justification for selecting the type for this research work.

5.1 INTRODUCTION

Chapters two to four have defined the areas of the literature related to: firstly, Innovation and Entrepreneurship; secondly, small and medium enterprises (SMEs) in general; and thirdly, the business incubators as an effective tool for Entrepreneurship and SMEs to tackle unemployment, diversifying economies and creating wealth in numerous developed and developing countries. This chapter addresses the research methodology and design employed to achieve the aim and objectives of this research. This chapter articulates the research philosophy, through exploration of some of the methodological choices that are available to this project and the justification for selecting the certain methodology. Therefore, it is anticipated that by achieving the aim and objectives, this research contributes to these areas of knowledge and working practice.

The discussion in this chapter has been separated into 13 sections. The first section was the introduction, the second section presents the research context and justification, while the third section considers the research methodology. The fourth section describes the aim and objectives of the research, while section five discusses the research philosophy. Section six presents the approach and strategy of the research and section seven presents the research design. Section eight presents the research method or choice, section nine addresses methodological issues, while section ten sets out the method of data

collection: the techniques used to explore the differences among SMEs and the statistical tools employed in arriving at the results. Section eleven considers the justification of the research design. Section twelve deals with ethical considerations. Finally, section twelve presents the conclusion for this chapter.

5.2 RESEARCH CONTEXT AND JUSTIFICATION

Incubators are increasingly seen at a political and academic level as a viable approach to the Arab countries' drive towards greater economic diversification and private sector expansion with the aim of addressing the interacting problems of population expansion and high unemployment (Al-Sheikh, 2009). This raises the following issues: how the politico-economic condition supports incubators and affects the success of incubators: also what are the guidelines needed by policymakers to establish business incubators.

In 2011, Arab countries surprised the world when months of popular protests and fighting led to the downfall of a number of dictatorships after many years in power. In a region long governed by strong autocratic leaders, the overthrow of such Arab leaders are landmark events; an undeniable triumph of popular consent. This has created the desire for SMEs and other new businesses for entrepreneurship; therefore, incubation is a vital for their improvement.

5.2.1 Justification

As discussed in chapters two to four, the situation in the Arab world is of particular importance for Business Incubator research. First, this region launched its first incubation unit in 2002; things are now changing allowing a unique opportunity to study its initial impact. Secondly, the purpose behind the introduction of the Arab Business Incubators is explicitly concerned with promoting the survival of SMEs, which makes it easier to measure subsequent levels of incubator success. Finally, the connection between incubators and SMEs is directly related to the promotion of specific Arab socio-economic objectives, for example, job creation, economic diversification and technological innovation.

As stated, the primary objective of this research is to investigate whether the necessary conditions for the successful introduction of wide-scale business

incubation projects exist in the Arab world. It was the intention of the researcher to arrive at some form of objective knowledge about the optimal conditions for business incubation, which takes into account the general conditions necessary for successful incubator development and apply them to Libya and potentially the other Arab countries to produce guidelines (document) to be used as a reference point for those in the situation of designing establishing and implementation of an incubation unit.

5.3 RESEARCH METHODOLOGY

Research methodology is the techniques, methods and procedures adopted through which the data is collected for the research project. Research methodology should include some concepts as they relate to a particular discipline or field of academic inquiry. Those concepts are: (1) a collection of theories, concepts or ideas, (2) comparative study of different approaches and (3) analysis of the individual methods (Bryman and Bell, 2011). To ensure an appropriate methodology is chosen, the research aim and objectives should be clearly stated; thus, the next section presents the research aim and objectives.

5.4 RESEARCH AIM AND OBJECTIVES

The aim of this research is twofold; firstly, the research seeks to investigate the nature of activities of innovation in the ‘Arab world’ and how it contributes to their local economies. Secondly, the research endeavours to determine the impact of incubation on the innovation of business incubators and the policy implications.

The main aim of the research is to explore the SMEs environment in Libya including the innovation obstacles they faced and to examine how incubators could be implemented to improve their current situation.

To achieve these aims, the following are the specific objectives. This research aims to:

1. Critically review the literature on innovation and entrepreneurship with a particular focus on SMEs and Arab countries. The review focuses on issues such as, the impact of information, communication technology, and the development of 'new technology' and their deployment in the Arab world.

2. Explore the contribution of SMEs to regional economic performance in the Arab world.
3. Examine the impact of business incubators on the growth and development of innovative SMEs. Specifically, the research explores the cases of the Jordan Innovation Centres and UAE Innovation Centres by comparing characteristics, performance and their behaviour in innovation. This comparison consists of identifying the types of incubator, financial model, funding, and target groups and sectors of incubation in the Jordan and UAE Innovation Centres.
4. Develop implementation procedures and establish guidelines for Libyan and other Arab governments in view of fostering entrepreneurship and national development.

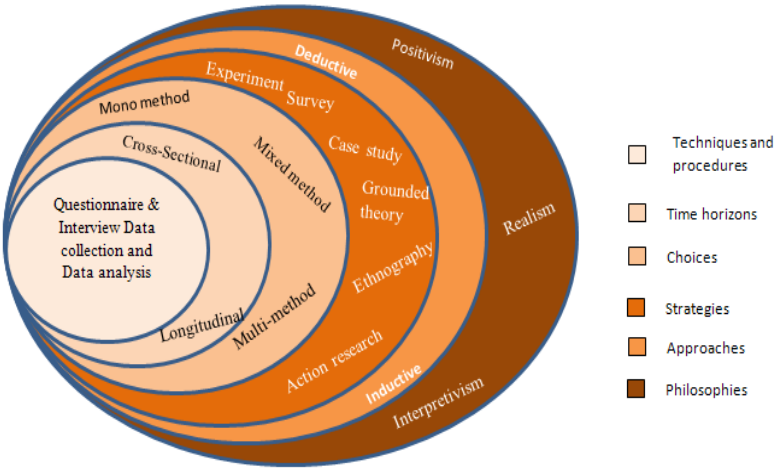
5.5 RESEARCH PHILOSOPHY

Saunders *et al*, (2009) stated that the first point at the beginning of the research is precisely 'what you are doing' when embarking on the research. In undertaking any study there are a number of critical assumptions, particularly about what is real and how can this be known. Saunders *et al*, (2009: 108) stated that

"The research philosophy you adopt contains important assumptions about the way in which you view the world. These assumptions will underpin your research strategy and the methods you choose as part of that strategy. In part, the philosophy you adopt will be influenced by practical considerations. However, the main influence is likely to be your particular view of the relationship between knowledge and the process by which it is developed"

Saunders *et al,* (2009) confirmed the importance of establishing a philosophy of the research and orientation in the direction of the inquiry. The assumptions of philosophical approaches support a number of different research paradigms of social science that relates to ontology and epistemology. The following figure shows the research 'onion'

Figure 5. 1: The research 'onion'



SOURCE: SAUNDERS, LEWIS AND THORNHILL (2009:108)

5.5.1 Ontology

Ontology defines the fundamental categories of reality. Domain ontology as distinct from formal ontology is related to focus of study. Guarino (1998: 5) defined ontology as:

"A logical theory accounting for the intended meaning of a formal vocabulary i.e. its ontological commitment to a particular conceptualisation of the world the intended models of a logical language using such a vocabulary are constrained by its ontological commitment. Ontology indirectly reflects this commitment (and the underlying conceptualisation) by approximating these intended models".

Crotty (1998:10) also defined Ontology as "the science or theory of being". It is a theory concerning social entities which is about what exists to be investigated within the structure of reality (Bryman and Bell, 2011).

This research is situated within the broad interest of the nature of activities of innovation in the Arab countries; it is most centrally concerned in the human thought, feeling and perception of the concept of business incubation. Therefore, these are complex and personalised cognitive phenomena; and there are a number of factors that will influence them, such as the beliefs, attitudes and experiences of the individual. Whilst it could be possible to conduct research on the physical, including documents, it seemed more productive to investigate the

experiences and attitudes of current Arab experts towards the topic. The personalised nature which underlies perceptions, the ontological position aligns most effectively with this study and the author's worldview. In addition, Knight and Turnbulll (2008) believe that epistemology is the research contribution to knowledge in a particular field.

5.5.2 Epistemology

Epistemology is the theory of knowledge; an epistemological position reflects the view of what we can know about the world and how we can know it. According to Crotty (1998:8) *"epistemology is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate".*

In terms of social research, epistemology must be considered whether in the design of the research project or in the determining of the knowledge that should be considered in relation to the phenomena being studied. Different epistemological stances have been identified in social science literature, for example, positivism or interpretivism. Objectivist epistemology, for instance, is based on the notion that knowledge exists independently of any consciousness. Subjectivism, in contrast, is based on the notion that knowledge is imposed on the object by the subject (Crotty, 1998). Embedded in these and other epistemological stances are different approaches to conducting research and acquiring knowledge. The ontological and epistemological stances of researchers can lead to different views of the same social phenomena.

In this research, the required knowledge will be gained by explaining the reality of the environment within which the Arab Business Incubators operate and through the information obtained from the sample's respondents. It will be also gained by exploring and developing how to implement Business Incubators in Libya or other Arab Countries through the polling some of Arab experts.

Using quantitative and qualitative methods in this research is linked to its ontological and epistemological position. Quantitative methods are mostly employed by positivists. As they try to produce causal explanations for the notion of natural science in their ontology and epistemology, these methods

always result in numbers, which are then analysed for statistical results. The aim is to have direct and exact causations which are irrefutable. The advantages of this approach are that the information collected is usually easy to replicate, which is also an important factor for natural science. In particular, they are easy to generalise (Marsh and Furlong, 2002).

Qualitative methods, on the other hand, are often employed by relativists, corresponding to their ontological and epistemological position of a world that is only socially constructed. All knowledge that we can have about it is subject to interpretation, using interviews, focus groups and other qualitative methods to get an in-depth sight into a field (Marsh and Furlong, 2002).

5.5.3 Positivism versus Interpretivism

In terms of the philosophical concepts, there are a number of key characteristics that need to be identified to provide a brief overview for positivism and interpretivism. The main characteristics and the differences between positivism and interpretivism are summarised by Eltaweel (2011) and Levy (2006). A summary of the main characteristics and fundamental differences between positivism and interpretivism is provided in Table 5.1.

Table 5. 1: Broad Definitions/Explanations of Positivism, Interpretivism and Epistemology

Epistemology	Positivism	Interpretivism
Nature of 'being' nature of the world	Have direct access to the real world	No direct access to the real world
Reality	Single external reality	No single external reality
'Grounds of knowledge' relationship between reality and research	Possible to obtain hard, secure objective knowledge	Understood through 'perceived' knowledge
	Research focuses on generalisation and abstraction	Research focuses on the specific and the concrete
	Thought governed by hypotheses and stated theories	Seeking to understand specific context

SOURCE: LEVY (2006: 376), ELTAWEEL (2011:107)

Bryman and Bell (2011:15) state that positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond. The authors added that positivism is also taken to have several principles such as:

- Only phenomena and hence knowledge confirmed by the senses can genuinely be warred as knowledge (the principle of phenomenalism).
- The purpose of theory is to generate hypotheses that can be tested and that will thereby allow explanations of laws to be assessed (the principle of deductivism).
- Knowledge is arrived at through the gathering of facts that provide the basis for laws (the principle of inductivism).
- Science must (and presumably can) be conducted in a way that is value free (that is, objective).

Carson *et al,* (2001) identify a number of characteristics of positivism which are useful to consider:

- The positivist or natural sciences school relates to facts or causes of social phenomena and attempts to explain causal relationships by means of objective facts.
- Positivist research concentrates on description and explanation.
- Thought is governed by explicitly stated theories and hypotheses.
- A research topic is identified through the discovery of an external object of research rather than by creating the actual object of study.
- Researchers remain detached by maintaining a distance between themselves and the object of research.
- Researchers try to be emotionally neutral and make a clear distinction between reason and feeling, science and personal experience.
- Positivists seek to maintain a clear distinction between facts and value judgements.

In contrast, proponents of interpretivism, as an alternative paradigm, espouse the importance of understanding human behaviour (Bryman and Bell, 2011:16 and Dainty, 2007:1). Also Carson *et al*, (200l: 375) identify a number of characteristics of interpretivism which are useful to consider:

- Interpretivism is inspired by a series of qualitative concepts and approaches.
- In broad terms it takes account of the important characteristics of the research paradigm on the opposite continuum from positivism.
- It allows the focus of research to be on understanding what is happening in a given context.
- It includes consideration of multiple realities, different actors' perspectives, researcher involvement, taking account of the contexts under study, and the context.

From table 5.1, the main characteristic and fundamental difference between positivism and interpretivism is that, positivism assumes direct access to the real world and a single external reality, consistent with traditional property research, while interpretivism does not assume direct access to the real world and thus no single external reality, consistent with interpretivist approaches. Furthermore, positivists assume that it is possible to obtain hard, secure and objective knowledge. As a result, positivist research is able to focus on generalisations and abstractions in a wider context. Conversely, interpretivists believe that an understanding of the world can only be achieved through knowledge as perceived by individuals (Levy, 2006).

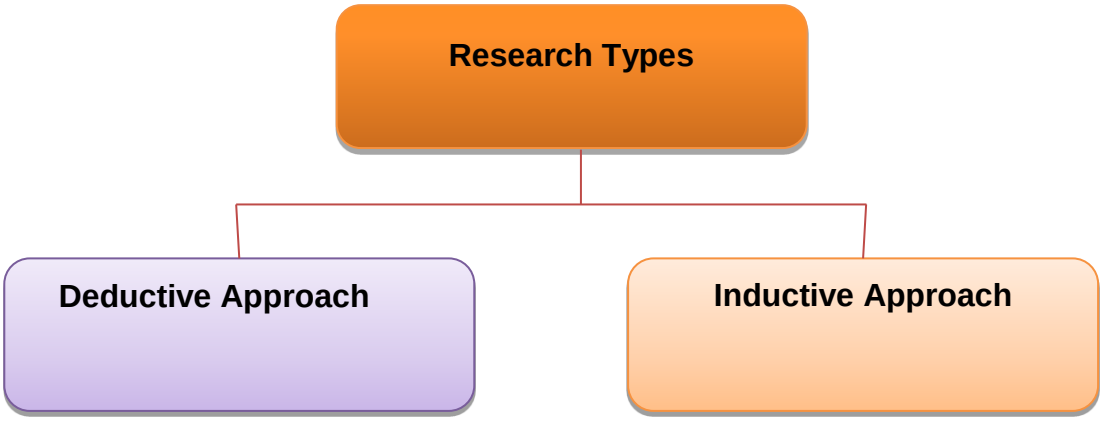
Part of the discursive text of the thesis concerns the problems and barriers to SMEs in Libya and the Arab states. This thesis is concerned with explaining the reality of SMEs and Business incubators; it is also concerned to provide and develop understanding about the phenomenon being researched, exploring the perspectives and experiences of businesses incubators in the Arab world, which means that positivism and interpretivism are both useful to consider as a philosophical approaches in this study. Thus, this research often adopts the use of mixed method data (qualitative and quantitative).

5.6 RESEARCH APPROACH OR METHOD

According to Eltaweel (2011), the appearance of social sciences in the 20th century created the importance of selecting ways to study humans, where understanding them is a significant issue and reflects their interpretation of the phenomena in their social world (Gill and Johnson, 2002). Researchers often

refer to the two broad methods of reasoning as the deductive and inductive approaches. (See figure 5-2).

Figure 5. 2: Research approaches

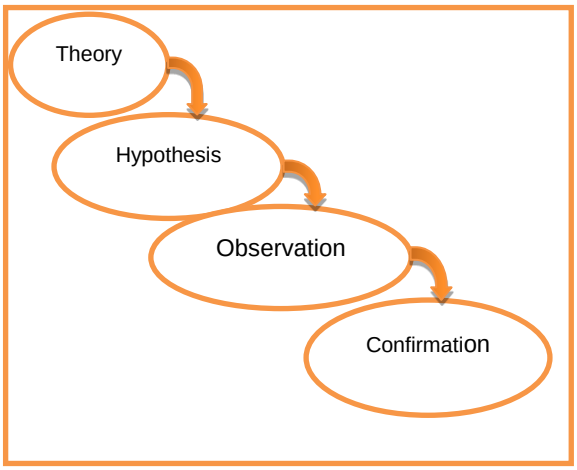


SOURCE: DESIGNED BY THE AUTHOR

The choice between the deductive or inductive research paradigms has been discussed by a number of authors (Cavaye, 1996; Hussey and Hussey, 1997; Tashakkori and Teddlie 1998; Carson *et al*, 2001; Eltaweel, 2011). Hussey and Hussey (1997:19) defined deductive research as "a study in which a conceptual and theoretical structure is developed which is then tested by empirical observation; thus particular instances are deducted from general influences."

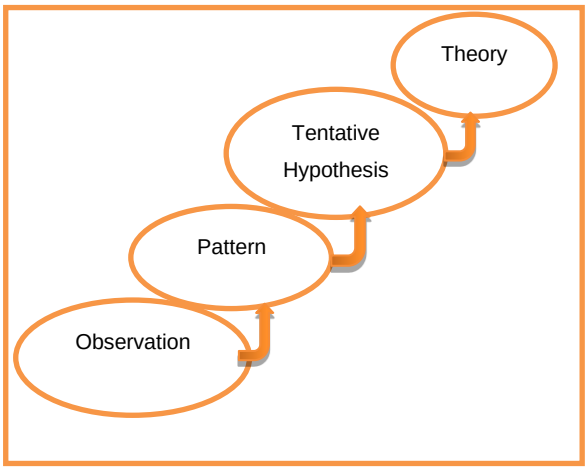
Deductive theory according to Bryman and Bell (2011), represents the most common view of the nature of the relationship between theory and research and shows that the process of deduction, the deductive method, is referred to as moving from the more general to the more specific (top-down). Incontrast, inductive research, according to Hussey and Hussey, (1997:13) is a study in which theory is, "developed from the observation of empirical reality; thus general inferences are induced from particular instances, which is the reverse of the deductive method since it involves moving from individual observation to statements of general patterns or laws(bottom-up). See figures 5.3 and 5.4 for a visual representation of this chain of reasoning.

Figure 5. 3: **Deductive theory**



SOURCE: DESIGNED BY THE AUTHOR

Figure 5. 4: **Inductive theory**



SOURCE: DESIGNED BY THE AUTHOR

It can be possible to use both inductive and deductive approaches in the same case study as has been discussed by some researchers. Perry (2001: 307) describes a continuum from pure induction (theory-building) to pure deduction (theory-testing).

Furthermore, according to Cavaye (1996:236) this does not exclude the combined use of both inductive and deductive approaches, as they can "both are used in the same study." To compare between deductive and inductive approaches. See the following table.

Table 5. 2: comparison between deductive and Inductive approaches

Deductive approach	**Inductive approach**
Deductive testing of theory	Inductive development of theory
Explanation via analysis of causal relationships and explanation by covering- law	Access to and description of, subjective meaning systems and explanation of behaviour through understanding
The collection of quantitative data	The collection of qualitative data
Use of various controls, physical or statistical, so as to allow the rigorous resting of hypotheses.	Commitments to research in, or access to, everyday settings, whilst minimising reactive the disruption caused by the research to those being investigated among the subjects of research
Highly structured research approach	Minimum structured research approach

SOURCE: GILL, J AND JOHNSON, P., (2002: 44).

As discussed in the literature review in chapters two, three and four, the research focuses on knowledge concerning Innovation and Entrepreneurship in SMEs and Business Incubators in the Arab countries, and as noted Libya was under a dictatorship during the period 1969 to 2010, which makes Libya a fertile area for many studies. The aim is to explore the feasibility of SMEs and Business Incubators in Libya, in terms of sources, uses, attitudes and constraints. This focus is reflected in the title of the research which addresses the issues previously mentioned.

Bell (2010:43) defines an exploratory study as a research design which does not aim to provide the final and conclusive answers to the research questions, but merely explores the research topic with varying levels of depth. Stebbins (2001:3) provides a more consistent definition, saying:

"Exploration is a broad-ranging, purposive, systematic, prearranged undertaking designed to maximise the discovery of generalisations leading to description and understanding of an area of social life".

And there are three principal ways of applying exploratory research which is summarised by Saunders *et al,* (2007). These principles are as the following:

- A review of the literature.
- Interviewing 'experts' in the subject.
- Conducting focus group interviews.

This research study is compatible with both approaches, deductive and inductive. Therefore, it adopts both approaches as is consistent with the philosophical position of realism. The justification of choosing a mixed approach is to understand the perceptions and feelings of the Business Incubators managers in Jordan and UAE: also to explore and develop how to implement BI in Libya or other Arab Countries. This is in line with both positivism and interpretivism philosophies.

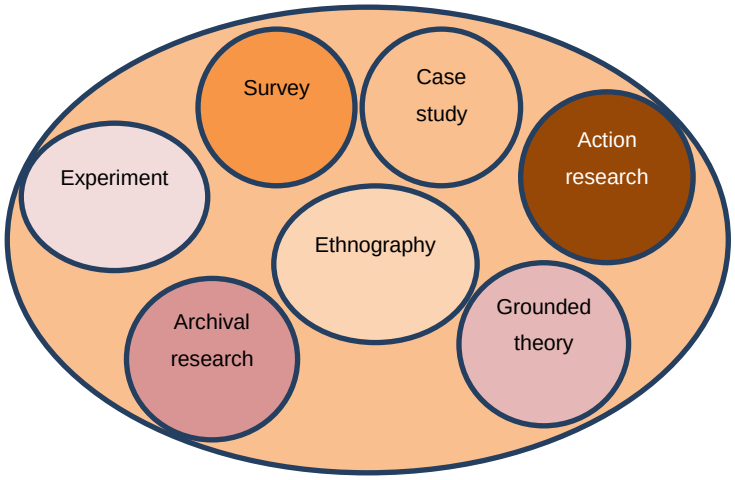
The research does not seek to just describe the Business Incubators in Jordan and UAE, but also to explain the reality in both countries, and explore and develop how to implement BI in Libya or other Arab Countries in terms of a

business plan, establishing, sources, funding and constraints from the feeling and perceptions of the Arab experts.

5.7 RESEARCH DESIGN OR STRATEGY

There are many alternatives for the research design or strategy. According to Hussey and Hussey, (1997); Yin, (2009); Saunders *et al*, (2009), they include alternatives such as: Action research, Survey, Grounded theory and Case study. See figure 5.5 below.

FIGURE 5. 5: RESEARCH DESIGN ALTERNATIVES



SOURCE: DESIGNED BY THE AUTHOR

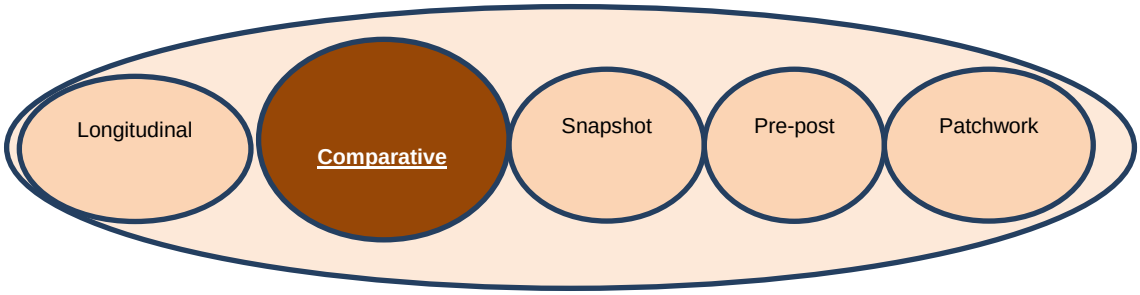
It would have been difficult for the researcher to have data collected on a national level and it would have been difficult for the researcher to have undertaken all of the Arab countries as case studies research with a substantial investment of time and resources to gain access to all Business Incubators in the Arab World. Interviews on a national level proved to be difficult due to the costs associated with them. Curran and Blackburn (2001) suggest that large scale in-depth face-to-face interview projects are expensive. Similarly, case study research is difficult mainly due to the invisibility of the Business Incubators, especially those at the earlier stages of development. It seems more appropriate to use the case study approach in a small sample. Another justification for undertaking just two case studies research is that such research is expensive per case and produces large amounts of data with corresponding problems for analysis. Case study samples in small business research are often

less than ten and the results would be difficult to generalise (Curran and Blackburn, 2001).

5.7.1 Types of Case Studies

Jensen and Rodgers (2001:235-236) listed several types of case studies: see figure 5.6 below.

FIGURE 5. 6: CHOICE OF CASE STUDY TYPE



SOURCE: DESIGNED BY THE AUTHOR

- **Longitudinal case studies.** Quantitative and/or qualitative study of one research entity at multiple time points.
- **Comparative case studies.** A set of multiple case studies of multiple research entities for the purpose of comparison. Both qualitative and quantitative comparisons can be used.
- **Snapshot case studies.** Detailed, objective study of one research entity at one point in time. Snapshot studies utilise various qualitative and quantitative approaches, or some combination of the two.
- **Pre-post case studies.** Study of one research entity at two time points separated by a critical event. A critical event is one that on the basis of a theory under study would be expected to impact case observations significantly.
- **Patchwork case studies.** A set of multiple case studies of the same research entity, using snapshot, longitudinal, and/or pre-post designs.

This study was a survey that targeted two case studies, Jordan and UAE. The Jordan and UAE BIs have been selected where they have established BIs for several years. The intention is to focus on BIs in Jordan and the UAE as this provides a comparison between one Arab country with an economy that is very oil dependent (UAE) and one that is not (Jordan), which is similar to that of Libya. Furthermore, both countries share with Libya some main factors, such as

religion, social culture, climate, and population. Five questionnaires have been collected from Jordan and the questionnaire data collection process took place from December 2011 to February 2012. The questionnaires were sent to the selected Incubators in Jordan during this period. Five questionnaires have been collected from Jordan, the questionnaire data collection process took place from December 2011 to February 2012. The questionnaires were sent to the selected Incubators in Jordan during this period. And four questionnaires have been collected from UAE, and the questionnaire data collection process took place from February to April 2012. The questionnaires were sent to the selected Incubators in Jordan during this period.

A research design is a framework for a certain set of criteria that would generate suitable evidence for the researcher in the desired area of investigation. It, therefore, provides structure for the collection and analysis of data (Bryman, 2008). Questionnaires are the most frequently used of all research instruments but their construction is much more difficult than it might first seem (Curran and Blackburn, 2001:72). There are two types of questionnaires for example, structured and unstructured. Using unstructured questionnaires has three main weaknesses. Firstly, there is a risk that the researcher will embark on field work without careful thought of the research goals. Secondly, unstructured questionnaires require a very high degree of skill in their use. Thirdly, unstructured questionnaires may give the impression to the interviewee that the interviewer does not know the research himself or herself (Curran and Blackburn, 2001:73).

Baily (1978) classified most research projects into four broad categories. As each kind of research has its own rationale and area of function, researchers should be more careful in terms of choosing the appropriate type of research that would guide them to correct results and conclusions. The four types are as follows:

- Historical research: intended to arrive at conclusions concerning trends, causes or effects of past occurrences hence may help to explain present events and to anticipate events in future. Thus it is a type of research in which the researchers use past events to anticipate future trends.

- Correlational study: intended to investigate the relationships between two or more quantifiable variables, hence some authors consider this type to resemble the descriptive methods, which is the fourth type set out here.
- Experimental research: designed to determine whether one or more variables causes or affects one or more outcomes.
- Descriptive research: designed primarily to describe what is going on, or what exists. So it is a type of research where the researchers use the past events to explain existing observable acts.

According to Trochim (2001), the original difference between experimental and descriptive research is that, in the former, the researcher arranges for events to happen, whereas, in the latter, the researcher accounts for what has already happened or presently exists. This study is designed to be a descriptive study, given that it aims to describe what exists, with regard to BI units' mode of Arab Incubation as a mode of support for small and medium enterprises (SMEs) in the Arab countries. However, it goes beyond the scope of a descriptive study as it aims to explore and analyse the descriptive results by responding to 'how' and 'why' questions. In addition, it adopts the interpretative method with the intention of providing further meaning to the results by responding to 'so what' questions.

As mentioned earlier, this research is designed as both a quantitative and qualitative research study, as it explores the opinions and evaluates BIs in relation to various financial and operational issues. In addition, this is an explanatory and exploratory study, which classifies it as mixed method research.

5.8 RESEARCH STRATEGY OR CHOICE (QUALITATIVE / QUANTITATIVE)

Research strategies refer to the techniques and procedures being undertaken by a researcher to collect the data and being used as a source of inference for explanations and prediction. Quantitative measurement is perceived as more accurate, valid, reliable and objective than qualitative measurement, due to the former's scientific nature. However, this does not mean that qualitative research is less valuable. Research methods occupy specific instruments, quantitative research such as questionnaires, and qualitative research such as structured

interviews and participant observation. The techniques include the need to listen to and observe people from the chosen sample (Cohen *et al*, 2011).

The justification of choosing and using of methodology has been explored by Crotty (1998:2), where he answered the question: how do we justify this choice and use of methodologies and methods?

"Justification of our choice and particular use of methodology and methods is something that reaches into the assumptions about reality that we bring to our work. To ask about these assumptions is to ask about our theoretical perspective".

Furthermore, many writers on methodological issues find it helpful to distinguish between quantitative and qualitative researches (Hussey and Hussey, 1997; Saunders *et al*, 2009; Bryman and Bell, 2011; Tashakkori and Teddlie, 1998). These authors have addressed the choice between qualitative and quantitative methods in fieldwork research.

Bryman and Bell (2011:386) stated that a qualitative approach "tends to be concerned with words rather than numbers". Furthermore, there are three characteristics that were particularly noteworthy:

- An inductive research views the relationship between the research and theory, whereby the former is generated out of the latter.
- An interpretive epistemological approach is concerned to understand the social world and to explore the world during interpretations of the concepts which are gathered from respondents' sources.
- An ontological position describes as constructionist that implies that social properties are outcomes of the interactions between individuals, rather than phenomena 'out there'.

Bryman and Bell (2011:286) added that a quantitative approach *"should not be taken to mean that quantification of aspects of social life is all that very fact that distinguishes it from a qualitative research strategy".*

Myers (1997: 241-242), distinguished between qualitative and quantitative research approaches:

"Qualitative data sources include observation and participant observation (fieldwork), interviews and questionnaires, documents and texts, and the researcher's impressions and reactions. Qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena. Examples of qualitative methods are action research, case study research and ethnography".

Silverman (2000:8) stated that the methods used by qualitative researchers exemplify a common belief that researchers can provide a deeper understanding of social phenomena, compared to the quantitative method.

However, in terms of quantitative and qualitative approaches, there are some advantages and disadvantages relating to using each approach. The advantages of using qualitative research are that it has the ability to explain respondents' meanings, to look at processes of change over time, and amend new ideas and issues as they emerge. The data gathered in the qualitative method is more direct rather than constructed. However, the process of data collection and analysis in this approach is considered highly laborious, and frequently generates much stress.

The result of using this method is that the sample size in this method is often larger than that used in the qualitative method, which covers a wide range of cases in an economical and efficient manner. However, the quantitative approach is not effective in terms of understanding of the importance that people attach to notions (Patton, 1990).

Given this research context, the discussion in this research and the paradigms within which it is being undertaken, the mixed approach offers much value. In addition, the qualitative methodology of research will allow such perceptions and meanings to be explained.

Research methodology in social science can involve quantitative and/or qualitative methods as the framework. Quantitative research is based on methodological principles guided by positivist philosophy and researchers believe that there is an objective reality that exists separately from the perceptions of those who observe it, thus the goal of science is to better

understand the reality. Qualitative research, on the other hand, usually emphasises words rather than quantification in data collection and analysis, therefore the method aims towards exploration of social relations and describes reality as seen by respondents (Bryman, 2001). In qualitative research methodology, the research motive is usually exploration, evaluation and revealing opinions and behaviours.

This research is designed to understand, “people and the social and cultural contexts within which they live,” (Myers, 1997), and the qualitative approach was used for gathering most of the data. The selection of a qualitative approach follows Hussey and Hussey’s views (1997:20) who defined qualitative research as, “a subjective approach which includes examining and reflecting on perceptions in order to gain understanding of social and human activities.” This was planned to be the case for this research project.

Part of the empirical study uses a quantitative method, to assist in the assessment of the maturity of knowledge sharing and maturity in the use of statistics and numbers of employees as knowledge and the contributions of stories and storytelling as knowledge sharing practices in some Arab BIs (Myers, 1997).

The "Cross-cultural survey: used to collect and/or analysis of data from two or more nations, comparison research should not be treated as solely concerned with comparison between nations" (Bryman and Bell, 2011:65).

For instance, such a survey would take the form of a questionnaire which would gather primary data on how the Arab countries develop the innovation in SMEs through BIs.

5.9 METHODOLOGICAL ISSUES

No research design will be perfect since all involve compromises. For instance, all researchers, particularly individuals working alone (such as PhD researchers) have to accept that their resources are finite. Often researchers admit, ex post facto, that if they were starting again, they would amend or even choose a different research design to the one they actually used (Curran and Blackburn, 2001:87).

Curran and Blackburn (2001) suggest that in practice many researchers will employ a mixed quantitative and qualitative approach to gain some of the advantages of both approaches and for the purpose of triangulation. This has emerged as a common research design in small business research (Curran and Blackburn, 2001:72). The mixed approach combines a quantitative survey (e-surveys in this case) and a qualitative element (12 interviews in this project). In this context, the qualitative and quantitative data have fed, supported and stimulated the corresponding empirical research methodology in the evolution of the research and in the analyses of the data. The two empirical methodologies developed through different stages and each stage had its own focus. To begin these stages, the researcher started from the literature review during which were discovered the main issues in the area of SMEs and BIs.

Since this is a descriptive and explorative study, the survey method is used to collect the primary data. The data collection in descriptive research is demonstrated mainly by the survey method of research. Survey methods can use different methods of research, such as qualitative (e.g. open-ended questions) and quantitative (e.g. forced-choice questions) measurements. When researchers wish to collect data on phenomena that are impossible to directly observe, they utilise the survey method. The social science researcher always uses surveys to assess attitudes and characteristics on a wide range of subjects.

According to Babbie (1995:257): *"Survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly".* The survey method has some advantages over other methods. It has significant flexibility as to the size, location, and number of the polls. Flexible software support, such as Statistical Package for the Social Sciences (SPSS), is easy to assemble and disassemble and carry the results of the polls. Also, according to Cohen, *et al*, (2011:413) in the open qualitative interviews, the questions and response categories are determined in advance. Responses are fixed; the respondent chooses from among these fixed responses. The advantages of this type of interview are that data analysis is straightforward, responses can be directly compared and easily

aggregated and many short questions can be asked in a short time. However, its disadvantages are that respondents must fit their experiences and feelings into the researcher's categories and it may be perceived as impersonal, irrelevant and mechanistic. Also, it can distort what respondents really mean or experienced by so completely limiting their response choices.

5.10 METHOD OF DATA COLLECTION

The following section outlines the method used to collect the research data.

Table 5. 3: The Research Methodology Layout table

Methods	Description	Rationale or Purpose	Epistemology	Ontology
Questionnaire one :Quantitative	Libyan SMEs	Explaining Reality	Positivism	Realism
Questionnaire two: Quantitative	Business Incubators in Jordan and UAE	Explaining Reality	Positivism	
Interviews: Qualitative	Arab Experts	Exploring and developing how to implement BI in Libya or other Arab Countries	interpretivism	

SOURCE: DESIGNED BY THE AUTHOR

5.10.1 The Questionnaire Design

Questionnaires are the most frequently used of all research instruments but their construction is much more difficult than it might first seem (Curran and Blackburn, 2001:72). There are two types of questionnaires, i.e. structured and unstructured. Using unstructured questionnaires has three main weaknesses. Firstly, there is a risk that the researcher will embark on field work without careful thought of the research goals. Secondly, unstructured questionnaires require a very high degree of skill in their use. Thirdly, unstructured questionnaires may give the impression to the interviewee that the interviewer does not know the research himself or herself (Curran and Blackburn 2001:73). The researcher decided to construct a questionnaire which was mainly structured but which also included unstructured questions where it was deemed

necessary by putting open questions or providing comment boxes for further information. Moreover, the use of a structured questionnaire can also be justified for large samples. Curran and Blackburn (2001) suggest that some background data will usually be needed, whatever the subject of the research, even when some of this information is already known. It can be checked for accuracy at the beginning of the interview or mail questionnaire. Based on insights from the literature, to address the above mentioned research objectives, the researcher designed survey questionnaires for Libyan SMEs and also for the two case studies (Jordan and UAE).

5.10.1.1 Libyan Questionnaire

As a result of the difficulties in contacting all SMEs in Libya, the sampling approach used was ‘’snowball sampling’’, which means that a number of SMEs that fit the definition were asked to complete the questionnaire, then the participants forward the questionnaire to others they know matching the same definition (Welch, 1975). Using the snowball sampling method, 91 responses were obtained out of the 400 questionnaires distributed, leading to a response rate of around 22.75%.

The questionnaire was developed in English and later translated into Arabic (the translation was checked by a Nottingham Trent University member of staff who speaks and writes both languages excellently), since it is the official language of Libya and the owners of the SMEs will not necessarily be English literate. In order to ascertain the validity of the research instrument used, a panel of experienced academics were consulted and modifications to the questionnaire were made according to their constructive recommendations. The sequence and wording of some of the questions were changed to make them more understandable and relevant to the dimensions being studied and some scales were modified to better match the purposes of the research. The face validity of the questionnaire was therefore improved (Ghauri and Gronhaug, 2005 and El-Kabbani and Kalhoefer, 2011).

According to the research needs of the targeted SMEs, the survey data collection process took place from October 2011 to April 2012. The questionnaires were sent to the selected firms during this period. Reminders

were sent to the participants: the first reminder was sent two weeks after distribution, the second was sent on after a month and the third and final reminder was sent in April, 2012 especially for non-response participants.

Due to the recent uprising in Libya, responses from the SMEs were extended until the end of April 2012. The final reminder was sent in early April in order to boost the response rate and in case of e-mails being lost or forgotten because of the political circumstances. From a total of 400 enterprises initially selected for this research, 91 usable responses were received (22.75% response rate). Two questionnaires were not completed and were not usable and, therefore, these two questionnaires were excluded from the final count.

5.10.1.2 Case Studies Questionnaire

The questionnaire consisted of four sections. The first section of the survey questionnaire asks questions about the characteristics of the Incubators, e.g. Incubator full name, city, country, website, Incubator managing director and contact address. Moving from the general to the specific, the second section asks information questions about an Incubator. Section three analyses the selection process and applications. Section four focuses on the incubation program and services. The final section deals with the graduation and impact of Incubators.

When the two case studies were selected, face-to-face surveys, the first area of investigation was within Jordan and UAE BIs which were considered as two case studies. The questionnaire was developed in English later translated into Arabic (the translation was checked by one of Nottingham Trent University member of staff who speaks and writes both languages excellently) to be distributed, since it is the official language of Arab countries and that not necessarily the manager of the Incubator will be English literate. In order to ascertain the validity of the research instrument used, a panel of experienced academics were consulted and modifications to the questionnaire were made according to their constructive recommendations. The sequence and wording of some of the questions were changed to make them more understandable and relevant to the dimensions being studied and some scales were modified to better match the purposes of the research. The face validity of the questionnaire

was therefore improved. The researcher travelled to Jordan and UAE, sponsored by Nottingham Trent University, to collect the data.

5.10.2 Interviews

Interviews are widely used as a data collection technique in social research. The interview is one of the most effective means of data collection and has the advantage of direct contact with the interviewee. Thus, this method is an effective way to collect particular data that will tackle the research questions and achieve the aim and objectives of the study. The following are some of the advantages of the interview technique, as classified by Sarantakos (1998):

- Flexibility: interviews are designed to meet many different situations.
- High response rate: A high response rate can be achieved from interviews.
- Easy administration: respondents very easily understand the interview questions.
- In the interview, the interviewer has the capacity to correct misunderstandings.
- The interviewer can take control over the order of the questions; because the respondents have no chance of knowing which question comes next.
- With interviews the researcher take control over the identity of the respondents. When the interviewer uses interviews, the identity of the respondent is known; this is not available in other methods.
- In interview, the interviewer can takes control of the time and of course can (mutually) arrange the date and place of the interview.
- In interviews, the interviewer can use complex questions, because he or she can assist the respondent to understand these questions.
- In interviews a longer length of time for data collection is more acceptable than with other methods.

The advantage of collecting qualitative data by interview is that it efficiently extracts the salient themes and paths of investigation - including those overlooked by the researcher or not covered in the literature that tackled Incubators in general. Once the researcher refined the specific research areas, it became possible to proceed to the interviews.

The first stage in the conferences groups' discussion was used to explore the opinions of various experts. Many of these experts also occupy key decision-making roles when it comes to the implementation and funding of Incubator programmes. As for future prospects, and the economic 'needs' of Incubators (and therefore the conditions for their success), the study focused on 'experts' and policy-makers within organisations that are likely to play a decisive role in introducing and supporting their implementation at a national level. Moreover, many Arab academic experts interact with policy-makers (via direct consulting, conferences and journal publications) to set up programmes for the development of Incubators in the Arab world. The initial sampling procedure was non-probability purposive sampling. Respondents were selected according to their association with Arab agencies and organisations that directly impact the development of SMEs and Incubators in the Arab world. These respondents were also asked to recommend other useful individuals or organisations that might be willing to participate; (i.e. snowball sampling). Therefore, the researcher had access to senior representatives from the following organisations:

- The Arab Administrative Development Organisation (ARADO).

The Arab Administrative Development Organisation (ARADO) is a leading non-profit organisation affiliated with the League of Arab States which was founded in 1961 with the mandate of promoting and advancing administrative development in the Arab region. Inspired by the shared objectives and principles of member countries in the League of Arab States, ARADO strategic focus stems from the Joint Arab Economic and Social Action Strategy which aims at enhancing socio-economic development and increasing the efficiency of Arab administration in various development sectors in the Arab region.

- Arab Industrial Development and Mining Organisation (AIDMO)

This is an Arab Organisation specialised in the fields of industry, mining and standardisation, operating under the League of Arab States and working within a strategy developed through a joint Arab economic action approved by the Arab Summit Conferences.

Qualitative researchers collect data directly from people, whether by talking with them, observing them or interacting with them. In this regard the qualitative researcher needs to be able to establish a rapport with people, and the researcher must present himself as a researcher who is at a minimum non-threatening, and ideally as someone with whom those being studied wish to spend time. Therefore, the researcher travelled to attend and participate in a symposium to promote the establishment of industrial incubators in the Arab countries, which was held in the UAE during the period 16-18 February 2011. This was organised by the Arab Organisation for Industrial Development and Mining (AIDMO).

The researcher also attended and participated in the Second Small and Medium Enterprises "Business Incubators" conference which was held in UAE, during the period of 19-21/02/ 2012, organised by Arab Administrative Development Organisation (ARADO), where the researcher met a number of experts, both academics and professionals in these areas of research.

5.11 JUSTIFICATION OF THE RESEARCH DESIGN

The researcher had extensive access to a rich variety of data sources, including BIs managers and the Arab SMEs policy makers and experts. The researcher felt that it was best to exploit these available resources through a variety of measures to increase the internal validity of the data.

By adopting both qualitative and quantitative research strategies, it is possible to capture the fullest range of dimensions associated with the problem being studied. Moreover, the use of different data collection methods and sources enables the researcher to ensure a high internal validity by triangulating data via multiple measures. The synthesis of qualitative and quantitative research methods proved to be useful in obtaining valid data and providing a comprehensive and deep understanding of the research problem.

5.12 ETHICAL CONSIDERATIONS

In terms of research design, in selection of a sample, data collection, and analysis of information in this research, ethical considerations are important. This research is designed to reflect the concepts and opinions of the managers

of BIs and experts in some of the Arab countries. Through critical reflection and consultation, and discussion with the assessor at the time of this project approval, it became apparent that the design and conduct of the research did not raise any ethical issues.

Throughout the time of this study and the procedures' being taken, the participants did not reveal any problems or risks, the participating companies and experts welcomed the research and most of them positively participated. The researcher assured participants that the data would be treated confidentially. The researcher prepared a covering letter explaining the research being undertaken and why the questionnaire and interviews were needed by this research. Other letters obtained from Nottingham Trent University and the Libyan Embassy were used as evidence for conducting the study.

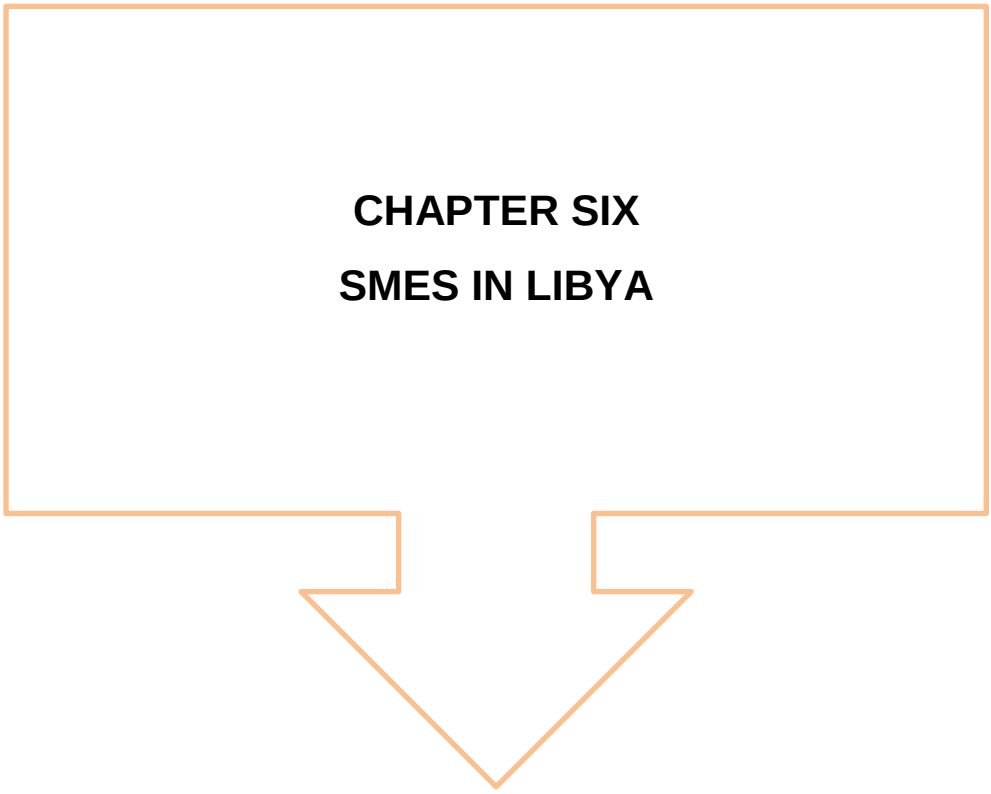
5.13 CONCLUSION

The purpose of this chapter was to set out how the research was undertaken; this research was to explore the findings of the BIs and how to establish business incubators, in terms of sources, uses, attitudes and constraints. Therefore, a mixed methodology was more suitable to achieving the objectives of this study. Two case studies were selected and semi-structured interviews were conducted with twelve Arab experts. Such interviews were most appropriate to emphasise the meaning, experience, and context and to process the main features of the research aims. The study was mixed between positivism and interpretivism which was suited to address the objectives of the research.

The subsequent chapters of this thesis are the analysis chapters, 6 to 8, with chapter 9 as the conclusion and recommendations.

CHAPTER SIX

SMES IN LIBYA



CHAPTER SIX- SMEs in Libya

ABSTRACT

The previous chapter has discussed the methodology issues of the research. This chapter is concerned with the understanding of the situation and obstacles that hinder innovation in SMEs in Libya. The questionnaire was used as evidence for exploring overall trends in the data of SMEs in Libya. This chapter provides the design of the questionnaire and the results obtained (as discussed in Chapter 5). It also includes a discussion regarding the results found.

6.1 INTRODUCTION

This chapter presents the analyses and results of the questionnaire collected data. The main purpose of this questionnaire is to discuss Innovation obstacles faced by SMEs in Libya. It analyses the current situation of SMEs in Libya and addresses the question of whether the financial problems as established previously in chapter 3 still exist as the core problem for innovation in SMEs. In addition, the analysis provides a comprehensive understanding of the problems facing SMEs and their need for services. It also explores the required support from the government or institutions to overcome these obstacles.

In order to achieve these objectives, the researcher selected a sample of SMEs located in Libya. As discussed in the methodology Chapter 5, a snowball sampling method was used and 91 responses were obtained out of 400 questionnaires distributed. This is equivalent to approximately a 23% response rate.

6.2 LIBYAN BACKGROUND

Libya is an Arab country located in Northern Africa, bordering the Mediterranean Sea, with 1,770 km of coastline, and it is bordered by Chad and Niger from the south, Egypt and part of Sudan from the east, and Tunisia and Algeria from the west, as per Figure 6.1. This location has enabled Libya to experience many civilisations and became an important caravan trade link between Africa and Europe.

FIGURE 6. 1: LIBYA'S MAP

SOURCE: (CIA, 2012)

The coastal region is the most fertile, but it is so narrow in certain areas that it does not exceed fifty kilometres in width, though in other areas it expands to a few hundred kilometres. The coastal strip is under the influence of the Mediterranean, while the rest of the country is under the influence of the Sahara. Therefore, the northern part of the country has a long period of warm and sunny weather for most of the year. The temperature is in the 20°C and 30°C during most months. Of the winter months January is the coldest month. The mean monthly maximum and minimum temperatures ranges from 19°C to 8°C for coastal cities, and between 25°C and minus 1°C in the oases of the Sahara. (Sayeh, 2006). The Libyan Desert is part of the Great African Sahara. It has its own climate, with hardly any rain; it is warm during the greatest part of the year, and can get extremely hot during the period from May to September when the temperature can reach and some days close to 50°C[10].

The Libyan population is estimated to be 5613380 and with a growth rate of 2.3 % per annum. The Libyan economy depends primarily upon revenue from

[10] INCIDENTALLY THE HIGHEST TEMPERATURE EVER RECORDED IN THE SHADE WAS IN 1922 WHEN THE TEMPERATURE REACHED 136° FAHRENHEIT (58° C) IN THE TOWN OF ALAZIZIYAH, SOME 40 KM SOUTH OF TRIPOLI IN LIBYA.

hydrocarbons, which contribute about 95% of export earnings, 65% of GDP, and 80% of government revenue. The substantial revenue from the energy sector coupled with a small population has given Libya one of the highest per capita GDPs in Africa, but little of this income has flowed to the lower orders of society. Its crude oil is of the highest quality, whose characteristics are not easily found elsewhere, and it requires much less refining because of its low sulphur content (CIA, 2012). Despite its unique treasures, Libya's production capacity is relatively small, standing on 1.5 million barrels per day (mbd) of crude, 2% of world supplies. This is less than 50% of the country's 1970 production peak level, which was around 3.3 mbd. According to the Oil and Gas Journal (OGJ), Libya holds close to 47.1 billion barrels of oil reserves, the ninth largest in the world and the Libyan Government wanted to increase oil production to 2 mbd by 2012. Although oil revenues and a small population give Libya one of the highest per capita GDPs in Africa and elsewhere (Rachovich, 2012). A brief Libyan profile is presented in Table 6.1.

Table 6. 1: Libya profile

N0	Item	Description
1	Official Name	Libya
2	Capital	Tripoli
3	Currency	Dinar (LYD)
4	Language	Arabic
5	Religion	Islam
6	Major Cities	Tripoli, Benghazi, Misratah, Al-Bayda, Tobruk, Derna and Sabha
7	Literacy	89.2%
8	Land area	1,759,540 sq. km
9	[11]Land boundaries	*4,348 km
10	Coastline	1,770 km
11	Climate	Mediterranean along coast; dry, extreme desert interior
12	Terrain	Mostly barren, flat to undulating plains, plateaus, depressions
13	Natural resources	Petroleum, natural gas, gypsum
14	Natural hazards	Hot, dry, dust-laden Ghibli is a southern wind lasting one to four days in spring and fall; dust storms, sandstorms

[11] * BORDER COUNTRIES: ALGERIA 982 KM, CHAD 1,055 KM, EGYPT 1,115 KM, NIGER 354 KM, SUDAN 383 KM, TUNISIA 459 KM.

15	Population:	5,613,380 (July 2012 est.)
16	Age structure	0-14 years: 32.8% (male 1,104,590/female 1,057,359) 15-64 years: 62.7% (male 2,124,053/female 2,011,226) 65 years and over: 4.6% (male 146,956/female 153,776) (2011 est.)
17	GDP (purchasing power parity):	$37.97 billion (2011 est.)
18	GDP - per capita	$14,100 (2010 est.)
19	GDP- composition by sector	Agriculture: 3.2% Industry: 49.5% Services: 47.3% (2011 est.)
20	Labour force:	1.16 million (2011 est.)
21	Labour force - by occupation	Agriculture: 17% Industry: 23% Services: 59% (2004 est.)
22	Unemployment rate	30% (2004 est.)

SOURCE: (CIA), 2012

6.3 PEST ANALYSIS OF LIBYA

It was found in the literature review that the National Environmental Conditions are major factors that affect the SMEs sector. Therefore, this chapter discusses the PEST analysis approach (Political, Economic, Social, and Technological).

6.3.1 Political

The history of Libya dates back to thousands of years, and it has an old historical era where, after centuries under the Carthaginian, Byzantine, Roman, and Ottoman empires, Libya was invaded by Italians in 1911-1931. After the second World War and the end of Italian rule, the British suggested dividing Libya into three spheres of influence, which included Cyrenaica (Benghazi and its surroundings in the north west [sic] in the north East) under Britain, Tripolitania (Tripoli now, and its surroundings in the North east [sic] in the North West) under Italy, and the Fezzan (Sebha in the South of Libya [sic] in the South West) desert area under the French (Sayeh, 2006:98).

The division was opposed by Arab nationalists. During 1949 the United Nations agreed to create an independent state of Libya. A national assembly devised a monarchical constitution and offered the throne to Idris Sanusi, the prince of Cyrenaica, becoming the King of the Libyan kingdom in 1952 (Sayeh, 2006)

Then came the military coup of Muammar Gaddafi in 1969, who was overthrown by popular revolution on 17th February 2011.

In February 2011, Libya surprised the world when months of popular protest and fighting led to change the regime after 42 years. In the time since the revolution, positive steps have been made toward establishing a new social contract. The National Congress was elected through free and fair elections that enjoyed nearly 50 per cent turnout among eligible voters. The political road has been marked by deliberation and compromise, and leaders from diverse institutions have found ways to share power and build bridges with international partners (DRI. WEFA, 2001).

Simultaneous with the change in regime, the early movements of a strong civil society has been taking shape. New technologies, which played a critical role in the revolution, are now becoming indispensable pillars of activism and civic participation. A vibrant community of activists, especially those organising online, is working to amplify the people's voices as a post-revolutionary society develops.

In fact, the political profile now sees many changes in government policy that could lead to stabilising after the long-term destabilising nationwide and worldwide performance in Libyan market. Additionally, the recent political performance has full diplomatic relations that has been re-established with western countries, after they were broken off for decades. The new Libyan government has declared that its new approach to foreign policy includes deepening alliances and promoting prosperity by widening commercial relations. Also, the expectation has allowed European oil companies to play a major role in Libya's oil sector and industries over the forecast horizon. (DRI. WEFA, 2001).

6.3.2 Economic

Libya is one of the countries which relies entirely on oil. Despite its strength, unemployment has become an important issue in recent years. The country therefore has been in search of job creation strategies. An important part of such strategies is expanding the manufacturing base of the country, which can be achieved by SMEs.

The Libyan Government, therefore, has implemented a new commercial law that has increased the demand for investing in SMEs, particularly by young people who constitute the highest percentage of the Libyan population. Thus, the financial system of Libya is under great pressure to fulfil the financing needs of SMEs. Conventionally, it has been difficult to obtain external funds for SMEs. Hence, most of the SMEs in the country have been dependent on investors' own savings (Al-hajjar,1989).

According to the United Nations (2001), Libya is classified as a medium-developed country. The report ranked Libya 59th out of 162 countries in terms of human development. In addition the same organisation in 2003 ranked Libya in the same field of study as 61 out of 175 and 64th out of 159 in 2004 (UN, 2006). The Libyan economy is heavily dependent upon oil revenue and remains largely state controlled and regulated. According to IMF (2012), hydrocarbons have long dominated the Libyan economy, accounting for more than 70 percent of GDP, more than 95 percent of exports, and approximately 90 percent of government revenue. With about 3.5 percent of the world's proven crude oil reserves, Libya has a prominent position in the international energy market. Before the revolution, its output was 1.77 million barrels per day of crude oil (equivalent to 2 percent of global output) and close to 0.2 million barrels-equivalent of natural gas (IMF, 2012:2).

The Central Bank of Libya (CBL), lacking access to foreign assets, was unable to sell foreign exchange; the parallel market value of the Libyan dinar (LD) fell, at one point reaching a low of half its official value. With the unfreezing of foreign assets in late 2011, however, the spread between the official and parallel market exchange rates narrowed to less than 10 percent in early 2012. Even so, the consumer price index (CPI) increased significantly in 2011, reflecting physical constraints on imports, domestic supply limitations, and monetary expansion as well as exchange rate depreciation on the parallel market. Although the availability of consumer price data during the conflict was limited, estimates indicate that the CPI increased by about 20 percent in 2011(IMF, 2012:3).

Libya's ranking in the Global Competitiveness Report (2010-2011) has fallen; it is now ranked 100 among 139 countries (it was 91 among 134 countries in 2008-2009). This indicates a drop of 9 places over the 2008/2009 report. Libya is a 'Transition from stage 1 to stage 2' economy. Libya's drop to 100th place signals a weakening of the competitive environment in the nation, with many indicators showing significant drops, including but not limited to basic requirements, institutions, infrastructure, the labour market and innovation.

6.3.3 The Libyan Economy (SMEs)

Libya Enterprise was launched in 2012 to promote the entrepreneurial culture and provide business support for start-ups in Libya. Libyan Enterprise will deliver this on behalf of the new Government of Libya. The aims of this initiative are: (LE, 2013).

- Cooperation with educational and other related institutions to develop the entrepreneurial culture in Libya.
- Establishing a network of Incubators, enterprise centres and other support services.
- Supporting entrepreneurs through training, technical and economic consultation, and helping develop profitable business plans.
- Linking business owners with financing institutions, and identifying new sources of SMEs' finance.
- Proposing business friendly legislation to support entrepreneurs and SMEs.
- Financial and other incentives to encourage start-ups.
- Promoting technology and knowledge transfer through academic and business interface.
- Build the staff into a centre of excellence for entrepreneurship and SMEs development.

6.3.4 Social

Libyan society holds local cultural specificities in high esteem. It is thus expected from foreign businessmen or companies, and tourists, that they respect the prevalent cultural and religious values. Additionally, the

modernisation process of the society has its roots in different time periods, where it is possible to trace the early roots of modernisation in Libya to the second half of the 19th century. During the 19th century, Libya was under the rule of the Ottoman Empire and the country experienced, for the first time, modern schools, hospitals, municipal facilities, a publishing house, newspapers, and a new regulation. Also, development of modern societies in the Third World is mostly due to an increase in the government activity scope. As mentioned on table 6.1, according to the 2012 Libyan census, the total population was 5,613,380. Libya is a young nation: more than 32% per cent of the population is under 15, and less than 5% per cent of Libyans are more than 65 years of age. The birth rate is estimated at 18.74 per 1000 population and the death rate at 3.56 deaths per1,000 population. Additionally, the Libyan literacy rate is about 89.5 percent of the total population, with 95.8% percent for males and 83.3% percent for females (indexmundi, 2014). With the social and economic development Libya has witnessed during the last half of the 20th century, special efforts have been made and stress was put on education including illiteracy adult and technical skills.

Naama (2007) concluded that the cultural environment has great impact on the industry including the weak involvement of women and religion orientation. Furthermore, this research indicates that most owners of SMEs in Libya are male; this means females are faced with more difficulties and constraints due to culture, religion and family ties.

6.3.5 Technological

Modern technology and development have construction since 19th century when the Ottoman Empire was in Libya. In fact, the process of modernisation has executed from the second half of 19th century where the country since that time established the modern infrastructure facilities, such as, modern houses, schools, hospitals, newspaper, and a new regulation. However, a major change came when Italy invaded the country during 1912-1943. In fact, Italy has done most of the changes during 1920s. These changes were in most of life aspects where Libya in the first time has saw modern war equipment and forms of technology in such Post and registration system for people. Libya after

independence in 1951 has had a lot of changes where it established a self-development programme. Then came the military coup of Muammar Gaddafi in 1969, who was overthrown by popular revolution on 17th February 2011(Sayeh, 2006:98).

In February 2011, Libya surprised the world when months of popular protest and fighting led to change the regime after 42 years. The recent revolution does not make Libya equipped fully with latest technology and modern facilities of today's business activity. The infrastructure still needs a lot of development to be in order for the country to reach to the standard of modern lifestyle. As well, the systems of information and transporting still has the 20th century system where IT and network systems are still lagging behind (Sayeh, 2006:98).

6.4 DATA ANALYSIS

According to the respondents, the SMEs have been running for the last 30 years, where the respondents established their enterprises between 1980-2010.Table 6.2 shows the frequency and percentage of firms established by year.

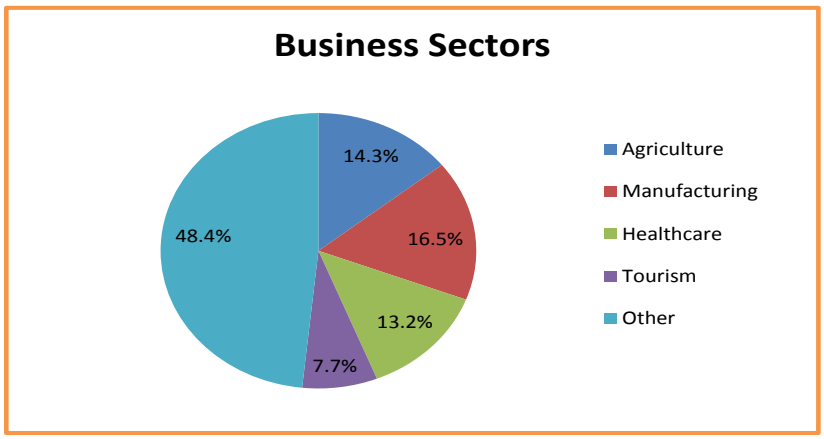
Table 6. 2: Percentage of SMEs reporting date of establishment

	Frequency	**Per cent**
1980	2	**2.2 %**
1986	1	**1.1%**
1992	9	**9.9%**
1998	13	**14.3%**
1999	25	**27.5%**
2000	7	**7.7%**
2002	6	**6.6%**
2005	15	**16.4%**
2006	4	**4.4%**
2007	5	**5.5%**
2008	2	**2.2%**
2009	1	**1.1%**
2010	1	**1.1%**
Total	91	**100 %**

SOURCE: DESIGNED BY THE AUTHOR

Table 6.2 shows that only 13 of sample firms (14%) were established after 2005 and most, i.e. 38 were established between 1998-1999, which is 42%.

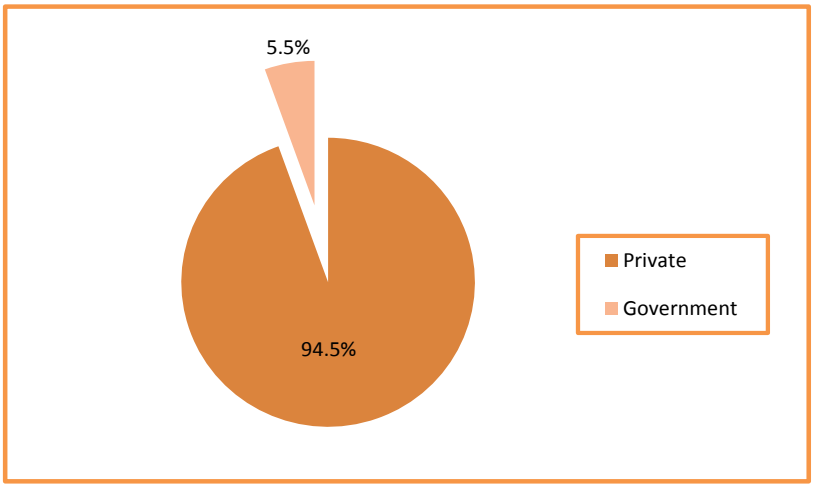
Figure 6. 2: Business sectors in Libyan SMEs



SOURCE: DESIGNED BY THE AUTHOR

It can be seen from figure 6.2 that 16.5% of the business in Libya is manufacturing, 14.3% is agriculture, 13.2% is healthcare, 7.7% is tourism and 48.4% is other sectors[12] did not mention in the questionnaire. It also clear that no business in the energy sector.

Figure 6. 3: The type of business

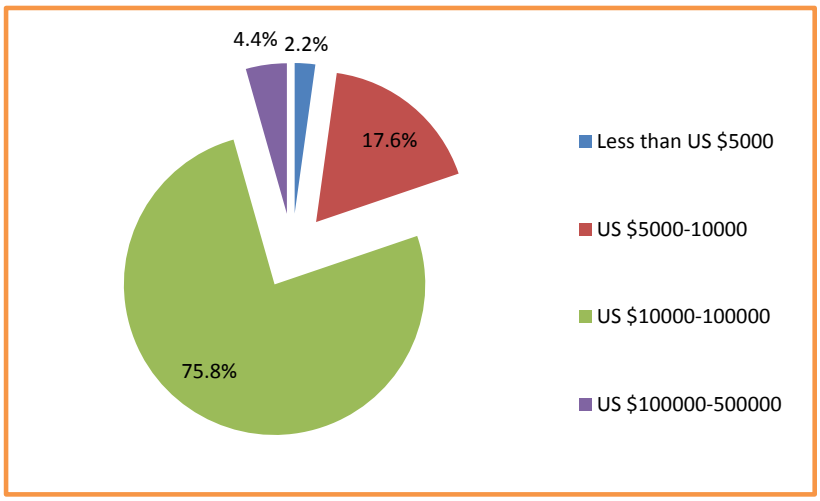


SOURCE: DESIGNED BY THE AUTHOR

The pie chart in figure 6.3 shows that 94.5% of the SMEs in Libya are private, 5.5% is other and there are no governmental enterprises.

[12] The 'others' business sectors refers to all sectors except the four mentioned categorises.

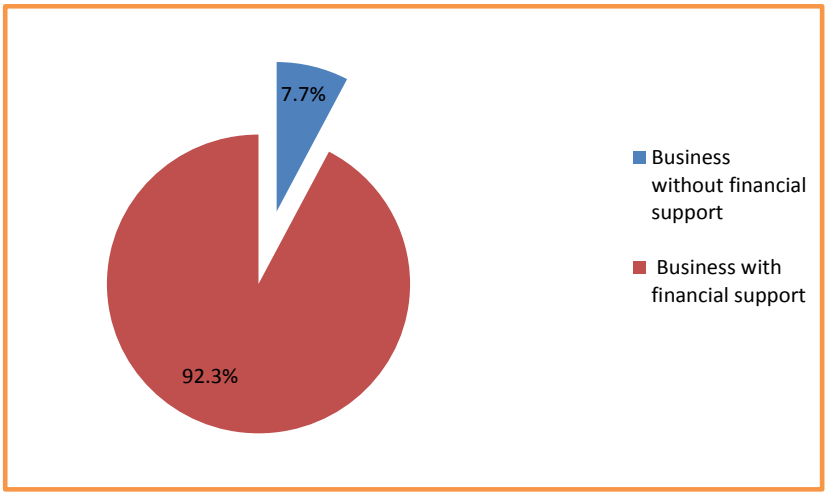
Figure 6. 4: The range of estimated of assets



SOURCE: DESIGNED BY THE AUTHOR

It is clear from the chart in figure 6.4 above that the majority of SMEs in Libya, according to this survey their assets are estimated between US$ 10000-$100000 which represents 75.8%; enterprises with between US $ 5000-10000 with 17.6%, followed by companies with assets estimated of US$ 100000-$500000 of 4.4% and less than US $5000 with 2.2%.

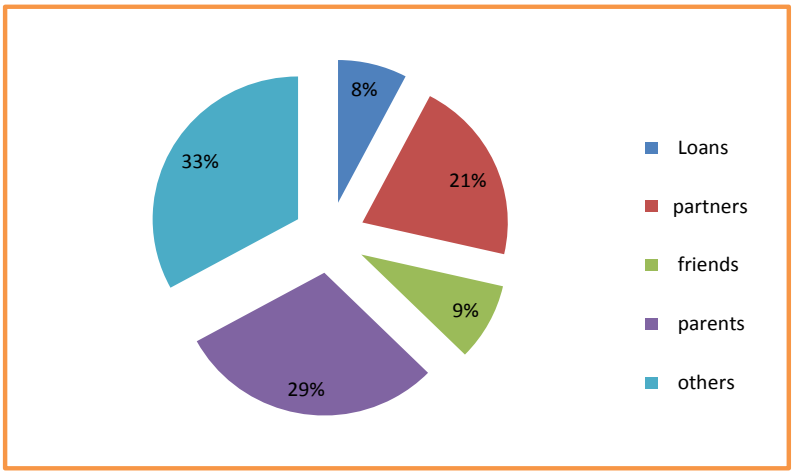
Figure 6.5: The financial support



SOURCE: DESIGNED BY THE AUTHOR

As shown in figure 6.5 that 92.3% of the SMEs in Libya has not got any financial support either from the government or other sources. Although the number of SMEs getting financial support is limited, however their support comes from either Banks or friends and companies.

Figure 6. 6: The source of business finance



SOURCE: DESIGNED BY THE AUTHOR

From figure 6.6 most responses show that personal savings is the main sources of equity finance for SMEs in Libya with 33%. The second was help from parents and partners with 29% and 21% respectively. The loans represent only 8% of the respondents.

Table 6. 3: Financial conditions when applying for finance

	Frequency	**Percentage**
Very difficult	37	41%
Difficult	29	32%
Uncertain	25	27%
Easy	-	**-**
Very Easy	-	**-**
Total	91	100%

SOURCE: DESIGNED BY THE AUTHOR

It can be seen from the table above that nearly 73% of the respondents think that the financial conditions set by conventional banks when they apply for finance for their business indicate either is very difficult or difficult to obtain loans. Justifying that are several factors, including; inflexibility, bureaucracy, interest-based loans and centralisation.

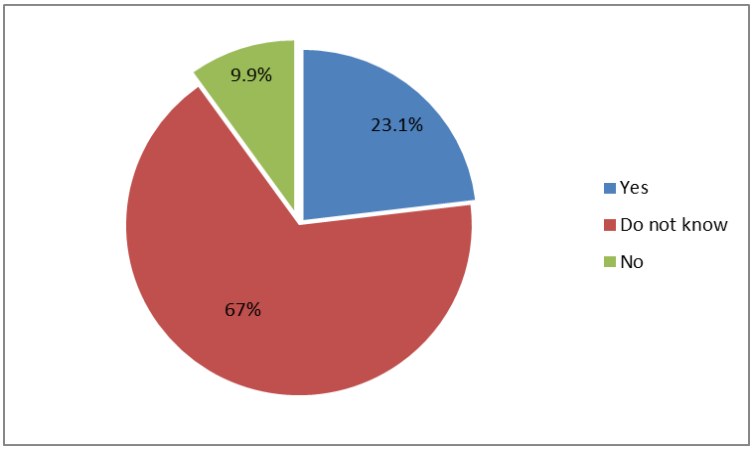
Table 6. 4: Information about business Incubators

	Frequency	Percentage
Do not know	37	41%
No answer	29	32%
Know some information	25	27%
Total	91	100%

SOURCE: DESIGNED BY THE AUTHOR

The table above shows the level of information participants have about business Incubators. It shows that the majority of participants do not know anything about Incubators (41%) followed by 32% who provided no answer and only 27% of the participants had some information.

Figure 6. 7: Usefulness of Business Incubators for Business



SOURCE: DESIGNED BY THE AUTHOR

Figure 6.7 shows the answers of participants regarding whether or not they think that the idea of BIs would be useful for their business. In doing so, 67% of the participants explained that the do not know the answer to that question compared to only 23.1% of the participants who thought BIs are useful, and finally 9.9% thought otherwise.

Table 6. 5: The type of business development services needed

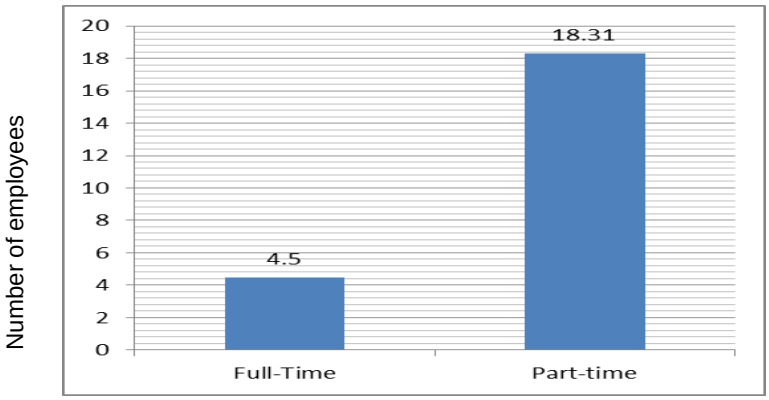
Type of service	Yes	No	Rank
Comprehensive business training programs	**74.7%**	**25.3%**	**1**
General legal services	**67.0%**	**33.0%**	**2**
Assistance with manufacturing practices, processes and technology	**64.8%**	**35.2%**	**3**
Legal advice on international markets regulations	**59.3%**	**40.7%**	**4**

Marketing support (advertising, promotion, market research)	**54.9%**	**45.1%**	**5**
Intellectual property management	**51.6%**	**48.4%**	**6**
Support with accounting or financial management	**47.3%**	**52.7%**	**7**
Help with presentation skills	**40.7%**	**40.7%**	**8**
Assistance with product design and development practices, processes and Technology	**39.6%**	**60.4%**	**9**
International trade assistance (Import/export facilitation)	**26.4%**	**73.6%**	**10**

SOURCE: DESIGNED BY THE AUTHOR

The table above enquired about the type of business development services participants may need: they were asked to tick the desired service out of the 10 listed serviced. It was found that the most needed service is "Comprehensive business training programs" (74.7%) followed by "general legal services" (67%). However, by looking at the table, it was observed that the "international trade assistance" (26.4%) is the least needed service. The table above shows the rank of other services based on participants' answers.

Figure 6. 8: The average number of full time and part time employees



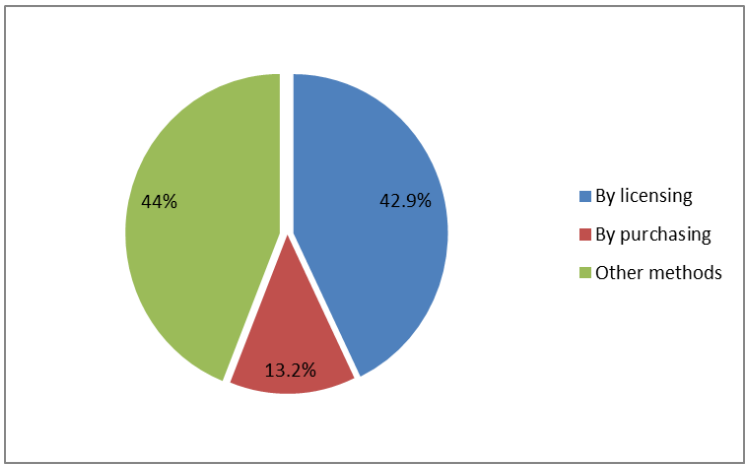
SOURCE: DESIGNED BY THE AUTHOR

Furthermore, participants were asked to state how many employees are in their companies, both full time and part time. It was observed that the companies employed many more part time employees ranging between 6-32 with an average of 18.31; those who work full time ranged between 2-8 employees per company with an average of 4.50.

6.4.1 Innovation

This part of the questionnaire included a number of questions asking about innovation.

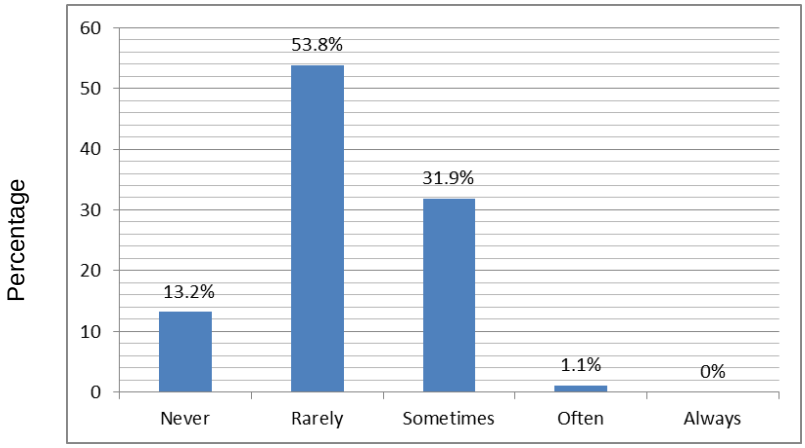
Figure 6. 9: The way companies obtain new technology



SOURCE: DESIGNED BY THE AUTHOR

Through Figure 6.9 it can be seen that the majority of participants stated that the companies they work for obtain new technology by other methods 44% compared to 42.9% of the participants stating that new technologies are mainly obtained by licensing and a minority of 13.2% explaining that new technologies are purchased.

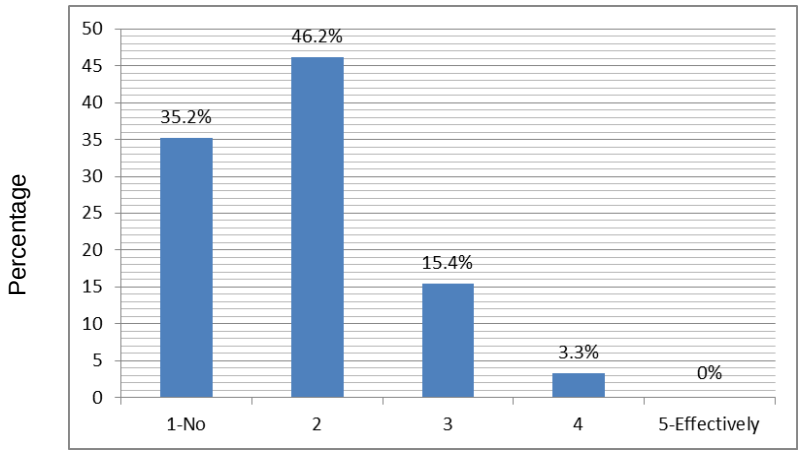
Figure 6. 10: Business and universities collaboration on research and development (R&D)



SOURCE: DESIGNED BY THE AUTHOR

Figure 6.10 explains to what extent business and universities collaborate on research and development (R&D) in Libya. On a scale of 1-5 it was evident that the majority of 53.8% of the participants think that there is rare collaboration and 31.9% explained that collaboration only happens sometimes, whereas 13.2% think that collaboration never happens.

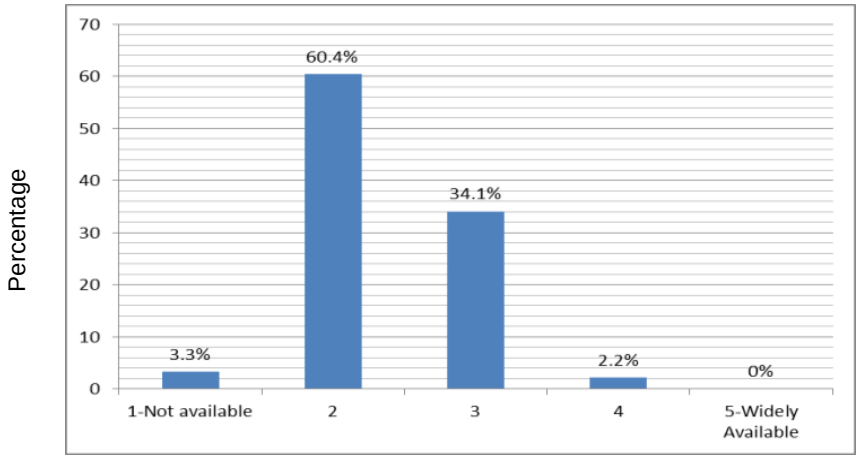
Figure 6. 11: The government's decisions to foster technological innovation



SOURCE: DESIGNED BY THE AUTHOR

Figure 6.11 above illustrates participants' opinion on how the government decisions foster technological innovations in Libya. On a scale of 5 points, 5 referring to effective fostering, participants' answers are mainly below point 2. Of all participants, 46.2% stated a point 2 rating and 35.2% stated no fostering at all by the government.

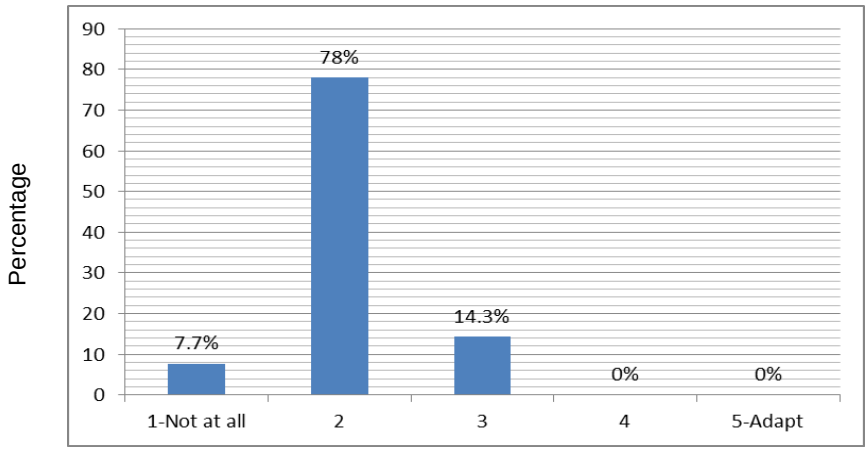
Figure 6. 12: The availability of latest technologies available in the country



SOURCE: DESIGNED BY THE AUTHOR

The availability of the latest technologies in Libya varied based on the participants' opinions. The majority of the participants stated rank 2 (60.4%), i.e. nearly not available, whereas 34.1% stated the middle point between available and not available. Not many participants thought the latest technologies are available or widely available.

Figure 6. 13: Businesses encompassing new technology



SOURCE: DESIGNED BY THE AUTHOR

On a scale between 1 (not at all) and 5 (adapted) figure 6.13, participants were asked to state the extent to which businesses encompass new technologies. The majority ranked their answers as 2, nearly not at all encompassing new technologies (78%), followed by 14.3% of the participants who chose the middle point above which no participants provided answers.

6.4.1.1 Barriers to Innovation

This part of the results provides a list of barriers facing SMEs in Libya.

Table 6. 6: The major barriers to SMEs Innovation in Libya

Barriers	Yes	No	Rank
Shortage of own financial resources for innovation -	78.0%	22.0%	1
Lack of Innovation culture in the Libyan educational institutions	72.5%	27.5%	2
Insufficient use of public procurement to foster innovation in SMEs	69.2%	30.8%	3
Shortages in skills in innovation management	64.8%	35.2%	4
Shortages in skills to manage intellectual property and knowledge	60.4%	39.6%	5
Insufficient knowledge about innovation support services	53.8%	46.2%	6

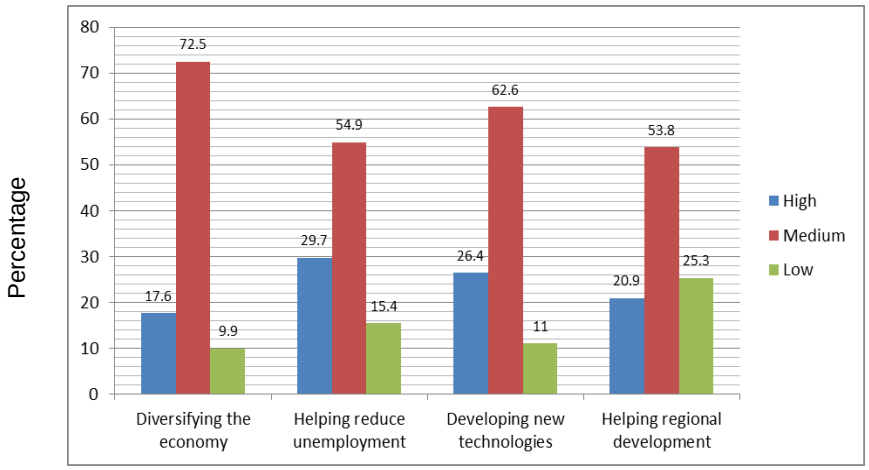
SOURCE: DESIGNED BY THE AUTHOR

Participants were provided 6 main barriers to SME innovation in Libya. In choosing the barriers it was obvious that the most common barrier among participants was “Shortage of own financial resources for innovation” (78%) followed by “Lack of Innovation culture in the Libyan educational institutions” (72.5%). The least ranked barrier was found to be “Insufficient knowledge about

innovation support services" (53.8%). The table above illustrates the percentages of participants' answers and the rank of all barriers.

6.4.1.2 Advantages

Figure 6. 14: The importance of the roles performed by SMEs



SOURCE: DESIGNED BY THE AUTHOR

The figure above illustrates participants' rating of how important are the roles performed by the SMEs in Libya. They were asked to rank them as high importance, medium importance, and low importance. Across all four roles it was evident that they are all of medium importance, but by looking at those with the highest percentage of high importance it was evident that "helping reduce unemployment" received the highest high importance rank (29.7%).

Table 6. 7: Agreement with statements about business incubators

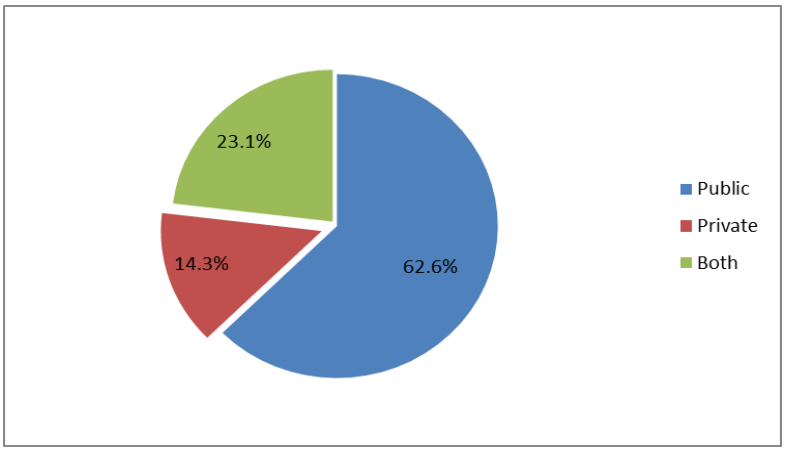
Role	SD	D	U	A	SA	Mean	Rank
Facilities (e.g. office equipment, secretarial support) are often shared in an incubator	-	2.2%	54.9%	23.1%	19.8%	3.60	1
They usually offer training programmes	1.1%	4.4%	54.9%	18.7%	20.9%	3.53	2
They typically provide secretarial support	1.1%	2.2%	65.9%	12.1%	18.7%	3.45	3
They reduce start-up costs	-	3.3%	67.0%	22.0%	7.7%	3.34	4
They are designed to help all sizes of businesses	1.1%	1.1%	71.4%	16.5%	9.9%	3.32	5
They offer reduced, or sometimes free rents	2.2%	3.3%	81.3%	7.7%	5.5%	3.10	6

The incubated businesses are always owned by the incubator	**13.2%**	**7.7%**	**50.5%**	**16.5%**	**12.1%**	**3.06**	**7**
Any business can join an incubator as long as it is willing to pay	**5.5%**	**2.2%**	**92.3%**	**-**	**-**	**2.86**	**8**
Incubated businesses can stay in the incubator as long as they like	**2.2%**	**16.5%**	**79.1%**	**1.1%**	**1.1%**	**2.82**	**9**
Going into an incubator is a more expensive way of starting a business	**14.3%**	**27.5%**	**51.6%**	**2.2%**	**4.4%**	**2.54**	**10**

SOURCE: DESIGNED BY THE AUTHOR

A total of 10 statements about Business Incubators were asked to be rated by participants. Their rating was based on a 5-points scale ranging from strongly disagree to strongly agree. The table above provides the percentages of all statement, including their rank based on the average of scores. The statement to receive the highest agreement was found to be “Facilities (e.g. office equipment, secretarial support) are often shared in an Incubator” (3.60): followed by the statement “They usually offer training programmes” (3.53). The statement that showed the least agreement was found to be “Going into an incubator is a more expensive way of starting a business” (2.54). The table above shows further details on the agreement average for all statements concerning business incubators.

Figure 6. 15: The funding of incubators

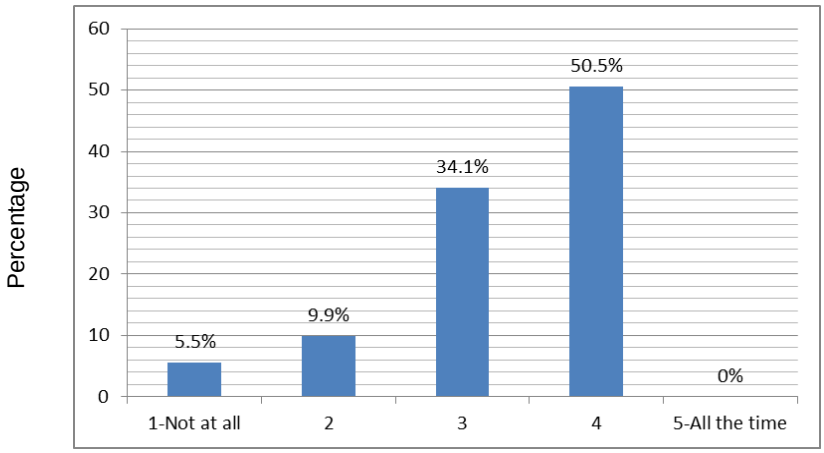


SOURCE: DESIGNED BY THE AUTHOR

The figure above shows participants’ opinions on the way Business Incubators should be funded. The majority (62.6%) explained that they should be publically funded, followed by 23.1% of the participants saying that they should be funded

privately and publically, and only 14.3% explained that Incubators should be funded privately.

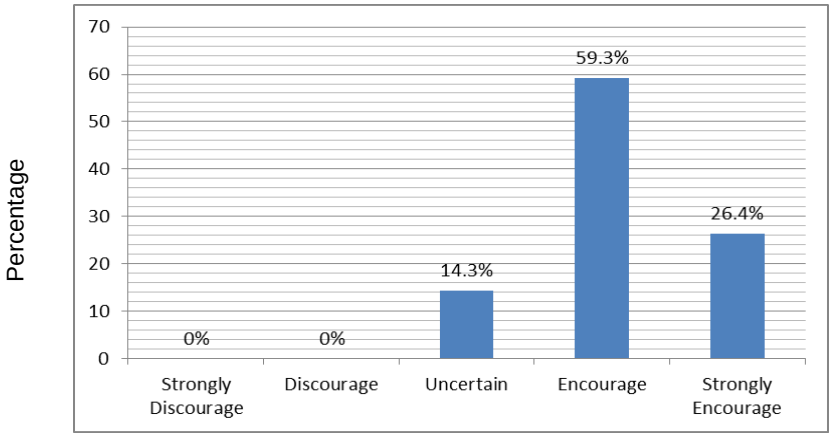
Figure 6. 16: Participants' opinion about SMEs bringing new technology into Libya



SOURCE: DESIGNED BY THE AUTHOR

The figure above shows that participants have a positive opinion about the extent to which SMEs bring new technology to Libya. About 50.5% of the participants provided a rank of 4 (most of the time), followed by 34.1% of the participants who explained that SMEs sometimes bring new technologies. The figure above gives a full indication of all the participants' rankings.

Figure 6. 17: The extent to which regulations encourage or discourage SMEs

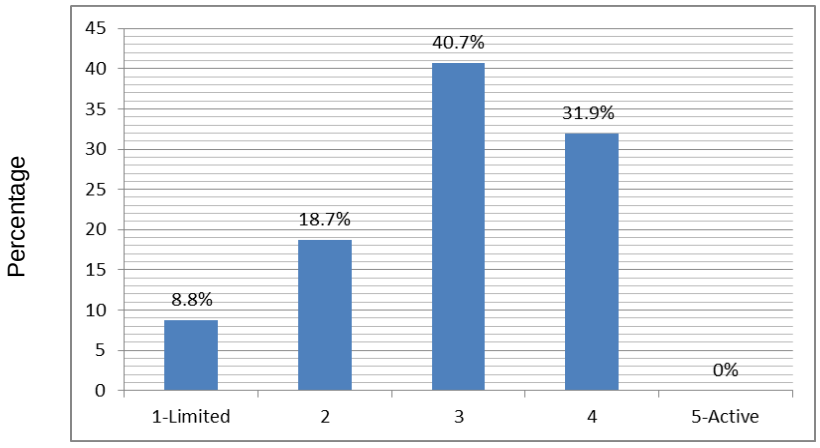


SOURCE: DESIGNED BY THE AUTHOR

Regarding the regulations governing SMEs, participants mainly stated that the regulations positively encourage SMEs. The majority of 59.3% stated that such regulations encourage SMEs, whereas 26.4% thought that the regulations

strongly encourage SMEs, and only 14.3% of the participants were not certain. No one stated discouragement.

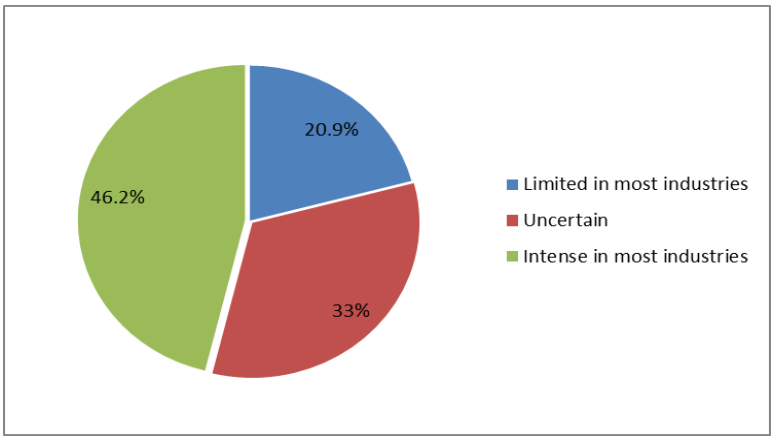
Figure 6. 18: Describing SMEs in the Arab countries



SOURCE: DESIGNED BY THE AUTHOR

Participants were asked how they would describe SMEs in Arab countries; in doing so they provided answers ranging from limited to active SMEs. The majority of participants stated a middle point opinion (40.7%), followed by 31.9% who think that they are somehow active. 18.7% stated that they are somehow limited and 8.8% explained that SMEs in Arab countries are limited.

Figure 6. 19: The intensity of competition between SMEs in the Arab countries



SOURCE: DESIGNED BY THE AUTHOR

Furthermore, and in the Arab countries context, participants were asked to assess the intensity of competition between SMEs in Arab countries. The majority of 46.2% stated that the competition is intense in most countries, followed by 33% of the participants stating an uncertain opinion, whereas 20.9% thought that the competition is limited.

Table 6. 8: SMEs contribution to unemployment, women's employment and students' training

	SD	D	U	A	SA	Mean	Rank
Do you think that small and medium enterprises contribute to the employment of women and youth?	13.2%	18.7%	47.3%	16.5%	4.4%	2.80	1
Do you think that the Incubators should contribute on training programmes for students?	6.6%	48.4%	45.1%	-	-	2.38	2
Do you think that (SMEs) contribute to the elimination of unemployment?	20.9%	27.5%	50.5%	1.1%	-	2.31	3

SOURCE: DESIGNED BY THE AUTHOR

Participants were given three questions about their agreement with the contribution of SMEs to the elimination of unemployment, employment of women and training of students. When answering about the role of SMEs in the elimination of unemployment, the majority of participants showed an undecided opinion (50.5%) and the rest were leaning towards disagreement that the SMEs reduce unemployment. With regard to employing women, participants again stated mainly an undecided opinion (47.3%) and the rest were leaning more towards disagreement. Also, when looking at whether the Incubators contribute to students' training, the majority showed an undecided answer (45.1%) and all the rest showed disagreement.

6.4.2 Inferential statistics

This section of the results chapter is concerned with finding the effects and relationships between variables of interest. The researcher is interested in finding whether Q5 "do you get financial support" Q8 "Do you know any information about Business Incubators?" and Q1 "when was your business established?" have any effect on the Innovation variables (Q13-Q17). Some of the variables are considered categorical and other are considered interval (5-point Likert scale). Inferential statistics generally refer to the tests that enable

the researcher to generalise findings from a small sample to the bigger population.

It is important to determine whether or not the variables on a 5-point Likert scale are considered normally distributed (bell shaped on a histogram) or not. This is determined by measuring the variables' values of Skewness (positive or negative skew from normality) and Kurtosis (peak). The variables on a 5-point Likert scale listed in Table 6.9 are measured for normality. It was found that all of the variables have values of +2 to -2 (Skewness and Kurtosis) which explain that they are normally distributed. Hence, as a result of that, the researcher opted to choose *parametric* tests to examine the effects and the relationships needed in this section.

Table 6. 9: Descriptive statistics of the 5 variables In the innovation category

	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
13) How would you rate the quality of scientific institutions in your country?	1.00	3.00	2.12	.71	-.18	.25	-.99	.50
14) To what extent do business and universities collaborate on research and development (R&D) in your country?	1.00	4.00	2.20	.67	-.05	.25	-.39	.50
15) Do government procurement decisions foster technological innovation in your country?	1.00	4.00	1.86	.79	.65	.25	.01	.50
16) To what extent are the latest technologies available in your country?	1.00	4.00	2.35	.58	.43	.25	.06	.50
17) To what extent do businesses in your country encompass new technology?	1.00	3.00	2.06	.46	.23	.25	1.63	.50

SOURCE: DESIGNED BY THE AUTHOR

6.4.3 The effect of Q5 on Q13-17

This part tests whether receiving financial support has an effect on the quality of scientific institutions, collaboration between businesses and universities, fostering technological innovations, availability of the latest technologies and, finally, businesses encompassing new technologies. Table 6.10 shows the mean scores for those who received or have received financial support. All averages in each dependent variable were similar between both groups, and the results of an independent samples t-test confirmed that the financial support has no significant effect on any of the innovation variables (p>0.05).

Table 6. 10: Group statistics showing the differences between those who received and did not receive financial support

	5) Did you get financial support?	N	Mean	Std. Deviation
13) How would you rate the quality of scientific institutions in your country?	Yes	7	2.28	.487
	No	84	2.10	.728
14) To what extent do business and universities collaborate on research and development (R&D) in your country?	Yes	7	2.28	.75593
	No	84	2.20	.672
15) Do government procurement decisions foster technological innovation in your country?	Yes	7	2.00	.816
	No	84	1.85	.793
16) To what extent are the latest technologies available in your country?	Yes	7	2.14	.377
	No	84	2.36	.596
17) To what extent do businesses in your country encompass new technology?	Yes	7	2.00	.000
	No	84	2.07	.485

SOURCE: DESIGNED BY THE AUTHOR

6.4.4 The effect of Q8 on Q13-17

A one way Analysis of Variance (ANOVA) was used to measure the effect of Q8 “Do you know any information about Business Incubators” (answered on three points) on the innovation variables (Q13-Q17). The descriptive analysis showed the average scores between the three categories of Q8 (do not know, no answer, know some information). The analysis through ANOVA showed no significant effect of Q8 on any of the innovation questions (p>0.05). Table 6.11 illustrates the average scores and other descriptive statistics.

Table 6. 11: Descriptive statistics of differences based on information about incubators

		N	Mean	Std. Deviation
13) How would you rate the quality of scientific institutions in your country?	Do not know	62	2.20	.656
	No answer	9	2.22	.833
	Know some information	20	1.80	.767
	Total	91	2.12	.712
14) To what extent do business and universities collaborate on research and development (R&D) in your country?	Do not know	62	2.09	.619
	No answer	9	2.55	.726
	Know some information	20	2.40	.753
	Total	91	2.20	.675
15) Do government procurement decisions foster technological innovation in your country?	Do not know	62	1.77	.755
	No answer	9	2.11	.781
	Know some information	20	2.05	.887
	Total	91	1.86	.791
16) To what extent are the latest technologies available in your country?	Do not know	62	2.37	.550
	No answer	9	2.33	.500
	Know some information	20	2.30	.732
	Total	91	2.35	.584
17) To what extent do businesses in your country encompass new technology?	Do not know	62	2.03	.511
	No answer	9	2.11	.333
	Know some information	20	2.15	.366
	Total	91	2.0659	.46672

SOURCE: DESIGNED BY THE AUTHOR

6.4.5 The relationship between Q1 and Q13 - Q17

This particular part was best suited for a relationship test, where Q1 (the year the business was established) was correlated with the innovation questions (Q13-Q17). Using Pearson's r Correlation coefficient, no significant relationship was found between the years of business establishment and the innovation questions.

Table 6. 12: The correlation between financial support and innovation

		Q1
13) How would you rate the quality of scientific institutions in your country?	Pearson Correlation	.030
	Sig. (2-tailed)	.780
	N	91
14) To what extent do business and universities collaborate on research and development (R&D) in your country?	Pearson Correlation	-.086
	Sig. (2-tailed)	.418
	N	91
15) Do government procurement decisions foster technological innovation in your country?	Pearson Correlation	-.083
	Sig. (2-tailed)	.437
	N	91
16) To what extent are the latest technologies available in your country?	Pearson Correlation	-.098
	Sig. (2-tailed)	.357
	N	91
17) To what extent do businesses in your country encompass new technology?	Pearson Correlation	-.118
	Sig. (2-tailed)	.267
	N	91
* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed).		

SOURCE: DESIGNED BY THE AUTHOR

6.4.6 The relationship between Q5 and Q12

Using a chi-square test to measure the association between two categorical variables Q5 (financial support) and Q12 (Obtaining new technology), again no significant association was found between both variables ($p>0.05$). The table 6.13 below illustrates the percentages of participants in each cell of a cross-tabulation.

Table 6. 13: The association between financial support and obtaining new technology

			5) Did you get financial support?		Total
			Yes	NO	
12) How do your company obtain new technology?	Licensing	Count	4	35	39
		% within	10.3%	89.7%	100.0%
	Purchasing	Count	0	12	12
		% within	.0%	100.0%	100.0%
	Other	Count	3	37	40
		% within	7.5%	92.5%	100.0%
Total		Count	7	84	91
		% within	7.7%	92.3%	100.0%

SOURCE: DESIGNED BY THE AUTHOR

6.4.7 Association between Q5 and Q19

A Chi-square test was again performed to see any association between the barriers facing SMEs in Libya and the availability of financial support. Similarly no obvious significant association was found (p>0.05), meaning that regardless of receiving or not receiving financial support, all participants rated the barriers in a similar way.

Table 6. 14: Association between barriers of SMEs and financial support

		Financial support	
Q19: Barriers		Yes	No
Insufficient use of public procurement to foster innovation in SMEs	yes	6.3%	93.7%
	No	10.7%	89.3%
Shortages in skills in innovation management	yes	5.1%	94.9%
	No	12.5%	87.5%
Shortage of own financial resources for innovation	yes	7.0%	93.0%
	No	10.0%	90.0%
Shortages in skills to manage intellectual property and knowledge	yes	5.5%	94.5%
	No	11.1%	88.9%
Insufficient knowledge about innovation support services	yes	4.1%	95.9%
	No	11.9%	88.1%
Lack of Innovation culture in the Libyan educational institutions	yes	6.1%	93.9%
	No	12.0%	88.0%

SOURCE: DESIGNED BY THE AUTHOR

6.4.8 Association between Q1 and Q12

The last part is concerned with the association between obtaining new technologies and the years the businesses were established. Licensing seemed to be most popular in the year 1999 (25.6%) and the year 2005 (20.5%). Purchasing was popular mainly in the year 1999 (33.3%) and the year 1998 (25%) and lastly other methods of obtaining new methods were mainly popular in 1999 (27.5%) and 2005 (17.5%). However, despite all these differences no significant association (p>0.05) was found between methods of obtaining new technologies and the years when businesses were established.

Table 6. 15: Association between financial support and year the business was established

			12) How do your company obtain new technology?			Total
			Licencing	Purchasing	Other	
Q1	1980	Count	1	0	1	2
		% within	2.6%	.0%	2.5%	2.2%
	1986	Count	1	0	0	1
		% within	2.6%	.0%	.0%	1.1%
	1992	Count	7	1	1	9
		% within	17.9%	8.3%	2.5%	9.9%
	1998	Count	6	3	4	13
		% within	15.4%	25.0%	10.0%	14.3%
	1999	Count	10	4	11	25
		% within	25.6%	33.3%	27.5%	27.5%
	2000	Count	2	0	5	7
		% within	5.1%	.0%	12.5%	7.7%
	2002	Count	2	1	3	6
		% within	5.1%	8.3%	7.5%	6.6%
	2005	Count	8	0	7	15
		% within	20.5%	.0%	17.5%	16.5%
	2006	Count	1	1	2	4
		% within	2.6%	8.3%	5.0%	4.4%
	2007	Count	1	1	3	5
		% within	2.6%	8.3%	7.5%	5.5%
	2008	Count	0	1	1	2
		% within	.0%	8.3%	2.5%	2.2%
	2009	Count	0	0	1	1
		% within	.0%	.0%	2.5%	1.1%
	2010	Count	0	0	1	1
		% within	.0%	.0%	2.5%	1.1%
Total		Count	39	12	40	91
		% within	100.0%	100.0%	100.0%	100.0%

SOURCE: DESIGNED BY THE AUTHOR

6.5 CONCLUSION

The importance of SMEs and their role in alleviating poverty, diversifying economic activity, and creating opportunities, should not be ignored. Several

countries have proven the success of using SMEs growth and development as a means for economic development, in many countries around the world. SMEs are becoming a topic of major strategic importance due to their role in revitalising the economy and reducing unemployment (El-Kabbani and Kalhoefer, 2011). This heightened concern is significant, particularly in the countries that depend on oil and are seeking to diversify their economic base, such as Libya. However, it is widely recognised that the SME sector faces more difficulties than large businesses in terms of accessing finance to be innovative.

The objective of this chapter was to find out whether the financing problem still exists which has been found by previous researchers. The analysis shows that one of the main reasons for the majority of owners of SMEs avoiding bank loans was the interest-based loans. The bureaucracy was also considered as one of the obstacles that prevent the SMEs' owners obtaining loans. In addition, inflexibility and centralisation are key problems.

SMEs often have difficulty in obtaining the necessary financial resources to effectively expand/grow their businesses. Libya, like other developing countries, has a weak access to traditional growth capital. Most SMEs in Libya depend on their savings or other partners, thus limiting the development of SMEs. It is often unavailable or difficult to obtain financial support, but even where it is available, in principle, most SMEs have very low awareness or understanding of financial aid. Even where there is awareness, many Libyan SMEs have a cautious attitude toward the issue of the interest rate, regardless of its procedure. However, the emergence of Islamic finance should make a significant difference in eliminating this obstacle (i.e. the concept of loan interest). Underlying all this is a more fundamental issue that concerns the relevant knowledge and availability of Islamic funding.

Eltaweel (2011) argued that not only is Libya an extreme case in the use of trade credit on very extended terms but this is coupled with inconsistent and unfavourable government policy. This is consistent with this study which finds this is also a strong destabilising factor in the Libyan SMEs sector.

The research indicates that most owners of SMEs in Libya are male; this means females are faced with more difficulties and constraints due to culture, religion and family ties. Therefore, Libyan culture may act as a deterrent to the development of innovation in SMEs. These findings are in keeping with a research paper by the author in his pilot study[13]. The findings of this research illustrate that the main six barriers that hinder SMEs' innovation in Libya are as follows:

- Shortage of own financial resources for innovation
- Lack of innovation culture in the Libyan educational institutions
- Shortages in skills in innovation management
- Insufficient use of public procurement to foster innovation in SMEs
- Shortages in skills to manage intellectual property and knowledge
- Insufficient knowledge about innovation support services

Having identified these main problems faced by SMEs in Libya, the next chapter discusses the analysis of the case studies of Business Incubators which will contribute to the establishment of the prerequisite guidelines for establishing and implementing Business Incubators in the Arab countries, with particular interest in Libya.

[13] Hamad E and Arthur L., (2011). The Concept of Innovation in Libya, the 6th ECIE, Aberdeen, UK. Published in the ECIE's proceedings

CHAPTER SEVEN

JORDAN AND UAE CASE STUDIES

CHAPTER SEVEN - JORDAN AND UAE CASE STUDIES

ABSTRACT

This chapter is a comparative study between Business Incubators (BIs) in Jordan and UAE. A questionnaire was used as the data collection method for both cases to analyse the performance of BIs. Three sets of variables for analysis were used: management and operational policies, services, and performance outcomes of the BIs. This chapter also highlighted the financial, networking and organisational aspects of the incubation units in both Jordan and UAE. The results contribute to the generalisation of the establishment and implementation of BIs in Libya and other Arab countries.

7.1 INTRODUCTION

The previous chapter explored overall trends in the data of SMEs in Libya. This chapter attempts to present an overview comparison of BIs in Jordan and UAE which provide an overall understanding of the BI environment in these two emerging economies. The researcher mainly focuses on: the objectives, structure and governance of incubators, selection of tenants/incubatees, funding for incubators and tenants, services provided by incubators, performance and outcomes. This chapter introduces the design of the case study and the results obtained. It also includes a discussion regarding the results found.

7.2 BUSINESS INCUBATORS IN JORDAN AND UAE

This study examines and analyses the resources offered by a selection of Arab Business Incubators. Jordan and UAE Business Incubators have been selected where they have established Business Incubators several years ago. Although Jordan and UAE have some different characteristics, both countries share with the rest of Arab countries some main factors such as religion, social culture, climate, and population. This comparative study mainly shows how the nature of Incubators (BIs, public or private) influences the efficiency of the Incubator system. The face-to-face survey was conducted with BIs in both countries and is divided into four main parts, excluding the general information: the first part covers the Incubator information; the second part focuses on the selection

process and application. The third part addresses the Incubators' programme and services, and the final section is analyses graduation and impact. According to the respondents, the Business Incubation Programme in Jordan has been running for the last nine years, where the first Incubator was founded in 2005, and the last Business Incubator was established in 2010. The Business Incubation Programme in UAE has been running for the last twelve years, where the first Incubator was founded in 2002, and the last Business Incubator was established in 2011. In Jordanian and UAE Incubation the main objective is to focus on enterprise development. Hence, employment generation will follow successful and sustainable commercial outcomes, which will be achieved when BIs create a dynamic competitive environment for entrepreneurship and give entrepreneurs an advantage resulting from innovation and creativity.

7.3 COMPARISON OF JORDAN AND UAE (BIS)

This section compares Jordanian and UAE Business Incubators (BIs) along various dimensions by drawing on the results of the questionnaire. Based on framework developed by Mian (1997), the analysis was organised around three sets of variables:

1. Description of Incubator target groups, financial models and target sector of BIs;
2. The selection Process;
3. The services; and performance outcomes, selection and graduation.

It is to be emphasised that central government is directly involved in the implementation and the monitoring of BIs in both Jordan and UAE, that is: BIs are mainly supported by public funding (they are non-profit organisations in Jordan), whose function is to reduce the cost of creating businesses by providing services, with the ultimate goal of creating jobs and sustaining regional economic development. Although there is also private sector BIs in UAE, half of BIs are promoted by the central government and, therefore, the researcher takes them for comparison with Jordan's BIs in this part. However, the researcher also intends to survey BIs promoted by both the government and the private sector in the next stage of this research to have a proper understanding of the BI environment in both countries.

The first part of the questionnaire enquired about the general Incubator information based on Business Incubators in Jordan and UAE. Based on the first information, it was determined that Incubators in both countries have been established since the year 2002 in UAE and 2005 in Jordan, the last established Incubator in Jordan was in 2010 and in 2011 in UAE.

7.3.1 Description of Incubators

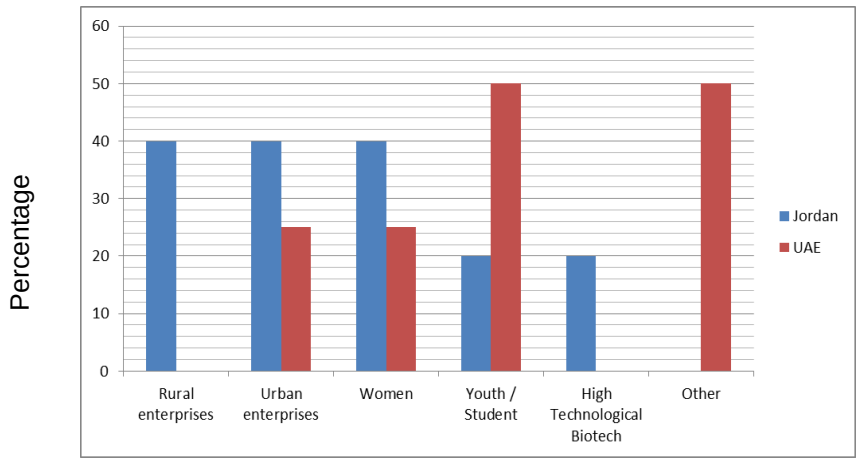
Describing the incubators, in Jordan they were mainly private (40%) and Consortium (40%), whereas in UAE Incubators were mainly described as governmental (75%) and private (50%). Further description of the Incubators in both countries revealed that in Jordan they mainly follow a non-profitable financial model (80%) and only 20% stated they follow a profitable model. In UAE 50% stated they follow a profitable financial model and 50% stated a non-profitable model. See figure 7.1 below.

Figure 7. 1: The financial model adopted by Jordan and UAE incubators

SOURCE: DESIGNED BY THE AUTHOR

Based on Figure 7.2 below, incubators appeared to target rural enterprises (40%) and urban enterprises (40%). Women (40%) in Jordan. In UAE the main focus appeared to be on Youth and students (50%) or other target groups (50%).

Figure 7. 2: The target group of incubators



SOURCE: DESIGNED BY THE AUTHOR

Table 7. 1: The target sector of Business Incubators in Jordan and UAE

Sector	Jordan	UAE
Agriculture	40%	20%
Energy	40%	--
Manufacturing	60%	20%
Healthcare	20%	--
Tourism	40%	--
Other	60% (ICT)	80% (technology)

SOURCE: DESIGNED BY THE AUTHOR

From Table 7.1 above, the majority of Jordanian Incubators' target sectors are manufacturing and ICT, with 60% of the Incubators, followed by agriculture, energy and tourism with 40%. The only exception is healthcare which has just 20% working in this sector. In UAE, 80% of the Incubators are working in technology sector and 20% agricultural and 20% in manufacturing.

Participants were further asked to describe their main strategic objectives (see Table 7.2), in total they were provided a list of 12 objectives that they were asked to rank on a 5-point importance scale (5=high importance, 1=low importance). By looking at the table below it can be observed that the Jordanian Incubators gave high importance to all the strategic objectives compared to UAE Incubators. This difference was observed in all the objectives apart from the first objective "affect policymaking and regulation" which was shown to be more important in UAE compared to Jordan. By observing the ranking of both

countries together it can be concluded that most objectives can be considered important.

Table 7. 2: The incubators' strategic objectives

Strategic Objectives		High Importance				Low Importance
		5	4	3	2	1
Affect policymaking and regulations	Jordan			100%		
	UAE	25%	25%	50%		
Build/Accelerate growth of a local community	Jordan	80%	20%			
	UAE	50%	25%	25		
Commercialise research	Jordan	20%	60%	20		
	UAE			25%	50%	25%
Commercialise technologies	Jordan	40%	60%			
	UAE	25%	25%		50%	
Create companies that generate export revenues	Jordan	100%				
	UAE	33.3%	33.3 %			33.3%
Create employment	Jordan	100%				
	UAE	25%	25%	25%		25%
Develop profitable enterprises	Jordan	100%				
	UAE	75%	25%			
Encourage people to foster a community's entrepreneurs	Jordan	100%				
	UAE	50%	25%	25%		
Encourage people living on social benefits back into work	Jordan		60%		40%	
	UAE	25%		50%		25%
Provide income generating opportunities for disadvantaged and minority groups	Jordan	20%	60%	20%		
	UAE			50%	25%	25%
Foster the awareness of potential entrepreneurs	Jordan	100%				
	UAE	50%	25%	25%		
Retain Businesses within the community	Jordan	80%	20%			
	UAE	50%		25%		25%

SOURCE: DESIGNED BY THE AUTHOR

Table 7.3 provides the frequency of participants' answers concerning 13 challenges and barriers faced by Incubators in both Jordan and UAE. All challenges and barriers were ranked on a 5-point scale to showed how important they are (5=high importance, 1=low importance). Overall it looks like the Jordanian Incubators showed importance or high importance in almost half of the barriers compared to the UAE Incubators which generally shown medium to low importance throughout most barriers.

Table 7. 3: The challenges and barriers facing incubators

Challenges and Barriers		High Importance				Low Importance
		5	4	3	2	1
Applicants have no start-up financing	Jordan		20%	60%	20%	
	UAE	25%		50%	25%	
Lack of entrepreneurship culture	Jordan	40%	60%			
	UAE	25%	50%	25%		
Government regulations	Jordan		20%	20%	40%	20%
	UAE	25%	25%	50%		
Business skills are needed	Jordan	40%	60%			
	UAE	25%	50%	25%		
Insufficient technical skills in the community	Jordan	20%			20%	60%
	UAE	50%	50%			
Shortage of business development tools	Jordan	80%			20%	
	UAE			75%		25%
Shortage of financial sources for incubator operations	Jordan	80%	20%			
	UAE	25%	25%		50%	
inefficient of market analysis/research data	Jordan	20%	20%		60%	
	UAE		50%		25%	25%
Lack of marketing tools/recognition	Jordan		20%	80%		
	UAE			33.3%	33.3%	33.3%
Low demand for business incubators	Jordan					100%
	UAE			25%	50%	25%
Scarcity of innovation	Jordan	20%		20%	60%	
	UAE			50%	50%	
lack of patents	Jordan		20%		20%	60%
	UAE			25%	50%	25%
Low networking and knowledge sharing platforms	Jordan		20%	20%	60%	
	UAE			25%		75%

SOURCE: DESIGNED BY THE AUTHOR

In terms of funding, most Incubators in Jordan (80%) obtain a mixture of funding (government, private, and self-generated), and 20% explained that they mainly rely on government funds. In UAE Incubators appear to be mainly relying on government aid (66.7%), whereas some rely on a mixture of funding aid (33.3%). None of the participants stated a private donation or self-generated on their own as a sources of funding.

7.3.2 Selection Process and Applications

This part of the analysis looks at the **selection process** and application for new applicants. Responsibility for the assessment of new applicants, in Jordanian BIs, selection is often organised based on the project and the clients. The selection team comprises incubator staff and the committee and the manager of the incubators. There are several criteria depending on the role of each incubator; for example, personal attributes idea feasibility, personal characteristics, project applied-idea, profitable business and qualification of tenants. Whereas in UAE, the selection of new applications is sometimes relies on the managers or the partners of incubator. The criteria used by the UAE incubation unit are new business, ideas level, market size, competitive advantage and new idea.

In Jordan 100% of the incubators rely on a committee to select new applicants; however, in UAE it appears to be different, the majority (33.3%) referred to committees as the method of selection and equally they stated that some new applicants are recruited by managers (33.3%) and other methods (33.3%).

7.3.3 The Incubation Program and Services

This part of the analysis section refers to the incubation programs and services offered. Firstly Incubators in Jordan and UAE were asked about the type of services they provide for their clients. As can be seen in table 7.4 they were asked to rate 10 possible services and how important they think such services are in their incubators. Overall it was evident that all the services were more important in Jordan compared to UAE. In the table 7.4 it can be seen that there is an overall agreement that most services are important regardless of the country but there is a tendency among the UAE Incubators to rate the services with lower importance compared to their Jordanian counterparts.

Table 7. 4: The types of programs and services offered

Type of service		Extremely important				Not important
		5	4	3	2	1
Assistance with manufacturing practices, processes and technology	Jordan	20%	20%	60%		
	UAE			25%	25%	50%
Comprehensive business training programs	Jordan	100%				
	UAE		50%		50%	
General legal services	Jordan	100%				
	UAE		25%	25%	50%	
Intellectual property management	Jordan	40%	40%	20%		
	UAE		25%	25%	25%	25%
Marketing support (advertising, promotion, market research)	Jordan	60%	40%			
	UAE		50%	50%		
Assistance with product design and development practices, processes and Technology	Jordan	60%	40%			
	UAE	50%	25%	25%		
Support with accounting or financial management	Jordan	100%				
	UAE	50%	25%	25%		
International trade assistance (import/export facilitation)	Jordan	40%	60%			
	UAE			25%	50%	25%
Help with presentation skills	Jordan	80%		20%		
	UAE	50%		25%	25%	
Legal advice on international markets regulations	Jordan	100%				
	UAE		25%	50%	25%	

SOURCE: DESIGNED BY THE AUTHOR

Jordanian and UAE Incubators were further asked to rate the facilities they provide, and a list of 7 facilities was provided. The Jordanian Incubators explained that they provide 100% facilities such as High-speed internet, office equipment, office services, office space, and meeting rooms. Generally they appear to rate such facilities with more importance compared to the UAE Incubators who appeared to provide 100% importance only with regard to office space. Table 7.5 includes all the frequencies on a 5-point importance scale.

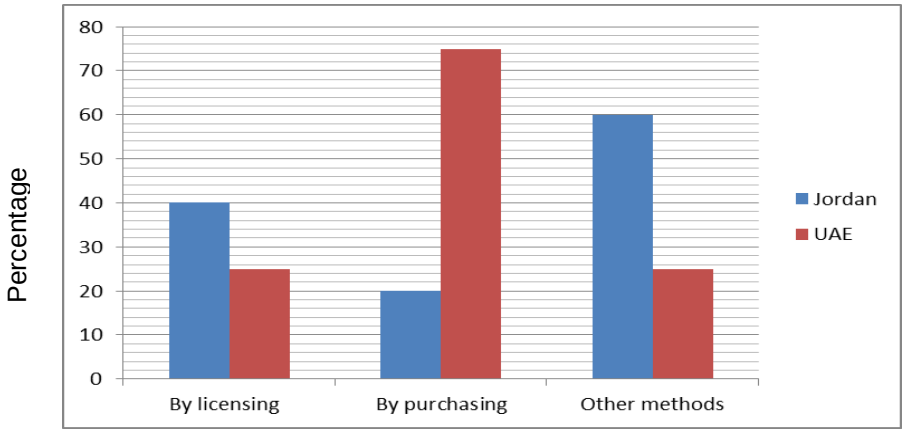
Table 7. 5 : The types of facilities offered by incubators

Type of facilities	Country	extremely important				Not important
		5	4	3	2	1
High-speed Internet access	Jordan	100%				
	UAE	75%	25%			
Laboratories	Jordan		60%	20%		20%
	UAE		100%			
Office equipment	Jordan	100%				
	UAE	25%		50%	25%	
Office services (phone, fax, copy and printing machines)	Jordan	100%				
	UAE	25%	25%	25%	25%	
Office space	Jordan	100%				
	UAE	100%				
Specialised equipment or facilities (computers, forklift, kitchen)	Jordan	80%			20%	
	UAE	25%	25%			50%
Meeting room	Jordan	100%				
	UAE	27%	25%			

SOURCE: DESIGNED BY THE AUTHOR

Participants were asked to describe the way new technologies are obtained. Obtaining a new technology for the Jordanian Incubators appeared to be mainly using methods other (60%) than licencing (40%) or purchasing (20%). However in UAE they rely mainly on purchasing their new technology (75%) compared to licencing (25%) or other methods (25%).

Figure 7. 3: Ways of obtaining new technologies



SOURCE: DESIGNED BY THE AUTHOR

Table 7.6 below provides further information about the collaboration and quality of institutional and the governmental involvement. The quality of scientific institutions in Jordan and in UAE appeared to be just leaning towards good quality. 40% of the participants in Jordan rated the quality as somehow poor, 40% explained it was good and 20% provided a moderate quality. On the other hand, in UAE 50% rated it as moderate and 50% thought the quality is good.

Collaboration between businesses in universities in Jordan appears to happen sometimes (60%), 20% explained it happens often and 20% said it is rare. On the other hand, in UAE, 50% said that collaboration is rare or happens sometimes (50%).

Furthermore, it appears that in UAE the government procurement decisions foster technological innovation effectively (75%), whereas in Jordan the fostering appears be more moderate (80%).

The availability of the latest technologies appeared to be 100% and widely available in UAE compared to Jordan where 60% think it is somehow available or moderately available (20%) or limited (20%). In UAE it appears that businesses 100% encompass new technology, whereas in Jordan 80% think encompassing new technology is moderate and 20% think it is somehow encompassed.

Table 7. 6: Quality and collaboration

How would you rate the quality of scientific institutions in your country?		**1 Poor**	**2**	**3**	**4**	**5 Excellent**
	JORDAN		40%	20%	40%	
	UAE		50%	50%		
To what extent do business and universities collaborate on research and development (R&D) in your country?		1-Never				5-Always
	JORDAN		20%	60%	20%	
	UAE		50%	50%		
Do government procurement decisions foster technological innovation in your country?		1-No				5-Effectively
	JORDAN		20%	80%		
	UAE		25%			75%
To what extent are the latest technologies available in		1-Not Available				5-Widely available

your country?	JORDAN		20%	20%	60%	
	UAE					100
To what extent do businesses in your country encompass new technology? If so, give examples please.		1- Not at all				5-Adapt
	JORDAN			80%	20%	
	UAE					100%

SOURCE: DESIGNED BY THE AUTHOR

In 2009, the jobs created in Jordan were 10, 110 and 150 as reported by three participants (average=90). No new jobs were reported in UAE. In 2010, between 2 and 150 were created in Jordan, whereas in UAE only 6 jobs were created based on the report of one participant only. In 2011, more jobs were created by Incubators in Jordan, ranging from 5 to 300 jobs. In UAE three participants reported a creation of 11, 14 and 20 jobs. Overall, it is evident that Incubators created more jobs in Jordan compared to the UAE.

With regard to the number of patents and the copyrights generated by the Incubators, it was found that two patents were generated by two participants in Jordan and one participant from UAE said they have two patents. On the other hand, copyrights were reported more in Jordan compared to UAE. Three participants reported one copyright and one reported six copyrights. In UAE one participant reported three copyrights.

Table 7.7 provides further details about Incubators and the role of SMEs. In this part of the questionnaire participants were further asked to state to what extent they think that small and Medium Enterprises (SMEs) import new technology into their country. By looking at both countries it was shown that they all participants seemed to disagree that such businesses bring new technologies, however UAE Incubators showed more disagreement compared to the Jordanians.

Participants were asked about whether or not the current legislation for SMEs encourages or discourages the use of new technology. 60% of the Jordanian participants stated that the legislation discourages new technologies and 40% did not know. On the other hand, in UAE 75% stated that the legislation strongly discourages new technologies, whereas 25% saw that the legislation only

discourages new technology. Overall, there seems to be discouragement in both countries resulting from the legislation.

In describing the SMEs in the Arab countries, participants in both countries Jordan (60%) and UAE (75%) explained mainly medium active SMEs. 20% of the Jordanian participants showed a rating of somehow limited SMEs and 20% explained somehow active incubators; on the other hand, 25% of participants in UAE thought SMEs are active.

The intensity of the competition between SMEs in Arab countries was shown to be to be modest overall, in Jordan (40%) and in UAE (50%). In Jordan 20% explained somehow intense competition compared to 25% in UAE, and 20% of the Jordanian participants showed intense competition between SMEs. An the other end, 20% of the Jordanian and 25% of the UAE participants showed somehow limited competition between SMEs in the Arab countries.

Participants in Jordan in UAE were asked if they think that small and medium enterprises (SMEs) contribute to the elimination of unemployment, and overall there seemed to be an agreement in both countries. In Jordan 40% strongly agree and 20% agree that SMEs contribute to the reduction of unemployment, however 40% strongly disagree. In UAE 100% of the participants agree that SMEs reduce unemployment.

In terms of women and youth employment, 100% of the UAE participants agree that SMEs contribute to their employment. 40% of the Jordanian participants agree and 20% strongly agree that SMEs contribute to the employment of youth and women but 40% thought that SMEs do not. The final question asked the participants about whether or not the incubators should contribute to the training programmes for students. In Jordan 80% and in UAE 75% agree that the incubators should make a contribution, whereas 20% of participants in Jordan and 25% in UAE disagree with providing training programmes for students.

7.4 GOVERNANCE STRUCTURE

In Jordan, BIs, at the macro-level, are under the direction of central government, namely the Jordan Enterprise Development Corporation (JEDCO). But at the micro-level, they are governed by local government, sometimes with

participation from universities, state-owned enterprises and other sponsors. These founders and funding institutions have representatives on the BIs' Board of Directors, which is responsible for making policies and monitoring BIs.

In UAE, it has been establishing an organisation to support SMEs (Mohammed Bin Rashid Establishment for SMEs Development). The main objectives of this institution are:

1. Promote entrepreneurship by supporting innovation and research.
2. Enhance employability by providing access to quality education and professional development programmes.
3. Support business incubators in UAE.

The Business Incubation Centre is also one of the pillars of Mohammed Bin Rashid Establishment for Young Business Leaders. The Centre aims to provide an ideal working environment to aid in creating and developing small and medium projects, where the centre provides the ideal environment for entrepreneurs of UAE nationality to start their own private business and secure all the support they need to effectively manage and grow their enterprises at a very reasonable cost.

In recent years there has been increasing involvement of various government departments in setting up BIs. Various State (provincial) Governments in both countries are also making strong efforts by setting up infrastructure and allocating funds to develop entrepreneurship. The government agencies are stepping up their effort with the aim of setting up BIs.

Table 7. 7: The contribution of SMEs

To what extent do you think that Small and Medium Enterprises SMEs import new technology into your country?		**1-Strongly disagree**	**2**	**3**	**4**	**5-Strongly agree**
	JORDAN			40%	20%	40%
	UAE				25%	75%
Do the current legislation for SMEs encourage or discourage the use of new technology?		1-Strongly discourage				5-Strongly encourage
	JORDAN			40%	60%	
	UAE				25%	75%

How would you describe SMEs in the Arab countries?		1-Limited				Active
	JORDAN		20%	60%	20%	
	UAE			75%		25%
How would you assess the intensity of competition between SMEs in the Arab countries?		1-Limited				5-Intense
	JORDAN		20%	40%	20%	20%
	UAE		25%	50%	25%	
Do you think that small and medium enterprises (SMEs) contribute to the elimination of unemployment?		1-Strongly disagree				5-Strongly Agree
	JORDAN	40%			20%	40%
	UAE				100%	
Do you think that small and medium enterprises contribute to the employment of women and youth?		1-Strongly disagree				5-Strongly Agree
	JORDAN	40%			40%	20%
	UAE				100%	
Do you think that the Incubators should contribute on training programmes for students?		1-Strongly disagree				5-Strongly Agree
	JORDAN		20%		80%	
	UAE		25%		75%	

SOURCE: DESIGNED BY THE AUTHOR

7.5 BUSINESS INCUBATORS FUNDING SYSTEM

Incubators in Jordan 80% are not-for-profit organisations; local governments provide subsidies to SMEs incubation. At the very early stage, governments often offer BIs free land and initial construction funds. For private BIs, the funding mainly depends on the sponsors themselves. Bank loans are often easily accessible in the early incubator construction stages. In UAE 50% of the business incubators are not-for-profit supported by the government or local governments and also there are private business incubators whose funding depends on sponsors and government as well.

7.6 SERVICES PROVIDED BY BIS TO CLIENTS

Jordanian and UAEs BIs provide business development services in the pre-incubation and incubation period;

1. Assistance with manufacturing practices, processes and technology
2. Comprehensive business training programs
3. General legal services
4. Intellectual property management
5. Marketing support (advertising, promotion, market research)
6. Assistance with product design and development practices, processes and technology
7. Support with accounting or financial management
8. International trade assistance (import/export facilitation)
9. Help with presentation skills
10. Legal advice on international markets regulations

7.7 OVERVIEW OF PERFORMANCE AND OUTCOMES IN JORDANIAN AND UAE'S BIS

In this section, some outcomes are shown that characterise and indicate the performance of the incubators. The number of incubated companies can be used as an indicator, accumulated number of graduated tenant firms, the number of tenant employees and also the patents or copyright have been registered for start-ups. Table 7.8 below provides a number of indicators about the growth of BIs in Jordan and UAE between 2010 and 2011.

Table 7. 8: The Development and Performance of BIs in Jordan and UAE (2011)

Statement	Jordan	UAE
Current Business	38	60
Businesses Graduated	22	17
Jobs created	648	216
Patents registered	4	2
Copyrights registered	9	3

SOURCE: DESIGNED BY THE AUTHOR

7.8 RESULTS

The overview of the comparison of the BIs in Jordan and UAE revealed that there are number of similarities and differences in the BIs environment in Jordan and UAE. Similarities include objectives, that the incubation programme

is supported by the government and private sector, funding of new ventures, and various basic services provided to the clients. The differences include the nature of the structure and governance, funding of BIs, value-added services and specialist services provided by BIs to the clients. In addition, there is a big difference between Jordan and UAE in terms of the number of employees of clients and the target sector as well. Although both Jordan and UAE were helped to develop technology incubators under the initiative and support of the governments, both countries still struggled with a small number of incubators as compared with other successful incubation programmes.

The case study provides examples of business incubators in Jordan and UAE. In addition, the provide support for further sources of information and highlight the business incubation programme as a model for demonstrating economic impact. And provide information on business incubation as a tool for fostering and strengthening innovation and entrepreneurship.

1. Businesses that have been through an incubator programme are far more likely to succeed in the long term.
2. The UAE and Jordanian incubator programmes are designed to accelerate the successful development of young entrepreneurs and their businesses through an array of support resources and services.
3. Launching incubation programmes is crucial for technology innovation and exporting tech-based products: the technology incubator can form a supportive component of a national innovation system.

7.9 CONCLUSIONS

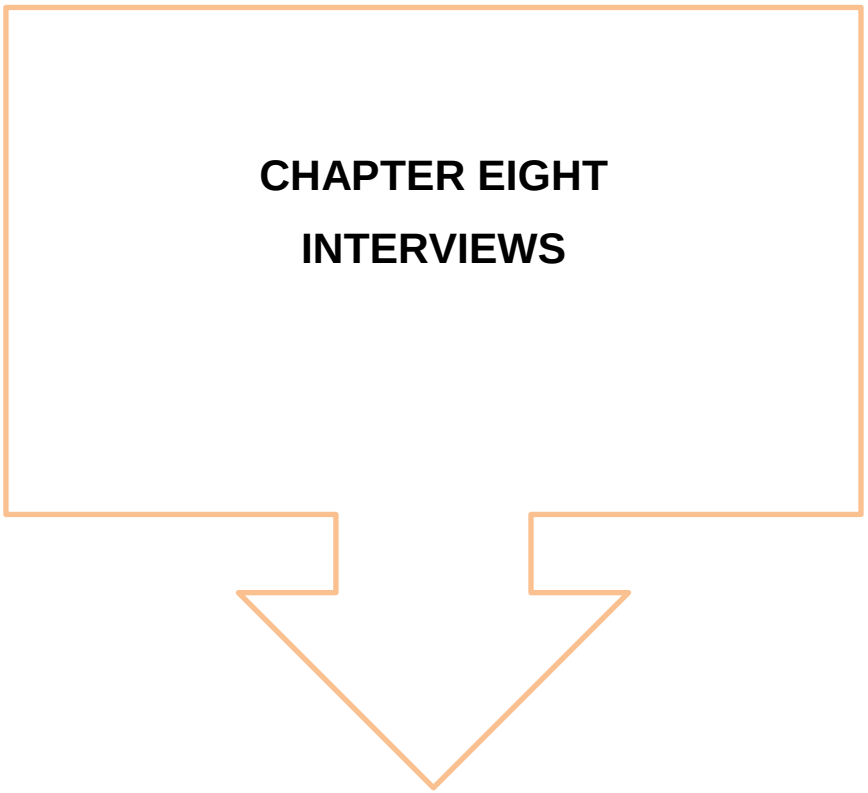
This study examines Fostering Innovation and Entrepreneurship in the SMEs with the help of business incubators in the Arab Region. It also distinguishes entrepreneurship and SME development. Both entrepreneurship and SME have been approved as essential tools for the transformation and growth of the economy in the country. Through this they are said to have the same objective. It can clearly be observed in this study that SMEs are the organisations that are engaged in any single form of business. When observing the size of the SMEs, they are classified in medium and small. The definition of SMEs also varies in different countries, industries, markets, asset value and the number of

employees. Alternatively, entrepreneurship can be considered as a procedure for the creation of SMEs or ventures for business which can later be observed as medium and small size business and organisations. Therefore, this study shows that entrepreneurship is a procedure whereas SMEs are not. Based on the study in this research, it can be said SMEs can be considered different from entrepreneurship. However, the target that is achieved from both can be said to be same but they differ based on their definition, function and purpose, as has been discussed in Chapter two and three.

There is a need to raise awareness of the importance of innovation and entrepreneurship for economic development and business incubation is an important tool for reaching this aim of contribution of SMEs within the incubators to the economy in the incubation unites in Jordan and UAE. This clearly has been demonstrated by this research. Furthermore, specific programmes and schemes to improve the effectiveness of incubators should be implemented. Development agencies such as Development Banks should be directly involved in as one of the participants in establishing incubators in the Arab World.

CHAPTER EIGHT

INTERVIEWS



CHAPTER EIGHT - INTERVIEWS

ABSTRACT

This chapter serves as the foundation to provide the guidelines for the establishment and implementation of the business incubation programme. Arab experts were chosen owing to the focus of the study. The interviewees were selected based on their experiences in the field of SME policies and development of business support infrastructure. Semi-structured interviews were adopted for this data collection. The interviewees were asked several open-ended questions; therefore the structures of their answers were certainly different but there were many similar themes in their answers.

8.1 INTRODUCTION

An interview is a purposeful discussion between two or more people (Saunders *et al*, 2009). The interview allows researchers to acquire more details and obtain greater depth of knowledge about what is under investigation. The quality of interviews depends on several issues, including: administrative control, sampling control and information control (Fletcher, 1973). Sampling control depends on the researcher's ability to direct questions to the interviewee and to get the desired co-operation. Personal interviews normally involve face to face communication between interviewers and interviewees. Personal interviews within organisations must always proceed in this manner. According to Curran and Blackburn (2001:79), the most common fieldwork strategy in small business research is the interview.

Before interviewing, the interviewer should be fully conversant with the schedule (Bryman and Bell, 2011:210). The duration of the interviews was between one and one and half hours and the questions were open ended. The researcher used an outline of questions gathered from the preliminary literature review as a general guide but both the researcher and the interviewee followed the discussion during the interviews, especially when the topic was interesting and informative. All interviews started by the author introducing himself, the project and the research interests. These were followed by the interviewee's details: such as name, qualifications and their experiences. The researcher also briefly

discussed the information gathered from the websites of Business Incubators (BIs).

During the main section of the interviews, the author tried to be rather passive and give the opportunity to the interviewee to be more active by listening to their experiences of the firm's development. All the interviews were tape recorded and later transcribed. It was comparatively difficult to get hold of people who were experts from all Arab countries and rather difficult to convince them to take part in this research. Therefore, as stated in chapter five, the author travelled to Dubai and attended a conference for SMEs and Business Incubators. During this time, interviews were then conducted with 12 experts in the field of SME policies and the development of business support infrastructure in the Arab World (See Appendix 4) . Those experts were keener to actively participate in research projects which may be due to their academic background or links with academia. These interviews sought to reveal specific information from participants who understand and are conversant with the topic being investigated.

The interview process is briefly discussed in this chapter (since it has been comprehensively discussed in Chapter 5). This is followed by the analysis of the key themes and the detailed analysis thereof. The chapter concludes with executive guidelines for establishing and implementing business incubators.

8.2 THE INTERVIEW PROCESS

The interviews started with a few minutes of discussion between the interviewer and the interviewees. The conversation was about almost anything including sports, food, shopping and events such as the Libyan revolution and Arab spring. The discussion also addressed the Second Small and Medium Enterprises "Business Incubators" conference and some economics issues. The researcher started all interviews by asking the interviewees for personal information (e. g., their names, jobs and experience). However, as a result of the researcher awareness of the Arab culture, the author had to persuade the interviewees the information that taken from these interviews will be handled confidently. Furthermore, the researcher described the aim of the research to his subject as this led to a more productive interview. Interviewees often want to

know how the interviewer happens to be interested in them and why he particularly wants to have an interview with them.

The interviews were conducted face to face in the rooms of the conference. Curran and Blackburn (2001: 74) suggest that the maximum length of a face-to-face interview is 50 minutes but in this project the duration of each interview was between one and, one and half hours and all were semi-structured and designed after a preliminary literature review. All interviews were on a one-to one basis except two where there were two respondents. All 12 interviews were tape-recorded. The interviews were transcribed and a preliminary report was written which was later refined and made final by consulting the tapes where and when necessary. The interviews were continuously interpreted throughout the study and were finalised after the survey data collection took place. In an interview situation the researcher is in control of directing and redirecting the questions which may improve the understanding of questions in a desired way. Answers can be checked to ensure that they are understood properly. Interviews provide a good opportunity for researchers to explore new issues which he/she was unaware of prior to the interview. During the next step of analysis, he/she has the advantage of knowing the perspective of the larger context in which the questions were asked. This research used a thematic analysis as qualitative data were collected.

8.3 INTERVIEWS ANALYSIS

Q1. *Does a business incubator need to have a business plan prior its establishment?*

A total of 12 participants were interviewed. All participants stated that they believe that having a business plan prior to the implementation of business incubator is important. According to the respondents, all business needs a plan to be successful with their goals and types of services provided. Another participant responded that it is necessary to have the business plan for a business incubator not only in the stage of the establishment of the business incubator but also after that. The business plan is indispensable to ensure the success of the business incubator.

There are a number of issues to consider when discussing “success factors” and “effectiveness” of business and technology incubators. For example, many regional business incubators will define their success by the number of jobs created, capital raised by tenant companies, tax base increase and revenues generated by the incubated firms. Other incubators might define success by the number of companies that “graduated” from the incubator. In truth, those are all measures of success from the standpoint of the incubator. The goal of the incubation process, then, becomes getting the “client company” out of the incubator. That becomes viable when a client company can stand on its own. In other words, when a client no longer needs what are essentially subsidised rents and discounted services that a typical incubator provides, or has secured enough financing that it is ready to stand on its own (Rothaermel and Thursby, 2005).

Q 2. *How do we measure success? What are the criteria of success of a business incubation process?*

Some of the main criteria that were emphasised most by the respondents are the efficiency of the entrepreneurs, success of the incubated companies, diversity, and financial strength. Respondents (X3, X5, X6, X11 and X12) believe that the incubator service is one of the most important criteria for the success of the business process as it enables the availability of the developing and the attracting of entrepreneurs with new, innovative business ideas. On the other hand, financial strength was also considered to be a significant aspect in an efficient implementation of the business incubators. Entrepreneurs will learn more from each other and other businesses than consultants. The following are the main areas that were given importance by the respondents.

The strict selection of incubator tenants: Whenever the selection criteria are clear and specific, the chances of attracting good ideas increase chances to succeed. These standards vary and may include the ability of exponential growth and be related to advanced technologies and provided by a detailed business plan and the possibility that the project developed an innovative idea or invention.

Incubator Manager: The incubator manager plays a key role in the success of incubator, where he must have some skills in the areas of business planning, management, marketing, accounting, in addition to the time spent with tenants inside the incubator and detecting problems before they escalate.

Community support: It is important that incubators gain moral support and have economic relations at the local level. The support comes from the municipalities or universities or large companies. When it becomes apparent that the incubator is a reflection of the community's goals and has a positive economic development, it is then able to attract support from a wider base.

Access to finance: Applicants for membership of the incubator need to be nurtured and to know the different financing alternatives. The incubator is able to collect good information from the various sources of financing banks or institutional grants and loan funds and various senior investors.

Creating success: The image can be enhanced through the incubator by a new or renewed building, the existence of links with major local parties, the good links with the media and local public relations, and the association between the incubator and its success stories. All of these things help to create opportunities for the success proved incubator.

Benchmarking and continuous improvement: The incubator needs to evaluate its operations and performance on a regular basis. This does not include the mere control of performance in terms of growth and associated facilities, but also includes the growth and development of companies after graduation from the incubator. Such information suggests incubator in the planning and delivery of services. More importantly, marketing itself and attract high-quality promising and expected growth in non-traditional projects.

Q 3. *What kind of services should a business incubator provide to the clients?*

The most important services as per the respondents are consultation; flexible space; the transfer of ideas; knowledge of research to the marketplace. The new opportunities to determine the method for facilitating the incubation process

concerns various critical aspects of business incubation like control governance, leadership, management and professional development.

All small and medium enterprises assistance' arrangements are localised in terms of local or regional industries and the local business environmental settings differ in terms of regulatory framework, financial and institutional requirements. Basically, the type of service offered could be real estate, basic office services, advisory and support services, training and contact building. The financial models revolve around rental and external services, subsidies, sponsorships, and deferred revenue, for example, royalties. Finally, the context may be rural or urban, and range from mixed use incubators to high-tech, corporate incubators and special-interest incubators. For the purpose of this research, the business-incubation process encompasses the provision of the following areas: services; training, business support, financial support, technology support, facilities and infrastructure, networking and mentoring, and after-care services. It is observed that research on performance measurement emerged from two dimensions. Namely, organisation theory, as defined by (Kast and Rosenzweig, 1970:69-72)"is the set of propositions (body of knowledge) stemming from a definable field of study which can be termed organizations science" focusing on goal-based, systems (multiple generic performance aspect) and multiple- constituency approaches (agenda for stakeholders). The second dimension, strategic management, combined the three-developed measures based on financial performance (market share, sales, operating cost) and organisation effectiveness, measured through product quality and market share. Though these measures yield result if applied in corporate environments, it is further acknowledged that since it may be difficult to collect financial data from small businesses, operational measures can be used to assess performance of start-ups within a business incubation environment

Q 4. *How long an incubation period to choose for a tenant?*

As per the accumulative responses, the period of incubation may be about 18 months for the service projects and about 3 years for the industrial projects. According to (X2, X3, X5, X6, X11 and X12) all successful incubators take not

less than 3 years and some of incubators take only 3 months. The type of incubator plays an important role in this question.

There is no unanimity of criteria when we refer conceptually to the process of business accommodation and several definitions have been proposed by international bodies in order to clarify the term business incubator. Having the assessment of a specialised consultant, together with the synergies that are produced between companies located in the business creation centres (incubators), gives a competitive advantage which encourages companies to form business groups or clusters.

Q 5. *Who are the stakeholders of the business incubators?*

The key stakeholders as identified by the respondents are the companies, customers and the society as a whole. For some of the respondents, the main stakeholders are Governments, Banks, Universities and Companies, all of which benefit from SMEs. For others corporate businesses, commercial firms, entrepreneurship supporting organisations and financial institutions are the main stakeholders for whom business incubators are facilitating. One of the respondents believes that Governments, Universities and Development agencies such as Development Banks should be directly involved as key players in establishing incubators in the Arab World. Because these various stakeholders provide valuable expertise, networking and access to specific scarce and immobile resources in addition to monetary support, it is generally accepted that one of the key factors of incubation success is the application and selection process itself. In addition, factors such as the business plan, industry experience, and the composition of the entrepreneurial management are also factors in the success of the company, along with the market potential of the product or service. These factors are all considered as part of the selection process.

Q 6. *How to finance business incubators? Donors of funds.*

Financial resources are originally hypothesised to encompass all the financial activities available through the incubator. However, access to investors (angel and venture capital) is split off from the other financial resources, as they did not

all load at the accepted minimums. What is left in financial resources are the indicators for economic literacy, financial and accounting assistance, and access to commercial loans and specialised funds. The financial construct has no impact on incubator effectiveness, as the path coefficient is small, statistically insignificant and, in fact, negative.

However, finance does have an influence on the organisation, the construct that represents the assembled professional services available through the incubator. This lends support to the concept that knowledge gained through the financial construct may be useful when interacting with the profession services, again lending support to the process model of incubation as a staged development. Access to financial resources is discussed in the literature as an important component of incubator effectiveness. As mentioned above, access to angel investors and access to venture capitalists were split off from other financial resources and put into a new construct (investors).

This construct is statistically insignificant and, indeed. has a negative impact on the dependent variable. This unexpected anomaly could be explained as the influence of angel or venture capital investors when they invest in an incubator client company. It is not uncommon for investors to supply the resources (e.g., marketing assistance, MIS assistance, management team members) that previously were supplied by the incubator, possibly causing the client company to abandon or otherwise leave the incubator. It is quite common for venture capitalists and angel investors to take an active role in the management of their client companies, and this could result in the client requiring fewer resources from the business incubator, or even leaving the incubator without “graduating,” per se, but moving under the wing of their respective investors.

Q 7. *How to select the business incubator supervisory board?*

The board is selected by creating a panel of business professionals in the field of entrepreneurship and who are not employees, as the panel should be entrepreneurs. The manager is the representative of the credit institution, and the local banks. Most of the respondents believe that the supervisory board is chosen by implementing the acceptance of the donor or the agency. The board

of the BI is often appointed by the founders and its task is to protect the implementation of the intention of the founders.

Q 8*. How to select the best possible incubator manager?*

The best incubator manager struggles with their start up business, and is involved in the tenant selection, coordination and the day to day operations. The manager needs to be responsible for all the components of an incubator and will serve as a mentor, coordinator and a facilitator. This manager is linked within the business community by bringing the experience, resources and the contacts. The best criteria to select the incubator manager are that the individual needs to be innovative and cooperative and should have a vision. As stated by participants, one of the main expectations is the excellent ability to develop the contacts and rapport, as the entrepreneurs are difficult people with whom it is not easy to develop a trouble free working relation. The management responsibilities of the business incubator cover the broad spectrum of the areas so that it is not possible to find someone who possesses all the skills that are required to manage such an attendance and facility program. Every incubator needs a committee of specialists.

However, few studies have focused on measuring the business incubation process, due to a lack of reliable and valid scales, resulting in “anecdotal” and “fragmented” data, leaning toward description for the business incubation practitioner. Due to the many factors influencing the success or failure of new venture development, and the lack of an agreed-upon model for describing the incubation process, along with the lack of reliable and valid scales that capture this process, measurement is difficult and research has not yet been able to answer the question, “if the incubatee had not been incubated, would there be any difference in the survival rate of new ventures?”. In an effort to fill this gap in the literature Hackett and Dilts, (2004) proposed and developed an options-driven theory which they proposed would be the most suitable theoretical approach for developing a theory of business incubation able to explain and predict incubation outcomes. Based on this new theoretical model, Hackett and Dilts conducted an exploratory study in which they empirically tested and developed a set of scales they suggest can measure the constructs that capture

the process of business incubation which were defined in their theory as selection performance, monitoring and business assistance intensity, and resource munificence.

Q 9. *What are the reasons for offering (or not offering) particular services?*

Incubators provide a valuable service not only to the fledgling businesses that are their clients, but the economies of the communities and academic institutions that they serve. This research assumes that incubators will continue to be a valuable resource for the communities and institutions they serve. It is also assumed that definitions of success will be important to incubators, and to the client companies, and that incubators will continue to be selective in choosing their client companies and in the allocation of the scarce and valuable resources they provide. The services are mostly offered according to the quality of projects in the incubator, because each area has a different form of services. According to some of the respondents, the services are offered in terms of the region, aim, and objectives as each incubator have characteristics and aims. It depends on the client's requirements, aims or goals which are the reason for offering some services and it might be incubator type or region or objectives.

An incubator is really an intervention system that hopes to increase the likelihood of a start-up succeeding by intervening in the start-up process to provide necessary resources. In this equation the incubator management intervenes with the start-up at a strategic moment in time to provide certain resources (i.e., education, alliances, access to a network of financial providers) that enable the start-up to survive to another stage. It is important to note here that this theory focuses not so much on the facility of an incubator, but the process of incubation (or, more correctly, business intervention) as a driver of success. Not only is it the process and the physical presence of the client company in the incubator that contributes to success, but also the inclusion of a wide range of what would be termed "network services." This study suggest that integrating and exposing client entrepreneurs to a variety of resources, both within and outside of the incubator, may be additional keys to success. For example, the incubator at the University of Central Florida in Orlando has demonstrated that interaction with incubator staff and advisors, interaction

among all the clients in an incubator, and interaction with outside individuals and organisations in the Orlando region that are involved in business creation and entrepreneurship all significantly contribute to success.

Q 10. *What particular benefits can incubators provide for entrepreneurs and small companies?*

The majority of the respondents believe that business incubation brings about the shared basic operating costs. Tenants of a business share a wide range of the overhead costs, office equipment, conference rooms, receptionists' services and the computer services. Moreover, the basic rent costs are below the normal rent for the region in which the business operates and that allow the entrepreneurs to realise the additional savings. It is worth noting that the incubators do not allow the tenants to remain in the programme. Most of the lease agreements at the incubator are for three years with some of the programmes offering one or two year renewal options.

On the other hand, the incubation manager and the staff can proceed with insightful suggestions on a broad spectrum of the business concerns ranging from marketing to business expansion finance. Small business owners know that the people held accountable for overseeing the incubation programmes are mostly quite knowledgeable about different aspects of the business world. Most of the business incubators provide entrepreneurs with access to the early stage capital that the companies mostly need.

In other words, incubators should select client companies that are promising ventures but which would most benefit from the resource availability in the incubator, and the incubator stakeholders would benefit from supplying the resources. Barney, (1991) concluded that effective entrepreneurs may not need incubator to facilitate their start due to their business resources and the skills like their individual network and the access to funds, adverse selection may not support the best entrepreneur but the required one.

Q11. *What are the similarities and differences between SMEs and entrepreneurship?*

The main differentiating factors between small businesses and entrepreneurship were found to be the innovative ideas of an entrepreneur leading to the development of SMEs. Both of them aim towards the same objectives that are economic growth, employment reaction, and economic transformation. According to (X3), Egypt uses entrepreneurship development as approach to quality based vocational and technical training. The Enterprise (sometimes called Entrepreneurial firm) is a business organisation and it could be a large business, a small business or a family business. The Entrepreneur is the person who organises or operates an enterprise (business organisation). Both contribute to the economy's development either in developed or developing countries and both need risk taking. Also SMEs and entrepreneurship have been acknowledged to be important tools for economic transformation and economic growth of a country. Entrepreneurs are more risk taking and more innovative but they usually need support. An entrepreneur starts from nothing with no licence, while the SMEs are organised with licences and need development supporting them by financing or services.

Q 12. *Do you think that SMEs or Entrepreneurs that have been through an incubator programme are far more likely to succeed in the long term?*

The responses suggest that this is the result of previous researches. The majority of entrepreneurs in incubators have the possibility to succeed. Participants (X1, X2, X5 and X7) think that they are not sure and it depends on the type of project and BI and several factors. According to (X2), I think, if they find, I mean the client find the proper support, they will graduated successfully. Participants (X3, X4, X5, X6 and X12 think that the success of Incubators is measured by the success of projects incubated. In the developed countries approximately between 80-90% of the incubated companies usually succeed. It depends on the success of the incubator. In fact, this is one of the criteria for successful incubators

Q 13. *What are the barriers to business incubation in the Arab World?*

The first barrier is finance and the management of institutions of SMEs. The shortage of financial resources and access to finance, and inabilities to manage

innovation processes inside the incubators. Some of the other main barriers are the lack of management skills and training programmes, financing, difficulties in identifying / finding partners for incubators (e.g. knowledge providers, other companies with shared incubators and product / service development interests, suppliers, consumers). Weakness of the contributions of institutions for development of SMEs, financial support and the awareness of the role can be played by the incubators. For some of the respondents, seed and angel capital, venture capital, difficulties in spotting the relevant foreign markets for innovations and new products are the main challenges. On the other hand, lack of specialists to lead the incubators and institutions interested in the SMEs or Entrepreneurs are also significant in this context.

The overall response remained towards the lack of governmental leaders and support to be the main hampering factor for increase in business incubation. The government have not understood how the incubation system works; maybe they think that the Innovation centres are better. Funding, training and bureaucracy, poor performance of state institutions, and also the awareness of the role of BIs play an imperative role in discouraging BIs.

For Arab oil states, as a result of the availability of financial resources and providing salaries for all people, they do not give sufficient attention to small and medium enterprise, and that the citizens do not have problems with living cost.

8.4 CONCLUSION

The following main ideas can be summarised from the analysis.

1. Before the development of a BI, establishing a comprehensive business plan is significant.

2. The success of incubation is measured in terms of the success of incubated companies and the efficiency of the entrepreneurs in the targeted work areas.

3. The main services provided by the incubation are marketing, consultation, and finance and office equipment.

4. Generally, the incubation period is about 18 months but for the industrial projects, the incubation tenure can be 3 years.

5. The main incubation stakeholders are the universities, governments, banks and the private companies.

6. The financial sectors, R&D centres, banks and the government are the main donors of the funds for the business incubators.

7. The business incubator supervisory board is usually appointed by the manager, local authority representative or the labour organisations.

8. There are no defined criteria for selecting the best manager for the incubator. However, the individual needs to show entrepreneurial skills.

9. The incubation services are provided on the basis of the aim and objective of the project, the region, the type of incubator, and the capacity of the finances.

10. The major barriers to the incubation services in the Arab world are the lack of information about the BI process, lack of government funds and lack of entrepreneurship initiatives.

Business Incubation is an important tools for stakeholders and policymakers who are interested in new ways of growing, regulating or supporting businesses. Business Incubation organisations is an effective advocate for better awareness of business and for regulatory change. Successful locally grown companies can stimulate other developments and they are important role models to encourage others on the entrepreneurship path as well as slowly improving their business' culture. The business incubator's Public Private Partnership (PPP) arrangements build important cross sectorial linkages to improve, social capital and trust; both of which foster better innovation and entrepreneurship. In a business incubation environment, lessons can be learned about how to foster innovation, entrepreneurship and technology transfer more easily and collaboratively than in less bounded environments.

Companies involved in business incubations reduce their on-going cost by sharing the cost of telecommunications, broadband Internet access and the use of current technology. This was a major selling point for business incubators in developed countries in the early years of the Internet revolution, although, more recently, as the Internet has become pervasive with numerous providers, costs have reduced eroding the cost savings a business incubator can deliver. Where power and security are problematic, as in many of the more difficult environments, the business incubator can provide a safe environment with reliable utilities, possibly with its own back up electricity generator and security guards.

Business Incubator can help their clients navigate regulatory environments, which can be invaluable for clients, reducing their compliance costs and the time involved. Small businesses often do not have the resources or the contacts to navigate sometimes very difficult regulatory environments. A business incubator, with good networks, credibility and links, can not only advise its clients but can also play an important role in raising specific issues with policymakers that are particularly problematic for entrepreneurs, where Business incubators contribute to the economy service to assist in the development and survival of new enterprises.

CHAPTER NINE

CONCLUSION AND RECOMMENDATION

CHAPTER NINE - CONCLUSION AND RECOMMENDATIONS

ABSTRACT

This chapter outlines the main findings of this research project. In addition, the chapter presents how the aim and objective of the research have been achieved through the thesis. Besides summarising the key findings of this research project, the research is main contribution to knowledge and the implications of the results are presented. Arguably, any research is confronted with difficulties and limitations, thus this chapter concludes by discussing these as well as outlining the recommendations for future research.

9.1 INTRODUCTION

The conclusion summarises and discusses the main findings of the research in relation to the objectives that guided the study. This chapter also includes recommendations, theoretical and practical implications of the research results, limitations and suggestions for future research.

The researcher collected (primary) and secondary data in order to address specific objectives and has outlined the likely course and level of success of incubation development in the Arab World. In order to address this issue, three main objectives were used to guide the research. The study aimed to examine:

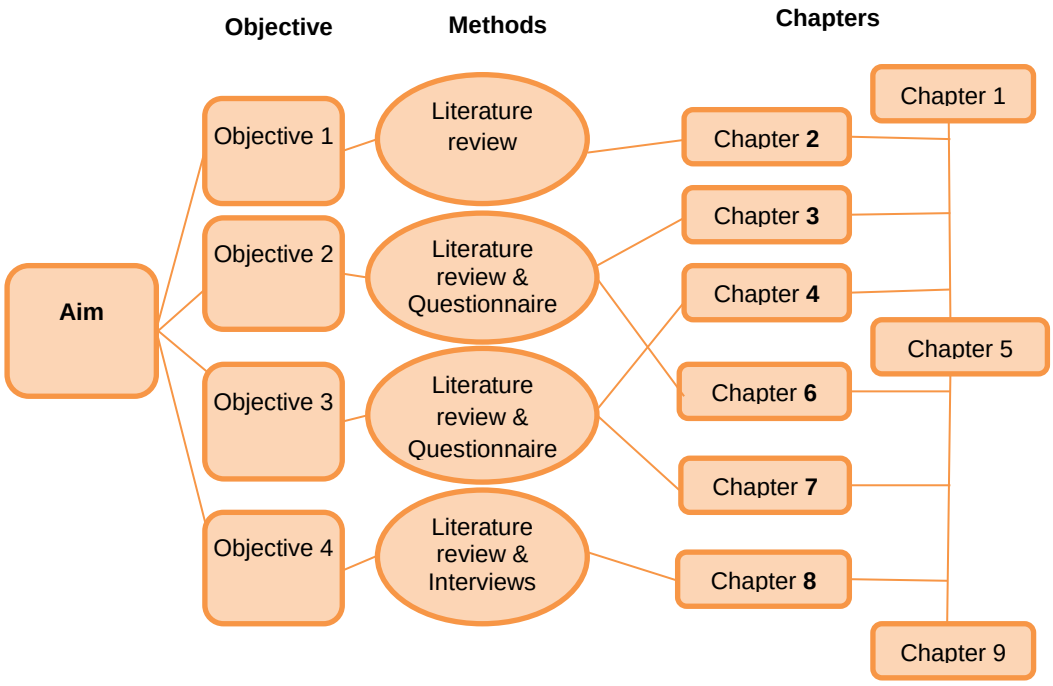
1. The SMEs Environment in Libya
2. The experience of success for incubators in the Arab World
3. Knowledge and Expectations of Business Incubation

The purpose, goal and some recommendations of this research are consistent with the recent book published by Al-Mubaraki *et al,* (2014).

To be able to summarise the main results of the research, the findings are presented one after the other in relation to each of the objectives. Also, because the study employed a three-staged methodological approach to obtain a richer and fuller understanding of the research issues, the results are discussed according to the three stage process, (starting with the results from the questionnaire in Libya, then those from the follow-up surveys face-to-face with

managers of incubators in Jordan and UAE (case studies), and finally, those from the Arab experts). The figure below shows the relationship of the research aim and objectives to the methods and how it was achieved within the thesis chapters.

FIGURE 9. 1: THE RELATIONSHIP OF THE RESEARCH AIM AND OBJECTIVES



SOURCE: DESIGNED BY THE AUTHOR

Figure 9.1 illustrates how the research aim and objectives were achieved through the methods adopted, and how they were included in the thesis. The aim of the research had four specific objectives which correspond with four methods adopted to address each objective. Chapters 2 to 8, except chapter 5 which is the methodology chapter, in the thesis address all the objectives whilst chapters 1 and 9 are the introduction and the conclusion respectively.

9.2 LIBYAN SMES ENVIRONMENT

9.2.1 Summary of Main Results

SMEs often have difficulties in obtaining the necessary financial resources to effectively expand or grow their businesses. Libya is not an exception to this trend in the developing countries; it has a weak access to traditional growth capital. Most SMEs in Libya dependent on their saving or other partners thus

limiting of their development. SMEs funding is often unavailable or difficult to obtain but even where it is available in principle; most SMEs have very low awareness or understanding of it. Even where there is awareness, many Libyan SMEs have a cautious attitude toward the issue of interest regardless of its type. However, the emergence of Islamic finance should make a significant difference in eliminating this obstacle (interest). Underlying all this is an even more fundamental issue that concerns the relevant knowledge and availability of Islamic funding. Eltaweel (2011) argued that not only is Libya an extreme case in the use of trade credit on very extended terms but, when coupled with inconsistent and unfavourable government policy, that this is also a very strong destabilising factor in the Libyan SMEs sector.

Regarding Libyan SMEs properties, the main results of this research indicated that most owners of SMEs in Libya are males; this means that females may face more difficulties and constraints due to culture, religion and family ties. Therefore, The Libyan culture may act as a deterrent to the development of innovation in SMEs. This also has been found by the author in his pilot study (Hamad & Arthur, 2011). The findings of this research have illustrated that, based on the results of the questionnaire aimed at innovation as shown in chapter six, the shortage of personal financial resources for innovation was ranked in the first place as among barriers to SMEs Innovation in Libya. The lack of an innovation culture in the Libyan educational institutions was the second barrier, then the shortages in skills in innovation management. The top 6 barriers that hinder SMEs' innovation capacity most have been identified as follows:

- Shortage of own financial resources for innovation
- Lack of an innovation culture in the Libyan educational institutions
- Shortages in skills in innovation management
- Insufficient use of public procurement to foster innovation in SMEs
- Shortages in skills to manage intellectual property and knowledge
- Insufficient knowledge about innovation support services

A minority (14.2%) of SMEs were less than 5 years old, reflecting Al-Sheikh (2009) assertions that there is a high rate of failures among SMEs. Also, the majority of SMEs (48.4%) were involved in sectors that are not agriculture, manufacturing, healthcare or tourism. In line with Eltaweel (2011), the two most common types of SMEs business finance sources are helping from parents and partners with (29%) and (21%) respectively. The research shows that 94.5% of the SMEs in Libya are private, 5.5% is other and there are no governmental enterprises. The research also showed that for the majority of SMEs in Libya, according to the survey, their assets are estimated between US$ 10000-$100000 which represents 75.8%, of enterprises.

As for SMEs facilities and business funding, the main findings of the research demonstrated that about 92% of the SMEs in Libya have no financial support either from the government or other sources. Although the number of SMEs with financial support is limited, however their support comes from either parents or partners. Most responses show that personal savings is the main sources of equity finance for SMEs in Libya with 33%. Whereas the second was help from parents and partners with 29% and 21% respectively.

The majority of SMEs (62.7%) also claimed to have enough information about SME support programmes. However, only a minority of SMEs (17.7%) had visited their local Chambers of Commerce. The results also showed that SME attitudes towards collaborating with other businesses and organisations were mixed. Attitudes towards R&D collaboration with other businesses were more enthusiastic (50.4%) than attitudes towards R&D collaboration with universities (35.7%).

9.2.2 Conclusion and Recommendations

In general this research confirmed that the business facilities of Libyan SMEs were generally lacking in secretarial support, high-speed internet usage, and website construction – all regarded as critical business facilities which would ordinarily be provided by an incubator. It is especially relevant that in light of fierce international competition the businesses in Libya must seek modern e-commerce channels on the Internet. The study of the Jordan and UAE incubators showed that all participants have or will have in the near future set

up web pages. Thus, incubation could clearly add tangible value in terms of consultancy services to Libyan SMEs. Libyan SMEs were found to be deficient in business networking and had minimal experience in collaborating with other businesses and no experience in collaborations with universities or other outside institutions. A key function of business incubation is to "fill in" the "impoverished networks" of entrepreneurs - thus incubators would also have the potential to provide qualitative improvements to Libyan SMEs. It cannot be omitted that in order to meet the goal of increased competitiveness and modernisation of business in Libya, international contacts must also be established and maintained. This is partly being introduced by Libyan enterprise in the form of cooperation with countries successful in their business incubation programmes such as Jordan and UAE in order to adapt their methods.

Business incubation could certainly use this opportunity to help the businesses grow internationally, in addition to the national expansion. In terms of funding, several problems were highlighted. Both government grants and loans were rated as poor in terms of the length of time they took to apply for them and in the length of time it took the government to process and award them. The complexity of the application process was also criticised by past applicants. The findings from the SMEs show that at least the application process should be made significantly easier within an incubator. Moreover, the incubator achieved an approval rate of 100% in securing government grants, government loans and bank loans. This finding reflects the importance of a meticulous application process that selects the best projects, with a high potential for success. A properly constructed application process should take account of the criteria employed by the financial institution available to SMEs which further increases the chances of their survival.

The findings of this research indicate that stakeholders in the SMEs process, including SMEs owners, financiers and banks, and the government, should undertake new policies and strategies to overcome the challenges confronted by SMEs and financing providers. Therefore, the following recommendations should be presented:

1. SMEs in Libya need to have an independent governmental body that can facilitate decision-making related to some important objectives, such as facilitating access to funding from the relevant public and private sectors.
2. Opening channels of communication with the funding institutions, and encouraging them to support the sector. Libya has to raise awareness of the importance of innovation and entrepreneurship for economic development.
3. Special programmes and schemes to improve the effectiveness of incubators should be implemented, Development agencies like Development Banks should be directly involved as key players in establishing institutions sponsoring the interests of small and medium enterprises incubators in Libya.

9.3 JORDAN AND UAE INCUBATORS (CASE STUDIES)

9.3.1 Summary of Main Results

The researcher has presented an overview of a comparison of the BIs in Jordan and UAE. This forms stage one of the three stage study. This research employed the integrative framework developed by Mian (1997) and its adaptation to analyse the performance of BIs. It uses three sets of variables for analysis: management and operational policies, services, and performance outcomes of BIs. The analysis revealed that there are number of similarities and differences in the BIs environment in Jordan and UAE. Similarities include objectives, selection criteria for tenants, funding of new ventures, and various basic services provided to the tenants. The differences include nature of structure and governance, funding of BIs, value-added service and specialists services provided by BIs to the tenants, and duration of incubation for tenants. In addition, there is a difference between Jordan and UAE in terms of number of BIs, number of tenants, number of employees of tenants, and revenues generated by the tenants.

The findings of the case studies showed that 80% of incubators in Jordan are not for profit and 20% are for profit, whereas in UAE's financial model 50% is for profit and also 50% is not for profit. It also showed that the incubation programme is supported by both governments and private sectors in both countries. The services offered were consistent with Hackett and Dilts (2004)

suggestions and include: high speed internet, secretarial services, desk space, conference facilities and formal training.

It must also be noted, that the incubator is responsive to the major goals set by the government in modernising the economy:

1. Creating jobs - the majority of the companies have only several employees.
2. The nurtured businesses are required to be staffed entirely by Arab nationals.
3. Modernising the economy towards a knowledge-based society; foreign consultancies hosted in the incubator help SMEs, secure training programmes – this foreign knowledge can be repatriated later and cause many Arab problems .
4. Boosting local economies - all incubatees are required to be locals.

Some of the incubators in both countries do not offer direct funding, but can act as guarantor and network with banks. In fact Smilor (1987) notes that credibility is the main sought after benefited by incubates (in the form of a guarantor). In Jordan, staff help incubatees with the financial application process. Incubated businesses are funded by: their manager's own funds, private bank loans, Jordan Enterprise Development Corporation (JEDCO). JEDCO has the most impact on start-up financing (every tenant received a loan, majority of the tenants considered the process fast). The benefits to incubatees is reflected in that most companies have set up web sites with the rest planning to do so when they have developed their products. Two tenants have secured sales through the networking efforts of incubator staff. Indeed, Rice (1992) and AL-Sheikh (2009) note the importance of networking opportunities as one of the parameters in incubator management. Also in UAE, the Mohammed Bin Rashid Establishment for SMEs Development in UAE and Business Incubation Centre is one of the pillars of Mohammed Bin Rashid Establishment for Young Business Leaders. This Centre aims to provide an ideal working environment to aid in creating and developing small and medium projects, where the centre provides the ideal environment for entrepreneurs of UAE nationality to start their own private business and secure all the support they need to effectively manage and grow their enterprises at a very reasonable cost.

The case study revealed that Jordanian and UAE incubators were providing a wide range of soft inputs to clients; however, harder measures were more difficult to establish. It was shown that client business skills (business presentational skills, IT and ICT) have improved, as well as confidence and business professionalism as a consequence of incubation. Such findings reflect the shift in focus from hard facilities to human provisions in modem incubators (Adkins, 2001; Kirby, 2004; Hackett and Dilts, 2004; AL-Sheikh, 2009). As highlighted in previous studies (Hanson *et al*., 2000; AL-Sheikh, 2009), networking remains an important feature of incubator facilities. Since last century the incubator itself has grown in terms of incubator numbers (5 BIs in Jordan and 4 BIs in UAE), and gained recognition from the enterprise support institutions (most notably private banks, the Chambers of Commerce and most SMEs institutions). However, ties to universities were only beginning with one of the incubators in Jordan. Although, Shalaby (2001) recommended keenness on independence in his previous research, government interest in the project of incubators was high.

Thus, the case study broadly confirms the view of Mian (1996) the vast majority of the incubators' managers believed that the services provided by the incubators were adding value to the fledgling firms.

9.3.2 Conclusion and Recommendations

Being the first incubators in the Arab countries, Jordan and UAE's incubators are expected to play a pivotal role in the incubation movement in the Arab World. Even though creating and establishing a business incubator takes time, these incubators, in ten years or so, have performed successfully as a business creation tool. However, some of the main features need further strengthening. First, the emphasis in Jordanian incubators appears to be more on tangible services such as office space/equipment as well as some consulting advice. With a relatively smaller client base ranging from 10-20 incubatees, more effort should be exerted on softer services, such as networking, relative to the provision of physical space and hard infrastructure. This could facilitate transitioning to the newer approaches to incubation that rely less on the hardware of incubation and more on the software of value adding services.

Furthermore, the business incubator has to market itself, participating in seminars, making speeches, publishing special information material, and using the media and the Internet in order to create an attractive image.

Based on the aforementioned results and the experience of the first incubator in the Arab Countries, it may be concluded that business incubators are feasible for business development in Libya as well. Furthermore, they could turn out to be better than other forms of new-business development assistance. The steps that could enhance successful creation of incubators include:

1. Precise definition of incubator goals
2. Finding sources of funding for both the incubator and its tenants
3. Assessment of what tenants needs, in terms of training, and technical expertise
4. Analysis of domestic economic activity
5. Creation of start-up plan and market potential
6. Marketing and promotion of the incubator.

With regard to the goals of the incubator, there should be a strong focus on economic and business-development goals. Also, it is recommended that the incubator itself be established with the objective of becoming a profitable and self-sustaining organisation. This will help sustainability of the incubator and prevents collapse of the incubator in case of withdrawal of support provided to it. The goals should also focus on the training in capacity building and development in the areas of financial management and accounting control. It is also recommended that the incubator should establish continuing relationships with external funding agencies. Unlike many U.S. incubators, Arab incubators will need to be sources of direct funding and investment capital for tenant firms. Organisations such as Arab Industrial Development Fund and others specialising in providing start-up capital and seed money may serve as sources of funding for new companies.

Regarding entrance and exit criteria, it is recommended that incubators need to be selective in choosing incubator talents. It is advised to clearly define the target market and adopt admission policies that focus on projects where an incubator can genuinely add value. With regard to the tenancy period, it seems that limits on tenancy period are not needed under Jordanian and UAE

conditions. The result of this research showed that most of the tenant firms would like to graduate as quickly as possible. However, it is recommended to have a multiple limit structure for different types of firms, for example, a simple business might be restricted to one year to get started, where a high-technology, high-value-added company might be allowed as long as it takes. Furthermore, the networking under the Arab context is underdeveloped and mostly relations with other business are very restricted. People generally prefer to network with other family members or relatives. Therefore, it is expected that incubators would serve as a local nucleus for networking and development of support relationships for sharing of knowledge and information of value to entrepreneurs in wider circles. Services offered must include basic internal business functions, such as planning, and consulting on organisation, financing and financial planning, accounting services, tax assistance, and the like. Finally, given the above recommendations, incubator managers in Arab countries will need to meet the requirements for effective management. This will require the ability to evaluate business plans according to the best standards, to be able to recommend projects and new entrepreneurial undertakings as worthy of funding. Therefore, the selection of managers must be done very carefully. Those selected should be trained properly before they start their work. The training should be held in countries with a deep and extensive experience in business incubation.

9.4 KNOWLEDGE AND EXPECTATIONS FOR BUSINESS INCUBATION

9.4.1 Summary of Main Results

One of the main findings of the research about knowledge and expectations of business incubation in Arab countries showed that the majority of experts believe that having a business plan prior to the implementation of business incubator is important. The attitudes of the experts towards business incubation were positive. The experts believe that the availability of business incubation would encourage SMEs involvement in private enterprise. The greatest appeal of incubators - as identified by entrepreneurs and SMEs alike - was deemed to be their potential to reduce costs and assist in start-up finance. Access to

finance and the ability to reduce costs are the two most sought after services among incubatees (AL Shaikh, 2009; AI-Kurdi, 2002). According to AL Shaikh (2009), fund shortages are one of the issues that face the Arab world, as well as the problem of limited availability of information and data on the production technology and knowhow.

9.4.2 Conclusion and Recommendations

The following main ideas can be summarised from the analysis.

1. Before the development of a BI, establishing a comprehensive business plan is significant.
2. The success of incubation is measured in terms of the success of incubated companies and the efficiency of the entrepreneurs in the targeted work areas.
3. The main services provided by the incubation are the marketing, consultation, finance and office equipment.
4. Generally, the incubation period is about 18 months but for the industrial projects, the incubation tenure can be 3 years.
5. The main incubation stakeholders are the universities, governments, banks and the private companies.
6. The financial sectors, R&D centres, banks and the government are the main donors of the funds for the business incubators.
7. The business incubator supervisory board is usually appointed by the manager, local authority representatives or the labour organisations
8. There are no defined criteria for selecting the best manager for the incubator. However, the individual needs to show entrepreneurial skills.
9. The incubation services are provided on the basis of the aim and objective of the project, the region, the type of incubator, and the capacity of finances.

10. The major barriers to the incubation services in the Arab World are the lack of information about the BI process, lack of government funds and lack of entrepreneurship initiatives.

9.5 IMPLICATIONS OF RESULTS

9.5.1 Theoretical Implications

The results of this study revealed some preliminary steps that may be contribute to developing a theory of establishing successful incubation. The success factors identified in this research are consistent with the prior literature and are broadly similar to business incubators in other countries, such as China and Brazil. However, some factors, such as networking and academic-business links, are more critical in the Arab socio-political environment. Accordingly, such results advance our knowledge that certain critical success factors are very specific to the underlying socioeconomic and cultural conditions that prevail in Libya and possibly in other Arab countries.

9.5.2 Practical Implications

The implementation and development of business incubators is a key requirement for the high technology industry. As a developing country, Libya has to make efforts to accelerate the birth and growth of incubators, with the aim of catching up with technologically more advanced countries. As the first PhD thesis about BI in Libya, this research provides a better understanding of business incubation in the Arab countries. The findings of this research offer some practical implications for the successful development of business incubators in Jordan and UAE. Results of this research are important to both business incubation providers and entrepreneurial researchers in recognising valid and possible success measures. Incubator providers could use the results of the study to identify factors that would increase the opportunities for the success of incubators. The case studies results presented in Chapter seven revealed some of these factors and include:

- Sponsoring organisations and governments should build clear unified and consistent policies to adopt the implementation of business incubators.

- It is important to clarify a business incubator's key objectives and develop appropriate support programmes to help SMEs. One of the most important is to employ highly skilled people as incubator managers and develop effective programmes.

- Business Incubators require effective support programmes to improve their performance

- Building strong internal and external networks with other business incubators, business community for clients is important. These networks can give SMEs actors the skills and resources needed when launching a new venture.

- The case studies undertaken in this research show that networking with the business community is underdeveloped and relations with other businesses are very restricted. Also in Libya SMEs generally prefer to network with other family members or relatives.

9.6 ORIGINAL CONTRIBUTION TO KNOWLEDGE

The outcomes of this study provide an original contribution to knowledge in business and economics, in particular. The contribution is categorised into three main sections, which are theoretical and methodological contributions, applied contributions and academic publications.

9.6.1 Theoretical and Methodological Contributions

- First of all, it contributes to the enrichment of understanding of business incubators in the developing countries.
- Secondly, it contributes specific knowledge concerning the financing of SMEs and business incubators in the Arab world to the literature.
- Thirdly, it establishes a basis for further research into SMEs and business incubators, mainly in Libya which also benefits other researchers in this field of study.
- Finally, this research considered the Arab countries and their relevant SMEs as the literature is limited in this field of study. The contribution

part of study is essential to SMEs due to the collapse of governmental structures and the recent uprising in the area.

9.6.2 Applied Contribution to Knowledge

- This research contributes to knowledge about economic growth and development impacts on business incubators, thereby assisting governments and policymakers in establishing environments that would facilitate entrepreneurship and national development.
- The results of this research are intended to provide governments with guidelines for using incubators to foster technology transfer and commercialisation which contributes to entrepreneurship and economic development in the Arab countries and other developing countries, especially Libya.
- Based on recommendations, after publishing parts of this research, Libya Enterprise is actively seeking to establish 15 new incubators and enterprise centres throughout Libya.

9.6.3 Academic Publications

- During this research three journal papers have been published and nine conference papers which makes twelve papers in total. These exclude four academic posters also presented in a different conferences.

9.7 DIFFICULTIES AND LIMITATIONS

This study has experienced some difficulties which have in response, limited the range of the study. The Arab cultural environment caused some barriers in terms of undermining the importance of data collections and survey methods of research, as the participants do not want to commit themselves to a position, in any kind of written form. In the first place, the researcher planned to cover more than three countries in the Arab World. However, due to the recent uprising and also to because of the shortage of time and the cost of travelling there, a year is not sufficient time to have the questionnaires returned and conduct interviews in all the Arab countries. In response to this experience, the researcher decided to narrow the geographical area of the research and distributed questionnaires only to Libyan SMEs and Incubators in UAE and Jordanian. Jordan and UAE

business incubators have been selected where they had been established business incubators for several years. Although Jordan and UAE have some different characteristics, both countries share with Libya some main factors such as religion, social culture, climate, and population.

400 questionnaires were distributed in Libyan SMEs, 91 usable responses were received (22.75% response rate) during 6 months. Two questionnaires were not completed and were not usable and therefore these two questionnaires were excluded from the final count.

9.8 RECOMMENDATIONS FOR FURTHER RESEARCH

One of the contributions of this research to this field of knowledge is that it opens up a new area of research. This area is likely to be of interest to researchers and investors, therefore the following are some of the potential areas for future research:

- First is to replicate this study on a wider sample representing various of the Arab countries or MENA region.
- Future research should focus on other variables that could be related to the creation of business incubation programme: small businesses, in rural areas and may be women or youth-owned businesses.
- There are many possible avenues of future research in related to students and to find out the relationship between business education and business start-up.
- After establishment of business incubators in Libya, further research to find out, what are the factors of success and failure of business incubators.
- In this study, due to the constraints of time and modest financial resources, it was impossible to conduct a longitudinal research study or to cover all the Arab countries. Therefore, in spite of the fact that religion, culture, climate and social life do not vary greatly between Libya and other Arab countries, it seems other samples from different countries worldwide would give support and more certainty to such research.

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APPENDIX 1

Questionnaire for gathering information

Dear Sir/Madam

This questionnaire is part of my PhD research at Nottingham Trent University of UK. My thesis explores the prospects for the innovation in Small and Medium Enterprises through business incubators in the Arab World. This questionnaire is to establish the rationale for the provision of business support, specifically incubators in the Arab Business Innovation Centres.

The data will be used in accordance with NTU regulations and confidentiality of the data will be respected. I also will not be published with names or details without permission from you. Should you require further information on this questionnaire, please do not hesitate to contact me on (elmansori2010@yahoo.co.uk) or on (emhamad.elmansori@ntu.ac.uk)

Thank you for your time and participation

General Information

Company Name: ……..……..

Owner Name: ……..…..

Gender: ……..…….

City: ……..……

Company website: ……..……

Email address: ……..……..

Part 1: Company Information

1) When was your business established ?

2) What type of business are you working in?

Agriculture		Healthcare	
Energy		Tourism	
Manufacturing		Other	

3) Would you describe your business as:[Please Tick your choice]

Government	
Private	
Other	
Total	

4) The estimated assets of your enterprise are in the range of:

The range of estimated of assets	SMEs
Less than US $5000	
US $5000-10000	
US $10000-100000	
US $100000-500000	
More than US $500000	

5) Did you get financial support? If yes, where is it from?

Financial support	SMEs
Yes	
No	

6) What is the source of your business finance?

7) In your opinion, what do you think of the financial conditions set by conventional banks when you apply for finance to your business? Why?

Very difficult	Difficult	Uncertain	Easy	Very Easy

8) Do you know any information about business incubators? If so, please indicate

Do not know	
No answer	
Know some information	

9) Do you think that the idea of business incubators would be useful for your business?

Yes	
Do not know	
No	

10) What type of business development services you may need?

Type of service	Yes	No
Assistance with manufacturing practices, processes and technology		
Comprehensive business training programs		
General legal services		
Intellectual property management		
Marketing support (advertising, promotion, market research)		
Assistance with product design and development practices, processes and Technology		
Support with accounting or financial management		
International trade assistance (Import/export facilitation)		
Help with presentation skills		
Legal advice on international markets regulations		

11) How many employees are there in your company?

Full time	Part Time

Part 2: Innovation

12) How does your company obtain new technology?

By licensing	
By purchasing	
Other methods	

13) How would you rate the quality of scientific institutions in your country?

Poor				Excellent
1	2	3	4	5

14) To what extent do business and universities collaborate on research and development (R&D) in your country?

Never	Rarely	Sometimes	Often	Always

15) Do government procurement decisions foster technological innovation in your country?

No				Effectively
1	2	3	4	5

16) To what extent are the latest technologies available in your country?

Not available				Widely available
1	2	3	4	5

17) To what extent do businesses in your country encompass new technology? If so, give examples please.

Not at all				Adapt
1	2	3	4	5

18) Have you been able to produce or design new products? If so please indicate.

Patents	
Copyright	

19) What are the major barriers to SMEs Innovation in Libya? [Please Tick your choices]

Barriers	Yes	No
Insufficient use of public procurement to foster innovation in SMEs		
Shortages in skills in innovation management		
Shortage of own financial resources for innovation		
Shortages in skills to manage intellectual property and knowledge		
Insufficient knowledge about innovation support services		
Lack of Innovation culture in the Libyan educational institutions		

Part 3: Advantages

20) How do you rate the importance of the following roles performed by SMEs?

Role	High	Medium	Low
Diversifying the economy			
Helping reduce unemployment			
Developing new technologies			
Helping regional development			

21) Do you agree or disagree with the following statements about business incubators:

Role	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree
They are designed to help all sizes of businesses					
The incubated businesses are always owned by the incubator					
They typically provide secretarial support					

They reduce start-up costs					
Facilities (e.g. office equipment, secretarial support) are often shared in an incubator					
Going into an incubator is a more expensive way of starting a business					
They offer reduced, or sometimes free rents					
They usually offer training programmes					
Incubated businesses can stay in the incubator as long as they like					
Any business can join an incubator as long as it's willing to pay					

22) Do you think the incubator should be publicly or privately funded?

Public	
Private	
Both	

23) To what extent do you think that Small and Medium Enterprises (SMEs) brings new technology into your country?

Not at all				Adapt
1	2	3	4	5

24) To what extent do regulations governing Small and Medium enterprises (SMEs) encourage or discourage it?

Strongly Discourage	Discourage	Uncertain	Encourage	Strongly Encourage

25) How would you describe (SMEs) in the Arab countries?

Limited				Active
1	2	3	4	5

26) How would you assess the intensity of competition between (SMEs) in the Arab countries?

Limited in most industries	Uncertain	Intense in most industries

27) Do you think that small and medium enterprises (SMEs) contribute to the elimination of unemployment?

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree

28) Do you think that small and medium enterprises contribute to the employment of women and youth?

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree

29) Do you think that the Incubators should contribute on training programmes for students?

Strongly disagree	Disagree	Uncertain	Agree	Strongly agree

Yours sincerely

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APPENDIX 2

Questionnaire for business incubators in Jordan and UAE

Dear Sir/Madam

This questionnaire is part of my PhD research at Nottingham Trent University of UK. My thesis explores the prospects for the innovation in Small and Medium Enterprises through business incubators in the Arab World. This questionnaire is to establish the rationale for the provision of business support, specifically incubators in the Arab Business Innovation Centres.

The data will be used in accordance with NTU regulations and confidentiality of the data will be respected. I also will not be published with names or details without permission from you. Should you require further information on this questionnaire, please do not hesitate to contact me on (elmansori2010@yahoo.co.uk) or on (emhamad.elmansori@ntu.ac.uk)

Thank you for your time and participation

General Information

Incubator Full Name: ……

City: ……..

Country: ……

Website: …….....

Incubator Managing Director: ……

Contact Phone: ……

Contact Fax: …….....

Email address: ……

Part 1: Incubator Information

1) When was the business incubator established?

2) Would you describe your incubator as: [Please Tick your choice]

Academic / University	
Government	
Private	
Consortium of Companies	
Private / Public	
Other	

3) Which financial model do you use? [Please Tick your choice]

For Profit		Not for Profit	

4) How would you describe your target group? [Please Tick your choice]

Rural enterprises	
Urban enterprises	
Women	
Youth / Student	
High Technological Biotech	
Other	

5) Do you focus on any of the following sectors? [Please Tick your choice]

Agriculture		Healthcare	
Energy		Tourism	
Manufacturing		Other	

6) What are your incubator strategic objectives, please select from the list below:

Strategic Objectives	High Importance				Low Importance
	5	4	3	2	1

Affect policymaking and regulations					
Build/Accelerate growth of a local community					
Commercialise research					
Commercialise technologies					
Create companies that generate export revenues					
Create employment					
Develop profitable enterprises					
Encourage people to foster a community's entrepreneurs					
Encourage people living on social benefits back into work					
Provide income generating opportunities for disadvantaged and minority groups					
Foster the awareness of potential entrepreneurs					
Retain Businesses within the community					

7) From the following list of challenges and barriers, please rate the ones that are faced by your incubator.

Challenges and Barriers	High Importance				Low Importance
	5	4	3	2	1
Applicants have no start-up financing					
Lack of entrepreneurship culture					
Government regulations					

Business skills are needed					
Insufficient technical skills in the community					
Shortage of business development tools					
Shortage of financial sources for incubator operations					
Inefficient of market analysis/research data					
Lack of marketing tools/recognition					
Low demand for business incubators					
Scarcity of innovation					
lack of patents					
Low networking and knowledge sharing platforms					

8) What is your incubator's annual operating budget (in USD)?

In 2009	
In 2010	
In 2011	

9) How would you define your funding? [Please Tick your choice]

Government aid	
Private Donation	
Self -generated	
Mixture	

Part 2: Selection Process and Applications

10) Who is responsible for the assessment of new applicants?

Manager	
Committee	
Others	

11) What criteria are used by the incubation unit to assess applications?

……

12) What are the most common faults you encounter in the applications?

……

……

13) Are you a member of any network incubators? Please indicate.

……..

Part 3: The Incubation Program and Services

14) What type of business development services do you provide to your clients?

Type of service	extremely important				Totally unimportant
	5	4	3	2	1
Assistance with manufacturing practices, processes and technology					
Comprehensive business training programs					
General legal services					
Intellectual property management					
Marketing support (advertising, promotion, market research)					
Assistance with product design and development practices, processes and					

Technology					
Support with accounting or financial management					
International trade assistance (import/export facilitation)					
Help with presentation skills					
Legal advice on international markets regulations					

15) What financial services do you provide to business start-ups?

……..

16) What facilities does your incubator provide?

Type of facilities	extremely important				Totally unimportant
	5	4	3	2	1
High-speed Internet access					
Laboratories					
Office equipment					
Office services (phone, fax, copy and printing machines)					
Office space					
Specialised equipment or facilities (computers, forklift, kitchen)					
Meeting room					

17) How do you obtain new technology?

By licensing	
By purchasing	
Other methods	

18) How would you rate the quality of scientific institutions in your country?

Poor				Excellent
1	2	3	4	5

19) To what extent do business and universities collaborate on research and development (R&D) in your country?

Never	Rarely	Sometimes	Often	Always

20) Do government procurement decisions foster technological innovation in your country?

No				Effectively
1	2	3	4	5

21) To what extent are the latest technologies available in your country?

Not available				Widely available
1	2	3	4	5

22) To what extent do businesses in your country encompass new technology? If so, give examples please.

Not at all				Adapt
1	2	3	4	5

Examples: ……

……

Part 4: Graduation and Impact

23) How many start-up clients are currently incubated within your incubator or have graduated?

	2009	2010	2011
Current Business			
Business Graduated			

24) How many jobs were created in the past three years?

	The number of employees (jobs created)
2009	
2010	
2011	

25) How many patents or copyright have been registered for start-ups incubated in your business incubator?

Patent	
Copyright	

26) To what extent do you think that Small and Medium Enterprises (SMEs) import new technology into your country?

Strongly agree	Agree	Do not know	Disagree	Strongly Disagree

27) Do the current legislation for SMEs encourage or discourage the use of new technology?

Strongly encourage	Encourage	Don know	Discourage	Strongly discourage

28) How would you describe (SMEs) in the Arab countries?

Limited				Active
1	2	3	4	5

29) How would you assess the intensity of competition between (SMEs) in the Arab countries?

Limited				Intense
1	2	3	4	5

30) Do you think that small and medium enterprises (SMEs) contribute to the elimination of unemployment?

Strongly disagree	Disagree	Do not Know	Agree	Strongly agree

31) Do you think that small and medium enterprises contribute to the employment of women and youth?

Strongly disagree	Disagree	Do not Know	Agree	Strongly agree

32) Do you think that the Incubators should contribute on training programmes for students?

Strongly disagree	Disagree	Do not Know	Agree	Strongly agree

Yours sincerely

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APPENDIX 3

Interview Protocol

Research Project: Fostering Innovation and Entrepreneurship in SMEs through Business Incubators

Good morning (afternoon). Thank you for accepting to be interviewed within this study project. The purpose of this interview is to get a clarification and understanding the role of Business Incubation.

This interview is planned not last for more than an hour. During which several questions will be asked. Where possible I might interrupt so to get further clarification and save time as well.

Voice Recording

I trust it is fine with you to record this conversation. This will enable me get all the details and conversely have an attentive conversation with you. I assure you this will be for the purposes of my research only thus this tape will be held confidential.

Interviewee Details

1- Could you please confirm your name?

……

2- What is your highest qualification?

……

3- What are your years of experience?

……

Q1 (English) Does a business incubator need to have a business plan prior its establishment?

Q1 (Arabic) هل تحتاج حاضنات الاعمال لخطة قبل التأسيس

Q2 (English) How do we measure success? What are the criteria of success of a business incubation process?

Q2 (Arabic) كيف نستطيع قياس النجاح، و ما هي معايير عملية الاحتضان الناجح

Q3 (English) What kind of services should a business incubator provide to the clients?

Q3 (Arabic) ما نوع الخدمات التي يمكن أن تقدمها الحاضنة

Q4(English) How long incubation period to choose for a tenant?

Q4(Arabic) ما هي فترة الاحتضان التي يتم اختيارها للمستأجر

Q5 (English) Who are the stakeholders of the business incubators?

Q5 (Arabic) من هم المشاركون أو المساهمون في حاضنات الأعمال

Q6 (English) How to finance business incubators? Donors of funds.

Q6 (Arabic) كيف يمكن تمويل حاصنات الاعمال

Q7 (English) How to select the business incubator supervisory board?

Q7 (Arabic) كيف يتم اختيار هيئة الاشراف على الحاضنات

Q8 (English) How to select the best possible incubator manager?

Q8 (Arabic) كيف يتم اختيار افضل مدير محتمل للحاضنة

Q9 (English) What are the reasons for offering (or not offering) particular services?

Q9 (Arabic) ما هي اسباب اختيار خدمات دون أخرى في الحاضنات

Q10 (English) what particular benefits can incubators provide for entrepreneurs and small companies?

Q10 (Arabic) ما هي المنافع التي تقدمها الحاضنات لرواد الاعمال والشركات الصغيرة

Q11 (English) what are the similarities and differences between SMEs and entrepreneurship?

Q11 (Arabic) ما هو وجه التشابه والاختلاف بين المشروعات الصغيرة والمتوسطة و ريادة الاعمال

Q12 (English) Do you think that SMEs or Entrepreneur have been through an incubator programme are far more likely to succeed in the long term?

Q12 (Arabic) هل تعتقد بأن المشروعات التي تحتضن داخل الحاضنات أكثر احتمالية للنجاح على المدى الطويل

Q13 (English) what are the barriers to business incubation in the Arab World?

Q13 (Arabic) ماهي المعوقات التي تحول دون انشاء حاضنات الاعمال في الوطن العربي

Any other clarifications or comments

Many thanks for your time and your in-depth discussion, it is well appreciated

The Researcher

APPENDIX 4

Interviews Coding Sheet

Information / Experts	Nationality	Occupation	Code
Expert one	Libyan	Academic	X1
Expert two	U.A.E	Academic	X2
Expert three	Egypt	Academic	X3
Expert four	Palestine	Academic	X4
Expert five	Palestine	Academic	X5
Expert six	Egypt	Academic	X6
Expert seven	Saudi	Academic	X7
Expert eight	Jordanian	Academic	X8
Expert nine	Kuwaiti	Academic	X9
Expert ten	Libyan	Academic	X10
Expert eleven	Saudi	Academic	X11
Expert twelve	Egypt	Academic	X12