Starting an Entrepreneurship Revolution in Egypt

A Master's Thesis submitted for the degree of
"Master of Business Administration"

Supervised by
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Affidavit

I, **Hossam El-Sifary**, hereby declare,

1. that I am the sole author of the present Master's Thesis "Starting an Entrepreneurship Revolution in Egypt", 68 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master's Thesis as an examination paper in any form in Austria or abroad.

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Abstract

Egypt just came out of a revolution that successfully toppled a corrupt regime, and the topic of entrepreneurship and economic prosperity are currently high on the country's agenda. This thesis document intends to answer the questions of "What are the current challenges facing entrepreneurship in Egypt? And what are the suitable actions to boost entrepreneurship in the country?" To answer these questions, the author's work builds on available data to assess the current situation, identify the challenges, and filter expert recommendations in the context of boosting entrepreneurship in Egypt through proposing suitable action points.

The document starts with a literature review of relevant theoretical content to the topic. The intention is to present a framework for measuring entrepreneurship, explain related indexes, and provide an overview of the concept of entrepreneurship ecosystem. Then a situation analysis is conducted.

The situation analysis outcome revealed many opportunities to overcome the challenges facing entrepreneurship in Egypt. As a first step of the solution, a framework for instilling an entrepreneurship ecosystem is overviewed with clear objectives set and sample map to visualize all related items provided. This is followed by the presentation of key roadmap initiatives that would address challenges in areas like; improving access to finance, increasing average level of education in general and entrepreneurship education in particular, support female entrepreneurship, boost R&D and technology usage, spread awareness to overcome cultural issues impacting entrepreneurship, introduce entrepreneurship-friendly policies and increase government support, and enhance infrastructure that facilitates entrepreneurship.

These particular initiatives are proposed based on one or more of the following selection criteria:

- Directly addressing the challenges that were highlighted by the situation analysis.
- Enhance/complement/complete items of the entrepreneurship ecosystem.
- Recommended as best practice by international organizations to foster entrepreneurship.
- Represent a success story after implementation in other countries.

Finally, the author concludes by listing areas of further research that would build on this thesis work and expand the scope to include more detailed implementation plans for each of the suggested initiatives and action points with detailed timelines and costs.

Content

Abbreviations

ABAN	Arab Business Angels Network
BAN	Business Angel Network
BCDS	Business Climate Development Strategy
CAPMAS	Central Agency for Public Mobilization and Statistics
CEB	Central Bank of Egypt
CGC	Egyptian Credit Guarantee Company
CMA	Capital Markets Authority
EDBE	Export Development Bank of Egypt
EFSA	Egyptian Financial Services Authority
EGP	Egyptian Pound
EGX	Egyptian Stock Exchange
FDI	Foreign Direct Investment
FSRP	Financial Sector Reform Program
GAFI	General Authority for Investment
GEDI	The Global Entrepreneurship and Development Index
GEM	Global Entrepreneurship Monitor
GOE	Government of Egypt
ICT	Information and Communications Technology
IDSC	Information and Decision Support Center
IMC	Industrial Modernization Centre
LE	Egyptian Pound
MCIT	Ministry of Communications and Information Technology
MFI	Micro-Finance Institution
MSME	Micro Small and Medium Enterprises
MSS	Ministry of Social Solidarity
MTI	Ministry of Trade and Industry
NGO	Non-Governmental Organization
NPL	Non-Performing Loan
OECD	Organization for Economic Co-operation and Development
PPP	Public Private Partnerships
SEDO	Small Enterprise Development Organization
SFD	Social Fund for Development
SME	Small and Medium-sized Enterprise
SOE	State-owned Enterprise
TEA	Total Entrepreneurial Activity
TVET	Technical and Vocational Education and Training
USAID	United States Agency for International Development
VC	Venture Capital

1. Introduction

1.1 Motivation and Question Formulation

On the 25th of January 2011 the Egyptian revolution started, and in 18 days only it toppled a tyrant regime that was in power for 30 years. The whole world was amazed at how fast the well civilized people in peaceful demonstrations can change decades of iron-fest ruling and corruption. The main objectives of the revolution were to achieve justice, freedom, and prosperity for everyone.

Now Egyptians are so keen to make up for the past time and to accelerate their steps towards a brighter future. Accordingly, the author saw an opportunity to formulate a real need into a research question to fulfill part of the nation's aspirations through fostering entrepreneurship. Hence the question formulation:

"What are the current challenges facing entrepreneurship in Egypt? And what are the suitable actions to boost entrepreneurship in the country?"

1.2 Approach

There is already an abundance of local data and expert analysis for measuring general development challenges facing Egypt, as well as many universal recommendations for fostering entrepreneurship. Accordingly, the author's work does not start from scratch, but rather builds on available data and knowledge and filters the local data in the context of assessing entrepreneurship situation, then filters universal and general expert recommendations in the context of boosting entrepreneurship in Egypt.

To reach the final objective of solving the formulated thesis question, an analysis of the current situation is needed to identify the challenges, which will then facilitate proposing suitable action points to boost entrepreneurship in Egypt. Accordingly, this document is composed of 3 parts to cover all related aspects as follows:

1.2.1 Part One – Literature Review

The first part provides a literature review of relevant theoretical content to the topic. The intention is to present a framework for measuring entrepreneurship, pick related indexes, and look at the concept of entrepreneurship ecosystem.

There are several frameworks for measuring entrepreneurship that are mentioned in this section. For example, there is the Global Entrepreneurship Monitor method, which is based on local surveys to measure a set of fixed entrepreneurship indicators. However the framework prepared by the Organization for Economic Co-operation and Development (OECD) is presented in more details in this section as it is more comprehensive for capturing entrepreneurship, yet flexible to select the indicators that are relevant to the local conditions. There is also a brief discussion on indexes that are used to measure entrepreneurship level in a country. These measuring frameworks and indexes will be used in part 2 of the thesis document for the situation analysis.

Finally, the framework for entrepreneurship ecosystem is introduced, which will then be used in the 3rd part of the thesis document as a tool to foster entrepreneurship in Egypt.

1.2.2 Part Two – Situation Analysis

This part is fully dedicated to conducting a situation analysis for the factors affecting entrepreneurship in Egypt. The author researched many reports that provide analysis for some of the entrepreneurship indicators that were prepared by international and local organizations within the context of general measurement for economic development. Only those indicators that are relevant to entrepreneurship and SMEs were filtered and included in this situation analysis.

The section also provides insights through reading into the indexes and what their numbers represent in terms of challenges.

1.2.3 Part Three – Starting an entrepreneurship revolution in Egypt

This section's main focus is on possible solutions for fostering entrepreneurship in Egypt. These solutions include recommendations for instilling an entrepreneurship ecosystem in Egypt, and then additional initiatives and action points to face the challenges pointed out in the situation analysis. In presenting such initiatives and recommendations, the author is drawing on the collective knowledge gained from the MBA courses, as well as many empirical studies that have investigated possibilities for boosting entrepreneurship in recent decades.

1.3 Sources of data and Verification

The data used in this document come from many sources including: World Bank, World Economic Forum, Global Entrepreneurship Monitor, Organization for Economic Co-operation and Development,

and other international sources, in addition to many local sources such as the Ministry of Investment, The Central Agency for Public Mobilization and Statistics, The Social Fund for Development, and many others.

It is worth noting that during decades of corruption, some parts of the local economic data were manipulated to give a fake image of prosperity to cool down public opinion. Accordingly, the author attempted to verify the data by checking more than one sources and comparing them, in addition to interviewing some national experts who have knowledge of the local economy in Egypt.

2. Part One: Literature Review

2.1 What is Entrepreneurship?

2.1.1 Definition

The term “Entrepreneurship” is derived from the French word meaning “the act of undertaking an endeavor”. It was first defined by the Irish-French economist Richard Cantillon, but it represents many things to many people.

To be inclusive of the many types of entrepreneurial behavior, professor Robert Hisrich provided the following definition is his book “Entrepreneurship”:
“Entrepreneurship is the process of creating something new with value by devoting the necessary time and effort; assuming the accompanying financial, psychic, and social risks and uncertainties; and receiving the resulting rewards of monetary and personal satisfaction.”

2.1.2 Importance of Entrepreneurship

Recognition of entrepreneurship as an important driver of economic growth, employment, innovation and productivity has been long understood by analysts and economic theoreticians. This dates back few centuries if one considers the work of Cantillon, the first academic to explicitly attempt to define, and describe the role of, entrepreneurs. In the 20th century, the understanding of entrepreneurship owes much to the work of economist Joseph Schumpeter in the 1930s and other Austrian economists such as Carl Menger, Ludwig von Mises and Friedrich von Hayek. Entrepreneurship employs what Schumpeter called "the gale of creative destruction" to replace in whole or in part inferior innovations across markets and industries, simultaneously creating new products including new business models. It was however not until the 1990s that the term —entrepreneurship became a buzzword both in the media and in political debate as newspapers were full of success stories about self-made billionaires.

Entrepreneurship is widely accepted as a key aspect of economic dynamism: the birth and death of firms and their growth and downsizing. As firms enter and exit the market, theory suggests that the new entrepreneurs arriving to the market will be more competent than those they replaced (Giovannini, 2008). Those firms that surviving in the market are required to innovate and become more productive in order to compete. Entrepreneurship was long considered an exogenous factor in government policies, and policy efforts were often directed simply towards the large population of very small firms rather than aimed at stimulating

entrepreneurs able to introduce new products, processes or organizational forms in order to exploit new markets and grow (Giovannini, 2008). But it is very noticeable in recent years that many countries have made entrepreneurship an explicit policy priority, and many governments' policies are seeking to effectively manage the rate and type of entrepreneurship. While globalization is reshaping the international economic landscape and technological change creates greater uncertainty in the world economy, entrepreneurship is believed to be able to help to meet these new social, economic, and environmental challenges (Giovannini, 2008).

Entrepreneurship objectives and policies differ considerably among countries, owing to different policy needs and diverse perspectives on what is meant by entrepreneurship. In some countries, entrepreneurship is linked to regional development programs and the creation of new firms is stimulated to boost employment and output in depressed regions (Giovannini, 2008). In others, entrepreneurship is a key element of strategies designed to facilitate the participation of certain target groups, such as women or youth belonging to a certain age group, in the economy (Giovannini, 2008). Some countries simply seek to increase firm creation as such, while others set out to support high-growth firms. And while many countries are making serious efforts to support entrepreneurship, results appear to vary (Giovannini, 2008). Countries want to understand the determinants of and obstacles to entrepreneurship, and they need to analyze the effectiveness of different policy approaches, which will be discussed in the next section.

2.2 Entrepreneurship Measurement Framework

Since the mid 90s, policy makers in many countries and international organizations started to focus on the importance of entrepreneurship and made statements about their commitment to increasing entrepreneurship or, at least, to improving the entrepreneurial environment (Lundström and Stevenson, 2005, Hart, 2003; OECD, 2007a), by developing policies to improve the entrepreneurial environment, whether by removing obstacles or via more direct targeted actions such as subsidies. Accordingly, many countries have taken steps to improve the measurement of entrepreneurship at the national level. In addition, programs by the World Bank, Eurostat and private organizations such as the Global Entrepreneurship Monitor, have also started to develop internationally comparable data.

However, these efforts suffered some shortcomings in capturing or representing entrepreneurship neither conceptually, nor empirically, in a comprehensive manner (Ahmed, Hoffman 2007). These shortcomings and the growing importance of entrepreneurship in the policy domain have emphasized the need for a framework with sounder basis of internationally accepted measure and comparable

indicators of entrepreneurship. For the creation of this framework, many countries and groups turned to the Organization for Economic Co-operation and Development (OECD) for assistance and guidance to capitalizing on its international networks of statisticians, analysts and policy makers. Consequently, the OECD collaborated with the Kauffman Foundation in 2005-2006 to conduct a study on developing high quality, comparable international data on entrepreneurship and its determinants. And since entrepreneurship is a phenomenon that manifests itself throughout the economy in many different forms with many different outcomes, the challenge faced by the OECD initiative was to develop a framework that provides the means to tackle these diverse outcomes and manifestations while maintaining focus on measurement of entrepreneurship (Ahmed, Hoffman 2007). This framework will provide tools needed to tackle whichever entrepreneurship related objective suitable for a country.

The three main component of the framework are: "*determinants"* which reflects the key factors that affect "*entrepreneurial performance"*; this "*entrepreneurial performance"* reflects the target indicators that policy makers believe have an impact on some or many ultimate objectives *"impacts"* (Ahmed, Hoffman 2007). This framework is clarified in figure 1.

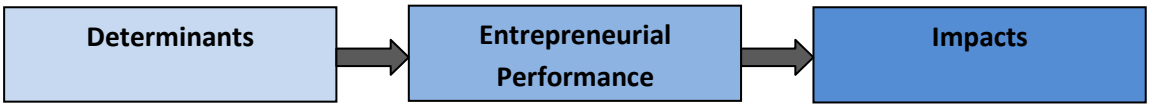

Figure 1: The OECD/EUROSTAT framework for Entrepreneurship Indicators

Each of these is described in more detail below:

2.2.1 Impact of Entrepreneurship

The impacts of entrepreneurship reflect the value created by entrepreneurs and entrepreneurship. As mentioned earlier, this value can be evident in a number of ways, examples can be macroeconomic variables like employment, income distribution, GDP growth, etc. Within the context of this framework the main economic and social objectives related to entrepreneurship are; job creation, economic growth, and poverty reduction (Ahmed, Hoffman 2007).

2.2.2 Entrepreneurial Performance

This is a measure of the entrepreneurial actions that are influential in delivering the impacts. Given the large number of possible impacts, it is also expected that there is a multitude of entrepreneurial indicators. Accordingly, each country adopting this framework will choose to focus on different

indicators of performance that are relevant to its policy objectives, which represent the values that particular country wish to create. These indicators, which were developed by the OECD and its partners, comprise a basket of indicators that are generally thought to reflect entrepreneurship, and is arguably revolutionary to bring them together for the first time within this framework (Ahmed, Hoffman 2007).

The OECD framework gives example of a number of indicators and groups them under three main categories as follows:

Firms:

- Employer firm birth rate.
- Employer firm death rate.
- Net business population growth.
- Survival rate, 3 and 5 years.

Employment:

- High growth firm rate by employment.
- Ownership rate start-ups
- Ownership rate business population.
- Employment: 3 and 5 year firm old.

Wealth:

- High growth firm rate by performance.
- Value-added by young firms.
- Productivity contribution, young firms.
- Innovation performance, small firms.

The above are just samples of indicators that can be even broken down to varying degrees into sub-sectors such as industrial sector, gender, business size etc.

2.2.3 Determinants of Entrepreneurship

The entrepreneurial performance in any country depends greatly on a number of primary factors coupled with the personal attributes of entrepreneurs in that country. The OECD framework lists many factors and groups them under the following groups described below:

Regulatory framework:

Entrepreneurship happens within a regulatory framework which can be defined very broadly to include all taxes, regulations and other public rules and institutions affecting entrepreneurship as they either increase or decrease the incentive to entrepreneurial activities. These indicators include:
Administrative burdens for entry – Administrative burdens for growth – bankruptcy regulations – Safety, health, and environmental regulations – Product regulations – Labor market regulations – Court and legal framework – Social and health security – Income taxes – Business and capital taxes

R&D and Technology:

R&D creates new inventions that the entrepreneur and entrepreneurial businesses can turn into new products or processes. The R&D in this context should be understood as a resource that can be created or purchased, whether directly or in an embodied or diffused form. Indicators in this category include:
R&D investment – University/industry interface – Technological cooperation between firms – Technology diffusion – Broadband access – Patent system

Entrepreneurial Capabilities:

The *entrepreneurial capabilities* include the human and social capital of the entrepreneurs as follows:
Training and experience of entrepreneurs – Business and entrepreneurship education/skills – Entrepreneurship infrastructure – Immigration

Culture:

Culture influences an entrepreneur‘s behavior, attitudes, and overall effectiveness and, moreover, is often unnoticed by the entrepreneur (Ivancevich & Matteson, 1996). In this framework, culture comprises each individual‘s assumptions, adaptations, perceptions and learning. Indicators in this category include:
Risk attitude in society – Attitude towards entrepreneurs – Desire for business ownership – Entrepreneurship education (mindset)

Access to Finance:

Capital covers all phases of business life, from access to early seed funds to access to the stock markets, as listed below:
Access to debt finance – Business Angels – Access to VC – Access to other types of equity – Stock markets

Market conditions:

Opportunities are created by the *market conditions* in the country. These market conditions include:

Anti-trust laws – Competition – Access to the domestic market – Access to foreign markets – Degree of public involvement – Public procurement

2.3 Entrepreneurship Indexes

2.3.1 Total Entrepreneurial Activity Index

This rate was created by the Global Entrepreneurship Monitor (GEM) consortium. GEM's core activity is the annual compilation of primary empirical data from its member countries on the adult age population's participation in entrepreneurial activity (Autio, 2005). On the basis of this data, GEM calculates the Total Entrepreneurial Activity (TEA) rate for each participating country. The TEA rate represents the share of working and adult-age individuals (18 – 64 years old) who are either actively trying to start new entrepreneurial companies, or who are currently acting as owner managers of new entrepreneurial companies (Autio, 2005). In each participating country, at least 2,000 randomly selected adult-age individuals are interviewed by professional survey interviewers, either by telephone or in person5. In addition to entrepreneurial activities, the interviews also gather data on each person's attitudes and beliefs regarding prevailing social and cultural norms, data on the start-up attempt, as well as demographic data on the respondent6. This data enables detailed analysis of the anatomy of entrepreneurial activity in each GEM country; this is analyzed and reported in detail in GEMs country reports.

The adult population survey data is complemented with two additional data collection efforts (Autio, 2005). First, in each participating country, GEM surveys experts knowledgeable of national conditions for entrepreneurial activity (Autio, 2005). An extensive mail and interview survey questionnaire is used and circulated among national policy-makers, entrepreneurs, financiers, consultants, representatives of entrepreneurship support initiatives, entrepreneurship academics, and other individuals knowledgeable of the national context for entrepreneurial activity (Autio, 2005). The data collected by means of this survey is used for calculating indices representative of national entrepreneurial framework conditions, or national conditions that have direct bearing on entrepreneurial activity (Autio, 2005). Second is the compilation of third-party data on the national economy, demographics, infrastructure, and other factors that describe the country's economic, structural, demographic, and social conditions for entrepreneurship (Autio, 2005).

GEM's Total Entrepreneurial Activity (TEA) rate indicates the country-level prevalence of both nascent entrepreneurs and baby business managers in the working-age population (Autio, 2005). The TEA rate thus indicates the share of all working-age individuals active in creating and running new firms, regardless of the ambition level of the new venture (Autio, 2005). Because the bulk of new firm activity is not very ambitious, the TEA rate effectively reflects the level of low-ambition activity in GEM countries (Autio, 2005).

2.3.2 Global Entrepreneurship and Development Index

The relationship between the Global Entrepreneurship and Development Index (GEDI) and economic development appears to be mildly S-shaped, implying a positive relationship between entrepreneurship and economic development (Acs & Autio, 2010). Therefore, the GEDI is a potentially useful tool to provide policy suggestions to increase economic development via entrepreneurship (Acs & Autio, 2010). However, it is acknowledged that since economic growth is ultimately the result of many factors in addition to entrepreneurship, the GEDI can explain only a part of short-term economic growth (Acs & Autio, 2010). GEDI is comprised of three sub-indexes that capture the contextual features of entrepreneurship across individual and institutional variable as explained below:

For the first sub-index, entrepreneurial attitudes are defined as the general disposition of a country's population toward entrepreneurs, entrepreneurship, and business start-ups (Acs & Autio, 2010). The index involves measures for the population's opportunity perception potential, the perceived start-up skills, feel of fear of failure, networking prospects, and cultural respect for the entrepreneur (Acs & Autio, 2010).

For the second sub-index, entrepreneurial activity is defined as the start-up activity in the medium or high technology sector initiated by educated entrepreneurs in response to business opportunities in a somewhat competitive environment (Acs & Autio, 2010). The choice of indicators used to build this sub-index reflects the belief that opportunity entrepreneurs are better prepared, possess superior skills, and earn more than necessity entrepreneurs (Acs & Autio, 2010).

The third sub-index, entrepreneurial aspiration, is defined as the efforts of the early-stage entrepreneur to introduce new products and services, develop new production processes, penetrate foreign markets, substantially increase the number of firm employees, and finance the business with either formal or informal venture capital, or both. Product and process innovation, internationalization, as well as high growth are included in the measure (Acs & Autio, 2010).

2.4 Entrepreneurship Ecosystem

The concept of entrepreneurial environment is rich and complex. The would-be entrepreneur, like other individuals do not make decisions in a vacuum. Simon (1954) hypothesizes that "rational behavior is contingent upon the structure of the environment". Entrepreneurs, and especially would-be entrepreneurs, are responsive to opportunities. The structure of the environment in which individuals find themselves impinges directly and indirectly as a complex and significant set of influences (Kirzner, 1973). The environment in which the would-be entrepreneur finds himself contains an array of factors which may impede or enhance entrepreneurial vigor (Kirzner, 1973).

The Entrepreneurship Ecosystem refers to the elements, such as individuals, organizations or institutions, outside the individual entrepreneur that are conducive to, or inhibitive of, the choice of a person to become an entrepreneur, or the probabilities of his or her success following launch (Isenberg, 2010). Organizations and individuals representing these elements are referred to as entrepreneurship stakeholders (Isenberg, 2010). Stakeholders are any entity that has an interest, actually or potentially, in there being more entrepreneurship in the region (Isenberg, 2010). Entrepreneurship stakeholders may include government, schools, universities, private sector, family businesses, investors, banks, entrepreneurs, social leaders, research centers, military, labor representatives, students, lawyers, cooperatives, communes, multinationals, private foundations, international aid agencies, and the like (Isenberg, 2010).

In order to explain or create sustainable entrepreneurship, one isolated element in the ecosystem is rarely sufficient (Isenberg, 2010). In regions which have extensive amounts of entrepreneurship many of the ecosystem elements are strong and typically have evolved more or less simultaneously (Isenberg, 2010). Similarly, the formation of these ecosystems suggests that governments or societal leaders who want to foster more entrepreneurship as part of economic policy must strengthen several such elements simultaneously (Isenberg, 2010).

3. Part Two: Situation Analysis of the Entrepreneurship and business environment in Egypt

The overall objective of the situation analysis is to provide an overview of current status as well as the major entrepreneurship challenges facing Egypt. To facilitate this analysis, we will be looking at relevant data and indicators from frameworks developed by internationally renowned organizations such as the OECD, GEM, UN Agencies and other national and international development partners in Egypt. In addition, it is worth mentioning that the included data, projections, and definitions are the outcome of reviewing a wide array of official documents and website as well as recent development literature on Egypt.

3.1 Egyptian Micro, Small, and Medium Enterprise Sector Overview

The private enterprises in Egypt are made up of over 99% of micro, small, and medium companies and account for 85% of nonagricultural private sector employment and almost 40% of total employment (Handoussa, 2010). They have been the primary absorber of labor force entrants over the past eight years. Although the stock of micro and small enterprises has grown at an average annual rate of over 4% during the past ten years, and micro and small enterprise employment has increased at an annual rate of over 5%, the micro and small enterprise sector is highly vulnerable (Handoussa, 2010).

The reason for these high rates of growth in enterprise creation is because of the high rates of unemployment, which push young people to setup new businesses, especially in the retail trade, which leads to further risk of mortality (Handoussa, 2010). The average Egyptian micro and small enterprise has only 2.3 workers, and almost three-quarters of all private enterprises have fewer than three employees (Handoussa, 2010). Over 80% of micro and small enterprises are informal enterprises, with low value-added, low production quality, and poor export performance (Handoussa, 2010).

Formal micro and small enterprises are subject to a legal and regulatory framework that is cumbersome, bureaucratic, and not sensitive to their operating realities. They face several other constraints, including difficult access to formal financing, business development services, markets, information, technology, skilled labor, and adequately priced inputs (Handoussa, 2010). And although the numbers of both micro and small enterprises have been on the rise, this has not resulted in a reduction in the level of poverty; in fact, poverty levels have increased in recent years. Most new entrepreneurs finance their start-ups

from their personal resources (Handoussa, 2010). According to the Global Entrepreneurship Monitor (GEM), the vast majority of the nascent and start-up businesses in Egypt are small ventures. Sixty percent of Egyptian early-stage entrepreneurs finance their start-ups with less than EGP 50,000, but the amount ranges from EGP 100 to EGP 10 million. However, the good news is that GEM results show that the employment growth expectations of early-stage entrepreneurs would result in a 25% growth in average firm size over the coming five years.

Statistics show that the proportion of micro and small enterprises is growing. While micro and small enterprises accounted for 73.5% of total private sector employment in 1996, their share jumped to more than 85% in 2008 (Handoussa, 2010). On the other hand, medium and large enterprises witnessed a decline in their share of employment by almost half, from 26.5% to 14.7% during the same period. A notable similarity between the situation in Egypt and that in developing countries, micro and small enterprises are concentrated in the trade and services sectors (Handoussa, 2010). Of the total micro and small enterprises, 59% are in wholesale and retail trade, 27% in services, and 14% in manufacture as of December 2008. Despite making up the vast majority of firms in Egypt's private enterprise sector, the contribution of micro and small enterprises to exports is very low–estimated at only 4% of total exports in 2008 (Handoussa, 2010).

3.1.1 Definition of Micro, Small, and Medium Enterprises

There has been controversy regarding the definition of micro, small, and medium enterprises by different entities and organizations in Egypt (Handoussa, 2010). However, Small Enterprise Law 141/2004 defines micro enterprises as companies or sole partnerships with paid-up capital less than 50,000 EGP, and small enterprises as companies or sole proprietorships with paid-up capital between 50,000 EGP and 1 EGP million, and with 6–50 employees. According to official figures from the Central Agency for Public Mobilization and Statistics in Egypt (CAPMAS), 92.5% of enterprises are micro, 7.3% small, and less than 1% (only 0.2%) is medium or large. Only about 1.5% of private sector enterprises have more than ten employees (Handoussa, 2010). While the predominance of micro enterprises is not in itself unusual, the number of private sector medium and large enterprises, and the proportion of the private sector workforce that they employ is low by regional and international standards. Micro and small enterprises in Egypt tend to have very small amounts of capital (Handoussa, 2010). Around 59% of enterprises with 1–4 workers have capital of less than EGP 5,000 (less than US $1,000) and only 6% of all enterprises have invested capital of more than EGP 50,000 (less than US $10,000), according to Labor Market Panel Survey Data for 2006 (Handoussa, 2010).

3.1.2 MSME Sector Constraints

The MSME sector in Egypt suffers from many constraints. These are well-known and can be categorized into:

1. Demand-related constraints, arising from weak purchasing power of their primary low-income customers; more intense competition; low involvement in export activity; limited linkages to larger firms; and use of limited, non-structured and uncoordinated marketing channels (Handoussa, 2010).
2. Input constraints, such as low utilization of technology; inadequate access to external finance; poor access to adequately priced inputs; and low access to information and business development services (Handoussa, 2010).
3. Process and management constraints resulting from lack of sophistication of production systems and weak management know-how (Handoussa, 2010).
4. Labor constraints due to a scarce supply of skilled and trained workers and inability to pay high wages and cover high non-wage labor costs (Handoussa, 2010).
5. Legal and regulatory constraints which impose heavy compliance burdens and costs on the smallest enterprises (leading to the high level of informality) (Handoussa, 2010).
6. Entrepreneurship constraints due to an inadequately supportive entrepreneurial environment and culture (Handoussa, 2010).

Another example of an impediment to small business is that NGO s that provide microcredit to MSMEs are not allowed to accept savings along with handing out loans. The number of such NGO s has been increasing and institutions such as the Social Fund for Development (SFD) have been assigned the primary task of supporting micro-lending and assistance to microenterprises, using intermediaries — mostly NGOs — to provide credit (Handoussa, 2010).

3.2 Access to Finance

3.2.1 Venture Capital

The Egyptian government has launched some initiatives to enhance the VC industry such as the adoption of the law No. 8-1997 and the capital market law No. 92-1995 which granted VC firms tax

exemptions (OECD-MENA, 2010). The launch of the Ideavelopers fund that targets the promotion of IT businesses in the country is considered as one of the most important initiatives (OECD-MENA, 2010). A study on the supply and demand for equity financing for SMEs and the feasibility of creating a government-backed venture capital fund was carried out in 2006-07 (OECD-MENA, 2010). The aim was to direct more private sector venture capital investment to promising, growth-oriented SMEs (OECD-MENA, 2010). This study led to establish a Venture Capital Committee formed in 2007-08 (OECD-MENA, 2010). The government issued also a decree of implementing a "Fund of Funds" with a fund of USD 100 million (OECD-MENA, 2010). As of end 2008, there were 14 venture capital funds operating. However, the current OTC market does not provide an efficient exit-market function for venture capital firms aiming at innovative firms with a high risk profile (OECD-MENA, 2010). In addition, a recent evaluation carried out by the Ministry of Finance raised many points of concern including market information problems, a low level of deal flow and lack of profitable business prospects in addition to a human resources problem on both sides i.e. capabilities and qualifications of targeted entrepreneurs and the lack of professional and capable fund managers (OECD-MENA, 2010).

Regarding the regulatory framework, the basic limitation of the law concerning the definition of venture capital activity and the lack of any explanatory details on the correct application and implementation of the VC activity resulted in a number of companies adopting the VC license merely for the sake of the tax exemption and not to participate in the VC activity (OECD-MENA, 2010).

3.2.2 Angel Investors

Unlike the formal venture capital industry, which concentrates near places where financial services are already well developed, business angels are geographically dispersed. From a policy standpoint, an information barrier may exist in the market for informal venture capital. For instance, business angels are usually reluctant to publicize their willingness to invest and entrepreneurs are disinclined to reveal innovative ideas (OECD-MENA, 2010). Information and search-cost barriers on both the supply and demand sides of this market can be lowered through support for business angel networks (Hattab, 2008).

In Egypt, the business angel concept is not well known and is not commonly used (OECD-MENA, 2010). In spite of that, it is an important alternative for financing early stage companies and filling the financing gap of SMEs, which coincides with the interests of the business angels (OECD-MENA, 2010). The Arab Business Angels Network (ABAN) is building a network across the 18 nations of the Arab region but no

memorandums of understanding (MoUs) have been signed yet with Egypt (OECD-MENA, 2010). There are no private or publicly-supported business angel networks in operation and no angel investment activity in Egypt despite rising awareness about BANs importance (OECD-MENA, 2010).

3.2.3 Micro Finance Funding

With respect to the new Microfinance Institution (MFI) law, the Egyptian Financial Services Authority (EFSA), a regulatory authority created in 2009 under the Law for the Regulation of Non-Banking Financial Markets and Instruments, the "Single Regulator Law", regulates securities markets and non-bank financial institutions (Handoussa, 2010). NGO-MFIs are overseen by the Ministry of Social Solidarity (MOSS) (Handoussa, 2010). A draft microfinance law expected to be passed in 2010 will create a new category of non-banking financial institutions (microfinance companies or MFCs) and facilitate commercial micro lending under the regulation of the EFSA (Handoussa, 2010).

Another tool for providing access to finance is The Social Fund for Development (SFD), which was created by the government of Egypt in 1991 as a social safety net mechanism aimed at mitigating the adverse effect of the Economic Reform and Structural Adjustment Program (ERSAP) (Handoussa, 2010). The Small Enterprises Law 141 of 2004 reinforced the key role of the SFD in developing micro and small enterprises in Egypt (Handoussa, 2010). The SFD has separate approaches for microfinance and small enterprises finance, which are outlined below (Handoussa, 2010). The most notable differentiating feature between the SFD's two approaches is that entrepreneurs are required to register their businesses (if not already licensed) before they can receive a loan. This is the primary reason for the high number of start-ups for small enterprise lending of 74% as of May 2009 (Handoussa, 2010).

The SFD's Microfinance Department supports income-generating activities and the creation of sustainable job opportunities with the aim of decreasing poverty levels and improving socio-economic indicators. Its main objective through the provision of microfinance is raising the income of poor families, especially female-headed households (Handoussa, 2010). The SFD works primarily with NGOs. Since the creation of the Microfinance Department, it has worked with a total of 441 NGO s and community-based organizations, serving a total of approx. 802,529 clients (Handoussa, 2010).

Reported portfolio quality is excellent, with only 1.8% portfolio at risk as of December 2008 (Handoussa, 2010). The five largest and also best performing NGOs that the SFD financed out of a total of 441 as of August 2009, make up 38% of the total SFD microfinance portfolio (Handoussa, 2010). This figure also indicates that there are a large number of small SFD-financed NGOs. Funding contracts with NGOs are

for up to five years, and require that women make up at least 30% of loans, and enterprise start-ups are at least 10% (Handoussa, 2010).

Small enterprise finance is the responsibility within the SFD of the Small Enterprise Development Organization (SEDO). The SFD provides funds to banks for on-lending to MSE s with a portfolio amounting to US $ 131.2 million (Handoussa, 2010). SEDO's portfolio is over twice as large as the SFD's microfinance portfolio, although it serves less than a tenth of the number of enterprises. Reported portfolio quality is high for small enterprise lending, and is at similar levels to the microfinance portfolio (Handoussa, 2010). The proportion of women clients stood at 27% as of December 2008 and the target is 35%. Banks are selected for SFD financing through a financial assessment and on the basis of the quality of their portfolio, institutional capacity, and willingness and ability to leverage the volume of credit line (Handoussa, 2010). This takes into account their accessibility, their branch network-outreach, professional capacity experience and track record for finance of MSE and financial capacity such as profitability, liquidity, capital adequacy, financial leverage, percentage of arrears, and growth ratios (Handoussa, 2010). Despite the fact that a number of banks opened an MSE Division, showing growing interest and a more adapted approach to small businesses, the criteria for credit worthiness analysis and the requirement for the loan approval are still a problem since they are mostly the same for small enterprises as they are for larger firms, keeping high the cost of handling the dossier and hampering small enterprises access to finance (Handoussa, 2010).

Despite the considerable financial resources made available by a number of donors and devoted to funding microfinance, apparently little or no information is gathered by SFD, or by the NGOs funded through SFD, on the impact of microfinance activities in terms of sustainable job creation, investments, enterprises mortality rate, and eventually improved living conditions of the beneficiaries. Such an evaluation is needed on a regular basis in order for SFD to obtain signals for guidance in improving the outcome of its activities (Handoussa, 2010).

3.2.4 Capital Markets

The development of capital markets in Egypt did not reach significant potential, especially in terms of primary markets (Nasr, 2008). Egyptian firms' access to long-term capital has been hampered mainly by an inadequate legal framework, especially regarding new securities issuance, lack of active domestic financial investors, and a weak regulatory and supervisory framework. While the secondary capital markets are active, new capital market issuance for both bond and equity have been very limited (Nasr,

2008). The primary markets are much smaller than those of high-performing emerging markets. Little external financing has been made available for firms from both equity or bond markets, and what is provided mostly goes to the largest firms (Nasr, 2008). As elsewhere, stock exchanges mainly target large blue-chip companies, which leaves SMEs having to deal with more difficulties in accessing capital markets because of their size, low creditworthiness, and limited transparency (Nasr, 2008).

However, one of the most relevant developments with regard to access to finance is the recent opening of a specialized market for small capitalizations and SMEs (Nasr, 2008). The so-called NILEX is of limited size, with 11 listed companies by mid-2010, but it certainly sends the right signal for Egypt's entrepreneurs. As the first SME bourse in the MENA region, it has pioneer status and its development should be closely watched (Nasr, 2008).

The securities market as a source of investment financing is limited in Egypt (Nasr, 2008). The private sector has made few corporate bond and public equity offerings in recent years (Nasr, 2008). While there have been more equity issues than corporate bonds, many equity issues were public offerings or sales of government shares in large state-owned companies, which do not add to capital formation. Funds raised through corporate bonds were even less compared to equity financing (Nasr, 2008). The corporate bond market is nascent and largely dominated by commercial banks, while access to international capital markets is limited to large enterprises and financial firms. No Eurobond has been issued by an Egyptian company to date (Nasr, 2008).

3.3 Social and Cultural Issues Related to Entrepreneurship

It is very hard to measure the degree to which cultural and social norms foster entrepreneurial attributes and attitudes and favor entrepreneurship (Hattab, 2008). According to GEM some countries are perceived to have a very positive societal attitude towards entrepreneurship, the United States being the strongest example, while in others, the prevailing social and cultural norms are not seen as so supportive of entrepreneurship and fostering of entrepreneurial attributes (Hattab, 2008).

Over the last several decades, there has been a culture that discourages entrepreneurship in Egypt (Ortman, 2010). The most respected members of society have been those who work in academia, the government, or are affiliated with either one in some way (Ortman, 2010). This is complicated by family pressures on sons and daughters to be successful by landing a stable position in a university or

government organization (Ortman, 2010). In addition, following decades of central planning and domination by public sector and State enterprises, the prevailing culture became that of working for the less-demanding and secure public sector, which included social security coverage (Ortman, 2010). Social and economic policies during that era made the government responsible for placing every graduate of secondary schools or above into employment, either in the civil service or in public sector enterprises. Controlling prices and exchange rates to minimize inflation necessitated subsidizing public sector companies and the relationship between cost and price became absurd (Ortman, 2010). Subsidizing exports to build Egypt's international reputation as an industrial country was also a policy (Ortman, 2010). Opposition to the notion of Egypt as an agriculture-based economy resulted in a general trend among youth to neglect agricultural work and migrate internally from rural to urban areas (Ortman, 2010). The ratio of agricultural production in the national income declined, and Egypt became one of the countries importing a good percentage of its food, mainly wheat, rice, corn, sugar and cooking oil (Ortman, 2010). These policies impacted negatively on the entrepreneurial spirit of youth during these decades (Ortman, 2010).

Some observers argue that this is now changing as people increasingly recognize career success in the private sector, at least in larger corporations. However, most youth are still hesitant of venturing on their own (Ortman, 2010). The solution to these cultural issues is closely related to public policy, particularly to changing laws that discourage entrepreneurship and limit innovation (Hattab, 2008). For example, going bankrupt is still a crime that can potentially lead to imprisonment of the business owner, and failure at a business venture can be a black mark both personally and for the family, which of course represents a major deterrent to entrepreneurship (Hattab, 2008). When young Egyptians do choose entrepreneurship as a career path, they usually opt for lower-risk traditional businesses. In addition, trust is generally reserved for family members, with outsiders accepted only when formally introduced into the circle (Ortman, 2010).

The local experts in Egypt who participated in preparing the GEM report were somewhat confident that the national culture is highly supportive of individual success, but they were much less confident that it encourages entrepreneurial risk-taking, creativity and innovation. Their perceptions of the strength of cultural support emphasizing individual responsibility, self-sufficiency, autonomy and personal initiative were also not very favorable (Hattab, 2008).

3.4 Entrepreneurship Support Organizations

3.4.1 The Social Fund for Development

Egypt's Social Fund for Development (SFD) has now existed for 20 years and developed its outreach capacity through a network of regional offices covering the 29 governorates of Egypt. The SFD covers the following areas; small enterprise development, microfinance development, community infrastructure, community development, human resources development, and business services (Handoussa, 2010). The SFD has utilized around USD 2 billion since it started its activities, including both grants and loans, from more than 15 multilateral and bilateral donors (Handoussa, 2010). While a large majority of the loans provided to the SFD have been at concessional rates, the SFD operates on a cost-recovery basis for sustainability purposes and does not receive a central government budget allocation (Handoussa, 2010). There has been no recent assessment of the Social Fund and of remaining bottlenecks in its operation (Handoussa, 2010).

The SFD Marketing and Management Sector (MMS) aims to provide an integrated package of technical support and marketing services to increase the competitiveness of micro and small enterprises in domestic and export markets, and to support job creation (Handoussa, 2010). The MMS operates mainly as a service provider to micro and small enterprises through outsourcing the required services. The MMS outsourcing mechanism depends primarily on cooperation protocols signed between the SFD and third institutional parties such as universities, research institutions or training centers, and on direct commissioning of local and/or international consultants (Handoussa, 2010). However, extension services of the SFD are still lagging behind its microcredit operations and have enormous scope for expansion and improvement (Handoussa, 2010). As outlined in the MSE strategy, the need is to move in parallel between financial and non-financial services to boost the productivity and marketability of MSE operations (Handoussa, 2010).

The following business services are provided through SFD regional offices; a 'one-stop shop' approach to ensuring that entrepreneurs receive a tailored package of services, whether provided by the SFD or by other organizations/firms that the SFD has agreements with, and streamlined (time and cost) business registration (Handoussa, 2010).

The services provided by the SFD are mostly free of charge, and are funded by donor grants and SFD interest income (Handoussa, 2010). These include assisting enterprises in preparing business plans and

loan applications, a service that is particularly valued by banks. Monitoring of project activities is undertaken in the field, and reports are received from the core operational departments, such that financial services relay information from the banks; Business services and institutional business consolidate information from their clients (Handoussa, 2010). The MIS department tracks these reports and provides management information for senior management (Handoussa, 2010).

3.4.2 Industrial Modernization Center

The Ministry for Trade and Industry (MTI) has also been responsible for supporting micro and small enterprises via the Industrial Modernization Center (IMC) in a number of ways: The development of cluster-based technology centers to serve specific sectors such as leather or furniture in those regions where the density of industrial clusters is high (Handoussa, 2010). It has also worked to promote matchmaking between large and small firms to promote feeder industry linkages as well as matchmaking between MSMEs in Egypt and larger firms abroad, especially in Europe (Handoussa, 2010). The Ministry is also pursuing vigorously the issue of vocational training via its Industrial Training Council and its network of vocational training centers (Handoussa, 2010). The council is also responsible for promoting private business involvement in the reform programs of TVET, and especially with regards to the curricula and the supply of appropriate facilities and equipment for TVET centers (Handoussa, 2010).

3.4.3 The General Authority for Investment and Free Zones

The General Authority for Investment and Free Zones (GAFI) has also developed a comprehensive strategy to enhance the competiveness and productivity of small and medium investments (SMIs) which encompasses four critical pillars: entrepreneurship, competitive poles, access to finance, and business development services (Handoussa, 2010).

GAFI has developed a new headquarters BDS unit, and will utilize its network of regional offices and its commitment to being a BDS facilitator for BDS providers. Regarding access to finance, GAFI is in the process of selecting a licensed fund management company to run its LE 1 billion fund to be launched in the near future to promote SME growth as a means to employment opportunities (Handoussa, 2010). The fund will be directed to start ups and to growth companies with promising entrepreneurs. Although the fund has, in its core, a developmental purpose, it will be run on a commercial basis (Handoussa, 2010).

3.4.4 Business Incubators

The Egyptian incubator program was launched in 1995 by the SFD, the World Bank, and the Egyptian Incubator Association (EIA). The EIA has launched a pilot project for business and technology incubators, although its focus is more on employment generation than innovation. It provides technical assistance in setting up the incubators. The EIA also serves as a representative body for the incubators. There are currently six operating incubators run by the SFD, with another seven in the process of being established across different governorates in Egypt. An additional five incubators are being considered, among which three are virtual incubators (OECD-MENA, 2010).

The Ministry of Trade and Industry, through its ETTICs network, also hosts business and technology incubators that offer entrepreneurs a wide range of services including technological support, technical assistance, advice, and mentoring. The advantage of being linked to the ETTICs is direct access to the facilities within ETTICs premises (i.e. machinery) and being able to use existing market channels to promote projects (OECD-MENA, 2010).

Finally, a third type of incubation is offered in Egypt through the Small Industries Development Technology Incubator, which is sponsored through the SFD. This program is set up with an exit strategy, where firms are expected to attain financial sustainability after two to four years. The aim is to give technologically oriented small-sized firms access to a physical space, to technical and consultancy services, to research centers and to laboratories (e.g. industrial pollution monitoring facilities) (OECD-MENA, 2010).

3.5 Female Entrepreneurship

3.5.1 Overview

There is only limited participation of women in self-employment and micro and small enterprise ownership. Women-owned micro and small enterprises make up 18% of the total number of micro and small enterprises (Hattab, 2008). As size grows, levels of female ownership decrease even further. Women-owned enterprises have lower levels of capitalization, are less likely to employ other workers, more likely to be in retail trade, less likely to export, and less likely to be registered. The presence of women in entrepreneurial and micro and small enterprises activity mirrors their low participation in the labor force generally (Hattab, 2008). There are over one million women in the labor force who would like to work but who cannot find employment (Hattab, 2008). Therefore, there may actually be greater potential for women's participation in the enterprise sector than men, proportionately. The picture is

better for microfinance, with women making up 74% of the active clients of SFD-supported MFIs. There is, therefore, significant untapped potential to encourage more women to enter the labor market and to consider entrepreneurial and MSE activity as an option. However, the many barriers they face must be addressed, including social and cultural resistance to their economic activity; low education and literacy levels; training, business development services, and markets; low property ownership/rights; and difficulties in dealing with regulatory authorities (Hattab, 2008).

3.5.2 Female Access to Finance

Ensuring that investors, both men and women, have equal access to the financial market is essential (Nasr, 2008). There is a need to allocate funding to its most productive uses; otherwise economic growth will be hampered (Nasr, 2008). Hence removing any gender bias is crucial. Enhancing the active participation of women in entrepreneurship activities and giving them access to markets, especially financial markets, is essential, as it leads to a rise in the number of economically active members in the society; this will ultimately result in long-run economic prosperity (Nasr, 2008).

While access to finance remains a business constraint for both men and women, evidence seems to suggest that women are facing higher hurdles, particularly for small enterprises (Nasr, 2008). The ICA shows that women suffer more from constrained access to finance compared to men, whether in terms of the cost of finance, ability to gain approval for financing, or legal disputes and conflict resolution in case of bankruptcy (Nasr, 2008). In addition, banks request more strict collateral requirements when dealing with women investors (Nasr, 2008). In fact, the proportion of women who complained about collateral requirements was double that of men (Nasr, 2008).

Women often have difficulty in providing collateral because, although the law gives women ownership rights of property, they often lack independence in managing these assets (being under the guardianship of their brother, husband, or even son) (Nasr, 2008). In many cases they are prevented from using their property as collateral for loans, limiting their ability to participate as independent agents in private-sector activity (Nasr, 2008). The allocation of resources within the family is greatly influenced by the perception of roles, where the men are seen as the main, if not the sole, bread-earners (even in the cases when they are not) (Nasr, 2008).

Women are more active in the informal credit market compared to men, and are more likely to draw on funds from family and friends (Nasr, 2008). Very few women entrepreneurs resort to commercial banks for credit (around 20 percent), but those who do are confronted with higher rejection rates (6 percent

compared to 4.5 percent for men) (Nasr, 2008). Banks estimate that women account for 10 to 25 percent of bank clients, most of whom are microfinance clients (Nasr, 2008). Banks in Egypt do not systematically collect gender-disaggregated portfolio information and so do not have a good understanding of the needs of women SME owners as potential customers (Nasr, 2008). In contrast, women are a majority of microfinance clients in Egypt (Nasr, 2008). The proportion of women clients in SFD-supported microfinance portfolios is high and has increased from 66 percent in 2007 to 74 percent in 2008 (Nasr, 2008). There are a number of SFD-supported NGOs that solely or primarily serve women and as a result the women who are most in need of this credit will benefit greatly from the proposed operation (Nasr, 2008).

3.6 Access to R&D and Innovation

In Egypt, only 0.2% of GDP is allocated to R&D and about 95% of spending comes from the government (Hattab, 2008). The structure of research and innovation activities in Egypt is presently undergoing significant changes. Until recently research funding suffered and strongly depended on international grants (El-Nadi, 2008). There was no clear national policy of research and researchers usually continued to work along the same lines of research of their PhD advisors or group leaders, which is later being related to where and what the advisor studied himself more than to a national plan (El-Nadi, 2008). This resulted in research being considered by the community as a luxury and by researchers only as a vehicle for foreign travel and promotion, and the brain drain problem was understandable (El-Nadi, 2008). The lack of a national research policy whose objective is to solve local industrial problems together with weak links between academia and industry and limited funding were serious problems (El-Nadi, 2008).

Things began to change when new concepts such as the global market began to emerge as it became clear that research is the only means to compete (El-Nadi, 2008). Besides, international funding agencies donated grants for common research between Egyptian researchers and their international counterparts, with strict measures for funding (El-Nadi, 2008). These initiatives lead to research being carried out in Egypt and the brain drain problem was minimized to a large extent (El-Nadi, 2008). Egyptian research began to develop and some groups began to work on modernizing industry, some to develop ICT applications, some began working on genetically-engineered agricultural products, and so on (El-Nadi, 2008). So, in the present phase, this international cooperation began to achieve positive results by working closely with different ministries and industries.

The problem was only partially solved that way and local planning and funding of research were left for a later stage. The prime minister of Egypt himself chaired a new 18-member S&T council, modeled on a similar panel in Japan. The Supreme Council for Science and Technology included six scientists, eight Cabinet members with research portfolios, as well as representatives of industry and finance. This Council provides the basis for high-level coordination and prioritization of R&D aligned with national development goals and strategies (Hattab, 2008). The funding shortage had to be faced. The planned restructuring would transfer most grant-giving functions of Egypt's massive Academy of Scientific Research and Technology to the new granting agency, which is called the Egyptian National Funding Agency (El-Nadi, 2008). The academy will allow important topics to be investigated, but its future role will not be in funding research (El-Nadi, 2008). In addition, the new Science and Technology Competitive Fund and the EU -Egypt Innovation Fund provide incentives for raising research quality and linking research activity with industry development needs (Hattab, 2008).

The latest European charts on innovation show that Egypt has an innovation policy implemented via measures to stimulate investment, venture capital, business incubators, industrial modernization, small and medium enterprises development and entrepreneurship (El-Nadi, 2008). However, there is no formal coordination body yet (El-Nadi, 2008). The delivery of innovation policy is carried out via the programs of related ministries often with assistance from donor organizations (El-Nadi, 2008). An important factor is the Social Fund for Development (SFD) which finances business centers and incubators as well as the Industrial modernization Program (IMP) and GAFI, the General Authority for Investment (El-Nadi, 2008). The key drivers of innovation are industrial modernization and privatization of state industry (El-Nadi, 2008). The recent appointment of ministers with strong private sector back grounds in the areas of finance, tourism and industry is a positive step (El-Nadi, 2008).

Financial support for new and growing firms to acquire new technology; access to research and technology; commercialization support to engineers and scientists with market potential technologies or applications, and the transfer of knowledge and technology from universities and public research centers to new and growing firms, were all viewed as being extremely weak. Regardless, upgrading the level of technology in use by Egyptian enterprises is critical to improving product quality, efficiency and competitiveness (El-Nadi, 2008). Early-stage entrepreneurs in Egypt are more likely than established entrepreneurs to be using, or planning to use, new technologies as a market expansion strategy, and to be employing the latest technology in their business (Hattab, 2008). In fact, the percentage of Egyptian early-stage entrepreneurs indicating they are doing this is higher than in most developed GEM countries

(Hattab, 2008). But the level of innovativeness of their products and product market combinations is very low compared to GEM countries. As reinforced by the national experts, proper attention to R&D, its transfer to the entrepreneurial sector, and support for all forms of innovation are crucial policy issues.

It should be noted that the major structural impediment to the development of future capability is the separation of research from university education and knowledge exchange and the continuing predominance of a supply-driven approach to research and innovation. Countermeasures to remedy these weaknesses are under consideration in the reform initiatives (Hattab, 2008).

3.7 Education Sector Analysis

The education level of the population matters greatly according to GEM studies which have concluded that policies geared to enhancing entrepreneurial capacity (i.e. the skills and motivation to pursue opportunity) may have the greatest impact on the level of entrepreneurial activity (Hattab, 2008).

3.7.1 Higher Education in Egypt

The transition of students from the general and vocational/technical tracks of upper secondary education to higher education in universities, colleges, and other tertiary institutions is one of the most significant challenges for education reform in Egypt (Handoussa, 2010). This transition is problematic because its structure and processes are not flexible enough to enable young people or adults to navigate the passages between schooling and work at various stages of their lives, and in the long-term, it affects economic and social wellbeing (Handoussa, 2010).

According to the 2009-2010 estimate records of the Ministry of Higher Education, the current higher education sector in Egypt is a public-private mix that caters for an aggregate of around 2.8 million students, 80% of whom enrolled in public state universities and the remaining 20% enrolled in private universities and higher education institutions (Handoussa, 2010). The system comprises 17 public universities that include six branches and enroll nearly 1.1 million full-time undergraduate students in addition to about 500,000 in part-time and open education study programs and nearly 200,000 graduate students (Handoussa, 2010). The Islamic Azhar University has scattered campuses all over Egypt including 43 colleges for male students and 25 colleges for female students enrolling around 320,000 undergraduate and nearly 16,000 graduate students (Handoussa, 2010). Technical education caters for

around 120,000 students enrolled in eight technical colleges spread geographically all over Egypt and includes 45 middle technical and health institutes (Handoussa, 2010).

Private higher education includes 17 private universities (three others are in the pipeline) enrolling nearly 60,000 undergraduates and around one thousand graduate students (some private universities such as the American University in Cairo and the Egyptian Japanese University for Science and Technology have special status as they follow special agreements between respective governments) (Handoussa, 2010). In addition, 117 private higher institutes enroll about 400,000 undergraduate and about 550 graduate students as well as eleven private middle technical institutes enrolling around 24,000 undergraduate students (Handoussa, 2010).

The Egyptian higher education system is highly centralized, across segmented agencies and multiple layers of control, and has highly interventionist powers (Handoussa, 2010). By international comparisons, institutions have extraordinarily limited discretions and incentives for performance improvement and responsiveness to changes in student demand and labor market needs (Handoussa, 2010). Budget allocations are not linked to the respective roles and needs of individual institutions. Employment and staffing policies in the sector mirror those of the public sector, fostering problems of overstaffing, promotion by years of service, and poor remuneration. Private institutions are also subject to many of the same regulatory controls imposed on public institutions, thereby negating the benefits of a strong and innovating private sector (Handoussa, 2010).

For public universities, there are widespread concerns about continuing reliance on the secondary school examinations as the sole basis for admission to higher education and the issue is still under debate. Surveys also indicate insufficient choice of field of study relevant to career preference; inadequate preparation for employment as a result of curriculum irrelevancies; and limited practical skills formation because of an overconcentration on memorizing content, passive pedagogies and inadequate facilities and equipment (Handoussa, 2010). Reform measures for higher education are under consideration, and, as requested by the Minister of Higher Education, these reforms are being guided by OECD and World Bank situation and gap analyses which focus on a range of issues related to access, funding, governance, autonomy, mobility, internationalization and quality (Handoussa, 2010).

3.7.2 Entrepreneurship Education

GEM 2008 research study examined the extent to which adults had taken any formal education and training related to entrepreneurship and starting a business and Egypt had the second lowest score of GEM countries on this indicator.

Very few Egyptians have had any formal education or training related to developing entrepreneurial attributes or starting a new business (Hattab, 2008). The national experts who were surveyed in the GEM research study did not agree that many people have the ability to organize the resources required for a new business and even less so, that they knew how to do this in the case of a high-growth firm (Hattab, 2008). People who had received entrepreneurship education and start-up training were much more confident that they had the skills and knowledge to be able to start a business, which increases the probability that they will become an entrepreneur (Hattab, 2008). Male students in the GEM Egypt study have a very high TEA rate (about 30%), yet have very little opportunity to take credit classes in entrepreneurship and new venture creation or to learn any skills that will help them identify more viable business ideas or to start and grow their enterprises. There is a lot more that needs to be done in and around the education system to nurture entrepreneurial skills (Hattab, 2008).

3.8 Policies and Regulations Affecting Entrepreneurship

3.8.1 Overview

The government of Egypt plays an important role in nurturing entrepreneurial activity. This is done indirectly on a routine basis through fiscal policies, tax policies, regulatory policies, competition policies, startup policies, education and technology policies, regional development policies, labor market policies and so on. In many cases, the intent of these policies is not specifically to nurture entrepreneurship; in fact, they may even have an unintended adverse effect on the level of entrepreneurial activity by creating disincentives (Hattab, 2008). Often, consideration of the possible impact of these policies on entrepreneurial activity is totally overlooked by policymakers (Hattab, 2008).

GOE directly influence the level of entrepreneurial activity through program measures and interventions. Support for new and growing firms is a high priority at the national government level (less so at the local government level) (Hattab, 2008). One of the concerns, however, is the lack of a comprehensive government-wide and formally adopted entrepreneurship policy document, articulating a strategy to specifically promote the development of new entrepreneurs and the start-up of new and

growth-oriented enterprises (Hattab, 2008). Initiatives to promote entrepreneurship and support start-ups do exist but they are fragmented and not part of a comprehensive approach (Hattab, 2008).

3.8.2 Business Startup

In 2004, opening a business in Egypt, represented by Cairo, required 13 procedures, 43 days and cost 63% of income per capita (Capaul, 2008). The minimum capital requirement was 815.6% of income per capita (Capaul, 2008). Today the same can be done with only 7 procedures, 9 days and costs of 28.6% of income per capita (Capaul, 2008). The minimum capital requirement is now 12.9% of income per capita (Capaul, 2008). Accordingly, Egypt is one of 39 countries that made business start-up simpler, faster or cheaper in 2006/07 and one of the 18 that reformed for the second year in a row (Capaul, 2008). In this area, Egypt was the second biggest reformer in the world after simplifying procedures, cutting costs and sharply reducing the minimum capital requirement (Capaul, 2008).

The boldest reform in 2006/07 was to cut the minimum capital requirement (Capaul, 2008). Before the reform new firms had to put aside 50,000 Egyptian pounds (Capaul, 2008). A ministerial decree amended the Company Law, cutting the minimum capital requirement to 1,000 Egyptian pounds (Capaul, 2008).

Improvements continued at the GAFI one-stop shop in Cairo where the number of procedures fell from 10 to 7, and the fees dropped as well (Capaul, 2008). Entrepreneurs can now register for taxes at the chamber of commerce directly through the one-stop shop. As a result of the reforms, the start-up time and costs were cut by more than half (Capaul, 2008). Furthermore, following the model in Cairo, one-stop shops are now operating in three other cities (Capaul, 2008). By reducing procedures to 7, the three Egyptian cities are approaching the OECD average of 6 procedures (Capaul, 2008).

The cost of starting a business is the same across the governorates, 28.6% of income per capita (Capaul, 2008). It dropped by more than half last year after the fees to publish the company's notice in the Investment Gazette fell from 2,000 to 150 Egyptian pounds (Capaul, 2008). In the 10 best-performing countries globally, the entrepreneurs pay less than 1% of income per capita to start a business (Capaul, 2008).

It is worth nothing that the impact of reforms in cities outside of Cairo may be lagging because the reforms were not communicated sufficiently, which means more decentralization is necessary (Capaul, 2008).

3.8.3 Business Closure

When inefficient firms exit a market and efficient ones enter, overall productivity benefits. Good exit policies and procedures allow less productive firms to leave a market easily (Capaul, 2008). The World Bank also measures company closure in terms of the recovery rate which is the amount of money claimants recoup from an insolvent firm (Capaul, 2008). The recovery rate is important because when the higher it is, the more banks may be expected to lend, which may favor entrepreneurship (Capaul, 2008). An efficient system considered in terms of time, cost and recovery rate is important as it may play a role in encouraging entrepreneurs who have had to close down their businesses once to start a second time (Stel, Storey, Thurik; 2007).

Imitating coincidence "Doing Business 2010" calculates that it takes 4.2 years to close down a business in Egypt, whereas the average time in the MENA region is estimated at 3.5 years and 1.7 years in OECD countries (Capaul, 2008). According to Doing Business 2010 the cost of closing a business is 22% of its estate, compared to 14.1% in the MENA region and 8.4% in OECD countries (Capaul, 2008). This indicates that closing a business seems to be a more cumbersome, lengthy process than company registration (Capaul, 2008). The private sector reports that it takes at least four to six months, but the length of time depends on the legal form of the company and a number of other factors such as its size, assets, age, etc (Capaul, 2008). The private sector also reports that the cost of closing down a business depends on a number of factors (Capaul, 2008). There may be hidden costs if businesses have to pay for additional services such as auditing or liquidation (Capaul, 2008).

3.8.4 Tax Policy

Egypt started to reform its tax system in 2004, with the aim of attracting new taxpayers into the system (Capaul, 2008). This was to be achieved by lowering tax rates, eliminating exemptions, simplifying compliance, reducing the discretionary power of tax inspectors and trusting the taxpayer to act lawfully, but imposing harsh penalties otherwise, and all this was done in just 1 year (Capaul, 2008).

In 2005, the Egyptian parliament approved Law 91/2005. It decreed that companies across the board would pay 20% tax on profit (Capaul, 2008). Tax holidays and exemptions were eliminated. The withholding tax on interest and royalties was reduced to a 20% flat rate (Capaul, 2008). The personal income tax was changed in the same law (Capaul, 2008). In addition to lower tax rates, tax administration was made easier and more transparent (Capaul, 2008). Under the old law, the taxpayer was considered guilty until proven innocent (Capaul, 2008). Now, it is the other way around, as the

system places trust in the taxpayer, but noncompliance can mean the payment of harsh fines or even jail time (Capaul, 2008).

Changing from administrative assessment to self-assessment meant a whole new way of doing business for the tax authority (Capaul, 2008). The major challenge was implementing the reform, as there was a perceived loss of control, and mid-level management had to be convinced that the changes were positive (Capaul, 2008). Taxpayers also encountered problems because they were used to being told what to pay, but now they had to compute the tax obligation themselves (Capaul, 2008). Some found it difficult to complete the tax forms, and mistakes were common as several sections of the form were left blank, because the taxpayers did not know how to complete them and many tax officers were unable to explain the changes (Capaul, 2008).

To address these challenges, the Ministry of Finance launched one of the most comprehensive and widespread public awareness campaigns in Egyptian history (Capaul, 2008). In the meantime, the tax authority extended the filing period, so that people could correct their mistakes without having to pay fines (Capaul, 2008). The pay-off was immediate: more than 2.5 million taxpayers submitted their tax returns, up from 1.7 million in 2005. Tax revenues increased from 7% of GDP to 9% (Capaul, 2008).

3.8.5 Industrial, International Trade, and Internal Market Policies

Industrial, international trade and internal market policies are three aspects of national economic policy that fall under the aegis of the Ministry of Trade and Industry (MTI) (Handoussa, 2010). The MTI objective is to integrate with the global economy, but harnessing an international competitive edge and registering higher rates of growth can only be achieved through linking industrial policy more closely with trade policy, as well as making export policy, and the export of manufactured goods in particular a core element of trade policy (Handoussa, 2010). The MTI is progressively working towards re-orienting Egypt's industrial development efforts more forcefully away from the remnants of the import-substitution policies of the past and more robustly towards a global approach based on exporting. Integrating Egypt into global supply chains, but specifically value chains (where transformative value is added) is the fundamental centerpiece of this policy rubric (Handoussa, 2010).

The manufacturing sector has witnessed an impressive boost during the last four years (Handoussa, 2010). This has been reflected in an increase in its share in total investments from 5% in 2003/04 to about 23% in 2006/07, and in its share of employment from 12% to 13% during the same period as

mentioned above (Handoussa, 2010). The Ministry of Trade and Industry has adopted since 2004 an aggressive National Industrial Development Strategy (NIDS) (Handoussa, 2010). The vision underlying this strategy is for Egypt to be the leading industrializing nation in the Middle East and North Africa as well as the main hub for medium-technology manufactured products (Handoussa, 2010).

Egypt's biggest challenge is to improve skills in management, raise productivity and improve the quality and cost of Egyptian-made inputs (Handoussa, 2010). The low manufacturing value added per capita and labor productivity in manufacturing and the non compliance of domestic products with international standards remain worrisome compared to many other countries (Handoussa, 2010).

3.9 Infrastructure

3.9.1 Overview

Egypt is in transition between factor-driven and investment-driven development (OECD-MENA, 2010). It is developing a diversified economy that encompasses a strong energy exporting sector, heavy industry, tourism, and services (especially offshore services), which makes the infrastructure issue particularly important (OECD-MENA, 2010).

The government is aware of the critical importance of infrastructure and invested EGP 15 billion (USD 2.7 billion) in November 2008 then doubled that amount to EGP 30 billion (USD 5.4 billion) in infrastructure development (OECD-MENA, 2010). In addition, the government is actively seeking public-private partnership (PPP) schemes to help increase its total investment in infrastructure (OECD-MENA, 2010).

Egypt provides more basic infrastructure than many comparable countries (OECD-MENA, 2010). However, much of Egypt's infrastructure suffers from chronic underinvestment, due primarily to socially-motivated pricing which does not offer a sustainable financial basis for correct maintenance and precludes new investment (OECD-MENA, 2010). Even though budgets have been increased and restructuring projects aimed at improving safety and professionalizing management are ongoing, Egypt still has a lot of ground to make up (OECD-MENA, 2010).

3.9.2 Telecommunications

Telecommunications has been reforming faster than other infrastructure sectors and generally performing on a par with its peers (OECD-MENA, 2010). For example, land line penetration (15 lines per

100 inhabitants) is in line with the MENA average and one of the highest in North Africa (OECD-MENA, 2010). Telecom Egypt has introduced digital switching, which has brought excellent reliability (0.1 faults per 100 lines) (OECD-MENA, 2010). Similarly, domestic mobile telephony shows mostly good quality at competitive rates (OECD-MENA, 2010). The mobile telephony market has been liberalized and is open to foreign investors (Vodafone, Mobinil and Etisalat.) Internet usage is rising – in 2007 it had reached 14%, close to the MENA average of 17% (OECD-MENA, 2010). This trend was a result of the excellent progress in PC penetration, which climbed from one to five PCs per 100 inhabitants between 2000 and 2007, bringing Egypt almost up to the MENA average of six (OECD-MENA, 2010). Fixed and mobile telephone and Internet access prices in Egypt are among the lowest in the region, two or three times below the regional average (OECD-MENA, 2010).

Telecom Egypt's land line monopoly keeps international call costs high and landline waiting times long (OECD-MENA, 2010). A second fixed line telephone license was to be awarded in 2008, but has been delayed. International phone calls are not competitive in comparison to other countries (OECD-MENA, 2010). For example, a call to Europe costs EUR 0.30 per minute in 2010. Businesses have access to VoIP only over virtual private networks or at night time (OECD-MENA, 2010). Only BPO businesses enjoy VoIP access round the clock (OECD-MENA, 2010).

Egypt lags behind its peers in its roll-out of broadband Internet for network and content-related reasons (OECD-MENA, 2010). Broadband penetration was 1.36% in January 2010, lagging behind the average for lower middle income countries, which was estimated at 2.2% in 2007 (OECD-MENA, 2010). With only 20% of SMEs reportedly using the Internet in 2008, Egypt is also below the regional average for Internet take-up by businesses (OECD-MENA, 2010). Download quality is variable because of the domestic infrastructure's lack of homogeneity. Nationally provided Internet content is scarce and e-commerce is still in its infancy (OECD-MENA, 2010).

The MCIT continues to exert control over the telecom regulator NTRA (OECD-MENA, 2010). Even though its board represents all stakeholders, it is still not free of government influence (OECD-MENA, 2010). International best practice suggests that this may lead to conflicts of interest (OECD-MENA, 2010).

3.9.3 Transport

With the exception of airport infrastructure, upgraded to support the development of tourism, transport infrastructure has traditionally suffered from lack of maintenance and investment (OECD-MENA, 2010). In recent years, the situation has deteriorated to the point where safety is threatened, as evidenced by

tragic rail and ferry accidents (OECD-MENA, 2010). Since 2007, however, increased funding has been allocated to roads and railways, and PPPs have been used to finance the development of port infrastructure (OECD-MENA, 2010). The 2009 economic stimulus package further increased that spending, putting transport infrastructure catch-up high on the political agenda (OECD-MENA, 2010).

Airport infrastructure is regularly upgraded and offers state-of-the-art air travel facilities. Cairo International is becoming a regional hub directly linked to 91 domestic and international destinations served by 65 airlines (OECD-MENA, 2010). Egypt is a signatory to the Open Skies Agreement, which considerably liberalized international air travel. Air freight rates, too, are competitive (OECD-MENA, 2010).

Egypt's road and rail networks are relatively dense: its rural accessibility index in 1999 was 77%, higher than the 59% MENA average (OECD-MENA, 2010). The rail network also serves most large urban areas and is dense with respect to the populated area of Egypt (OECD-MENA, 2010). Road tolls and railway fares are very low compared to the MENA region and other countries (OECD-MENA, 2010). Egypt's 40% modal share of railway passenger transport is among the highest in the world (OECD-MENA, 2010).

Road authorities have been decentralized, while public-private consultations ahead of reforms are organized from the bottom up (OECD-MENA, 2010). A highway agency (GARBLT) is responsible for supervising all planning, construction, operating, maintenance, and safety works for main roads and bridges all over the Egyptian intercity network. Railway reform has been undertaken, with internal restructuring of Egyptian National Railways (ENR) preparing the ground for future corporatization (OECD-MENA, 2010).

Egypt practices highly competitive rates in Mediterranean container traffic: in 2004 the Port of Alexandria charged USD 67 per TEU compared to USD 212 at Tunis, Istanbul's USD 340 and Casablanca's USD 370 (OECD-MENA, 2010). Efforts have been made to simplify port procedures and paperwork and one-stop shops have been introduced (OECD-MENA, 2010). Egypt has been successful in attracting private investment in new port terminals through PPP schemes (OECD-MENA, 2010). The country's ports have already drawn USD 4bn of investment and a figure of USD 9bn is expected by 2012. There has been partial unbundling of regulatory and operating activities, with some port services being opened up to the private sector (OECD-MENA, 2010).

Road maintenance has long been neglected and the budget dedicated to that is only 0.05% of GDP (now increased to 0.15%) (OECD-MENA, 2010). In addition, the highway authority (GARBLT) monitors the quality of maintenance work inadequately, according to industry experts (OECD-MENA, 2010).

The railway network tracks are in a poor state of repair, and rolling stock has only been partly upgraded. Even after recent increases, investment levels in the rail network remain modest: EUR 350 million per year in contrast to Morocco which spends EUR 400 million per annum on its conventional rail network and another EUR 400 million annually on its high-speed train system (OECD-MENA, 2010).

Congestion is an increasing problem, especially in Greater Cairo where commutes of 60 to 90 minutes force companies to allow work from home (OECD-MENA, 2010). The situation is bound to worsen with increasing car ownership in a country where the population density of the most heavily inhabited areas is 1 500 inhabitants/km². Even though Cairo boasts the continent's only metro, public transport is not sufficiently coordinated and comfortable to be attractive (OECD-MENA, 2010). For freight, there is not yet an integrated scheme that would encourage intermodal rail-road-river transport (OECD-MENA, 2010). Roads account for 97% of freight traffic, while rail carries just 3% and barge traffic on the River Nile is yet to emerge after years of dredging (OECD-MENA, 2010).

3.9.4 Electricity

Egypt has one of the highest electrification ratios in the region: 99% of the population has access to electricity (OECD-MENA, 2010). Egyptian electricity rates for industrial usage are in the range of EUR 0.02-0.04/kWh while most emerging countries' rates are between EUR 0.06 and EUR 0.18/kWh (OECD-MENA, 2010).

A renewable energy strategy exists alongside the ambitious goal of producing 20% of power needs from renewables by 2020, paralleling European Union efforts in that direction, and an agency for renewable energy is fully operational, the New and Renewable Energy Authority (NREA) (OECD-MENA, 2010).

The incumbent operator has been restructured into separate subsidiaries with responsibilities for production, transmission and distribution (OECD-MENA, 2010). The private sector participates, albeit only in the form of BOOT contracts with take-or-pay commitments (OECD-MENA, 2010).

Very dynamic economic growth in 2004-8 brought an acceleration of electricity demand, which grew at up to 12%v in some years, although it has now leveled out at an annual rate of 6.5% (OECD-MENA,

2010). The result has been a shortage of reserve capacity (now only 2% instead of the required 20%) and the practice of rolling blackouts for residential customers (OECD-MENA, 2010).

Egypt's low energy prices, combined with low income levels, do not encourage renewable energy schemes or energy efficiency initiatives (OECD-MENA, 2010). Furthermore, they continue to encourage investment in highly energy-intensive industries such as steel and cement (OECD-MENA, 2010).

The Egyptian electricity sector has been through many transformations (OECD-MENA, 2010). The latest was in 2000 when the EEHC holding company was formed, with separate subsidiaries for the production, transmission and distribution of electricity (OECD-MENA, 2010). The privatization of these subsidiaries was originally planned, but never implemented, and the ministry still has a decisive role in operating decisions. A new electricity law has been drafted, but not yet passed (OECD-MENA, 2010). In the meantime, no wholesale electricity market exists and private sector participation is limited to BOOT schemes with take-or-pay commitments (OECD-MENA, 2010).

3.10 Additional Factors Impacting Entrepreneurship in Egypt

3.10.1 Economic Management and Corporate Governance

Over the period 1960-2002, the Egyptian economy passed through five main stages: the nationalization and heavy state intervention of the 1960s; the "infitah", open door policy adopted during the 1970s; an attempt at economic reform as a response to external shocks during the 1980s; the initiation of a comprehensive economic reform and structural adjustment in the early 1990s; and the exposure in the late 1990s to several exogenous shocks (Roquette, Kourouma, 2004).

During the 1990s, the Egyptian economy enjoyed positive performance until its exposure to three major consecutive shocks in mid-1997: the East Asian crisis, the Luxor terrorist attack, and the collapse in oil prices (Roquette, Kourouma, 2004). The global economic fallout following the September 11th terrorist attacks exacerbated already perceptible trends of slowed economic growth due to a tight monetary policy, increasing the internal and external imbalances the Egyptian economy was already experiencing (Roquette, Kourouma, 2004).

In January 2003, the Prime Minister announced the floating of the Egyptian pound in order to resolve long-standing exchange rate difficulties (Roquette, Kourouma, 2004). However, the authorities

informally stepped in to reassert control as the currency depreciated by 14% on the first day (Roquette, Kourouma, 2004). Although the pound was allowed to further dip over the coming months, an effective cap was put on depreciation by September, causing the differential between official and black-market rates to widen again (Roquette, Kourouma, 2004).

Private sector development and corporate governance

Since the launching of the economic reform program, the government has taken measures in the economic, legal, monetary, financial, and institutional areas to encourage private sector participation and boost investment, both local and foreign (Roquette, Kourouma, 2004). Encouraged by a more stable macroeconomic environment, the business environment has improved, offering investors attractive incentives and opportunities, duty-free zones, and industrial cities (Roquette, Kourouma, 2004). On the legal front, price restrictions were removed, several legal constraints were eased to become more accommodating to the private sector, and bureaucratic procedures were streamlined considerably (Roquette, Kourouma, 2004).

A key component of the adjustment and stabilization reform program has been to reform the private sector in line with the government's strategy to create a market-oriented, private sector led economy (Roquette, Kourouma, 2004). Although this has led to a shift in economic activity the sector as a whole has failed to significantly build its international competitiveness, with non-oil export performance remaining/ weak. Strengthening the private sector has faced a range of constraints, including the lack of relevant skills among the workforce and poor transparency in business and legal spheres (Roquette, Kourouma, 2004). This has been exacerbated by often confusing and contradictory government polices towards private enterprises (Roquette, Kourouma, 2004).

In 2002, small and medium-sized enterprises (SMEs) accounted for about 75% of private sector employment (Roquette, Kourouma, 2004). However, probably only about 10% of micro enterprise and SME's financing needs are currently satisfied. Despite recent initiatives to improve SME access to credit, the estimated "financing gap" still amounts to about EGP 8.5 billion (US $1.6 million) (Roquette, Kourouma, 2004).

3.10.2 Unemployment

The problems faced by Egypt's youth are rooted in unemployment, stemming from the poor economic policies of five decades ago (Handoussa, 2010). This was when the system of guaranteed employment

was introduced and provided an artificial sense of contentment and achievement, and when an overblown bureaucracy was considered an engine of growth rather than an unsustainable burden on the budget (Handoussa, 2010). The policy resulted in the growth rate for the wage bill for administrative personnel overtaking that for public expenditure on education, health and basic infrastructure (Handoussa, 2010).

Today, Egyptian labor does not fulfill the market requirements and it is a critical impediment to private sector's growth and competitiveness in what has become an open and liberal economy (Handoussa, 2010). This is further deepened by lack of an adequate human resources strategy at the level of firms to offer employers clear directions on labor or hiring issues (Handoussa, 2010). Not all of Egypt's youth have the same access to networks of support and opportunities for decent jobs and comfortable incomes. On one level, university-educated youth are experiencing high unemployment rates as a result of the mismatch between their education and formal labor market needs (Handoussa, 2010). On a second level, graduates of technical and vocational education and training (TVET) have also been beset by low employment rates (Handoussa, 2010). TVET has held the dead-end label for those who are pushed away from general or higher education. However, most TVET institutions are supply-driven and have a lack of clear standards for curriculum development and training delivery, and they use outdated equipment that is misaligned with technological development (Handoussa, 2010). The result is under-skilled graduates who cannot fill the specialized requirement of industry, or the upper end services sectors, and must turn to the informal sector for jobs (Handoussa, 2010). Evidence also indicates that, paradoxically, unskilled labor holds an advantage in terms of employment opportunities, perhaps as a result of a boom in construction (Handoussa, 2010).

Although Egyptian youth still show a preference to work in government, a growing percentage favor entrepreneurship according to the Global Entrepreneurship Monitor. With regards youth engagement in entrepreneurial activity, the GEM results are very promising (Hattab, 2008). The 25-34 age group has the highest Total Entrepreneurial Activity (TEA) rates in Egypt (15%) as is the case for all GEM countries. So this is the most significant pool of potential entrepreneurs from which the majority of new enterprises and jobs will be created in coming years (Hattab, 2008).

According to the 2006 Population Census, almost 91.5% of the total unemployed were in the age group 15-30 years. In addition, the share of middle and highly educated unemployed represents 79.5% of total unemployed (Handoussa, 2010).

It is also an insertion problem; 93% of the unemployed are first time job seekers. Unemployment hits females more than males, as unemployment rates reached 40% for females and only 19% for males in the age group 15-30 years (Handoussa, 2010). More importantly, unemployment exists among the poor, who cannot afford to remain unemployed (Handoussa, 2010). For youth with university degrees, unemployment jumps to nearly 45% for females and 25% for males, compared to 30% for females and 12% for males among university graduates of all ages (15-64 years) (Handoussa, 2010).

The youth employment challenge in Egypt is not only about creating more jobs (Handoussa, 2010). Given that the informal economy currently represents the main source of employment for new labor market entrants, the challenge is also about creating better jobs (Handoussa, 2010). The 1996 Census data showed that the number of workers in the non-agriculture private sector establishments employing less than five workers accounted for 2.5 million workers. Adding to this, non-agriculture workers outside establishments reached another 2.5 million workers so that the total number of workers in the informal sector amounted to 5 million workers representing 48% of private sector employment and 86% of non-agriculture private sector employment (Handoussa, 2010). This means that employment in the informal sector grew by 9% annually on average during the decade between 1996 and 200649 although the 2006 census places it at the lower figure of 6% annually (Handoussa, 2010).

3.10.3 Corruption

Egypt is one of the 30 countries which signed the United Nations Convention against Corruption in Merida, Mexico, on December 9, 2003. The treaty came into force on December 14, 2005 (Transparency International, 2010).

A number of initiatives to combat corruption have been launched by the government in recent years. Egypt also has various institutions that have roles to play in fighting corruption, such as, the Administrative Authority Council, the Central Auditing Agency, Administrative Prosecution Authority, and Public Funds Prosecution (Transparency International, 2010). A committee of integrity and Transparency was established in 2007 with a mandate to formulate a strategy for combating corruption. However, lack of independence, access to information, protection of whistle blowers and lack of clear mandate of the agencies has crippled their impact in fighting corruption (Transparency International, 2010).

Moreover, there are a number of anti corruption campaigns launched by the Egyptian Civil Society and Egyptian Media. However, the initiatives are crippled by the state of emergency, the NGO restrictive law no. 84 of 2002, and recent laws of heavy fines and penalties for media people (Transparency International, 2010).

Experts agree that corruption in Egypt is pervasive and the use of wasta ('influence' in Arabic) and facilitation payments are essential to get most things done. They further note that that corruption has infiltrated all aspects of Egyptian society (Transparency International, 2010). The country is facing major challenges in combating both grand and petty corruption. In 2007, the government even admitted that corruption is a serious problem and the Prime Minister expressed his dedication to combating bribery (Transparency International, 2010).

Accountability and transparency is very weak in the legal/ regulation system and it's implementation (Transparency International, 2010). This includes accountability of the government and Parliament, despite the fact that there are regulations to govern conflict of interest and asset disclosure (Transparency International, 2010). Moreover, there is a lack of access, creation and circulation of information. A UNDP report also identifies, among other factors, the weak civil society monitoring capacity especially in CSO networks, weak professional journalism on corruption and no protection for whistle blowers and overall impunity and marginalization of the poor in rule of law and access to justice as the power context by which corruption exists (Transparency International, 2010).

In general, Egypt has maintained a weak position in the Corruption Perception Index (CPI) from 1998 to 2009. It ranks 111 out of 180 countries in the last CPI of 2009 (Transparency International, 2010).

3.11 Reading the Indexes

3.11.1 TEA Index

Gender TEA Rate

On average, the TEA rate for men is about twice that for women, although there is variance across countries (Hattab, 2008). On this indicator, Egypt stands out. With a male-female TEA ratio of 3.4:1, it has one of the largest entrepreneurial gender gaps of the GEM countries (Hattab, 2008). Egyptian women are slowly becoming more involved in economic life as traditional social and cultural values change. However, women have difficulty finding formal private sector employment and the unemployment rate for women is at least 4 times higher than for men (Hattab, 2008). The GEM study found that women who work part-time have a very high TEA rate (30%), which indicates that women in certain situations are highly predisposed to starting a business (Hattab, 2008). This suggests that more efforts should be made to target the entrepreneurial development of women (Hattab, 2008).

TEA and Education Level

TEA rates in the population generally rise with the level of education. So countries with large cohorts of highly-educated people may have an "entrepreneurial" advantage (Hattab, 2008). In Egypt, TEA rates are highest among adults with post-secondary education or higher (Hattab, 2008). Unfortunately, the average education level in Egypt is relatively low, so the better educated people with higher TEA rates are in the minority (Hattab, 2008). GEM studies have also found that entrepreneurs with higher levels of education are more likely to be innovative and growth-oriented (Hattab, 2008). The major implication of this result is that the low level of education of Egyptians generally is a barrier to growth of the entrepreneurial population. In the medium-term, Egypt must continue to raise the average education level of the population (Hattab, 2008).

3.11.2 GEDI Index

Many analysts point to lack of economic opportunity and underutilized human capital as the root issue of the revolution that took place in Egypt on the 25th of January 2011 (GEDI, 2011). The country ranks at number 50 on the 2011 Global Entrepreneurship and Development Index, with its strongest score on the Aspirations index (GEDI, 2011).

As discussed earlier in part one of this document, GEDI is a new measure of entrepreneurship in 71 countries and is composed of three sub-indexes; Entrepreneurial Attitudes, Entrepreneurial Actions and Entrepreneurial Aspirations (GEDI, 2011). GEDI captures the contextual features of entrepreneurship by measure both quantitative and qualitative features of entrepreneurship at both the individual and institutional levels (GEDI, 2011).

Attitudes is Egypt's weakest score, Attitudes is driven by a poor scores on networking and opportunity perception (GEDI, 2011). The networking variable measures how many people know someone who launched a new business within the last two years and the percentage of the population that uses the internet (GEDI, 2011). The opportunity perception variable measures how many people perceive good opportunities where they live and a country's market size and level of urbanization (GEDI, 2011).

Egypt's score on the Aspirations index (48/71) is driven by its higher than expected score on risk capital, which is a measure of both formal and informal capital available in a country (GEDI, 2011).

4. Part Three: Starting an Entrepreneurship Revolution in Egypt

Entrepreneurship is a critical component of growth in any society. Entrepreneurs create jobs, innovate with new product and service ideas, and through the starting of new businesses can positively impact the level of productivity in a sector or the economy (Hattab, 2008). After going through the situation analysis in the previous part, the fundamental aim of this section is attempting to start an entrepreneurship revolution in Egypt through instilling an ecosystem framework for sustainable entrepreneurship, and proposing initiatives that would foster entrepreneurship.

It's worth mentioning that there are several local and international organizations that presented numerous initiatives and policy amendments for general economic development in Egypt. In addition, there are also numerous universal entrepreneurship fostering initiatives that were successful in other countries.

Within the scope of this thesis, these initiatives will be filtered to fit the context of boosting the level and quality of entrepreneurial activity in Egypt. The selection of suitable initiatives is done in relation to the challenges currently faced, as well as best practice guidelines and recommendations from international organizations. The selection must also complement or enhance the entrepreneurship ecosystem, and take advantage of success stories ad lessons learned in other countries. But one should also be careful when looking at initiatives in other countries because, according to OECD research, benchmarking countries and their entrepreneurship climate against general pre-established standards quickly throws up limitations and can, in worst case scenarios, divert scarce resources to unproductive reform intervention (OECD, 2007).

4.1 Entrepreneurship Ecosystem Framework

4.1.1 Overview

According to many experts, what is actually missing or at early stages of development in the Egypt is a vibrant entrepreneurial ecosystem where universities, governments, entrepreneurs and other stakeholders are healthy in their own right, interacting with each other, and capitalizing on synergies

between them (Barakat, 2011). To achieve that there are several important principles to take into consideration:

- Since one size does not fit all, the ecosystem needs to be adapted to local strengths and weaknesses, and engage the entrepreneurship stakeholders in the entire change process in Egypt.
- All the local entrepreneurship stakeholders in the country should be included, such as government, schools, universities, private sector, family businesses, investors, banks, entrepreneurs, social leaders, research centers, military, labor representatives, students, lawyers, cooperatives, multinational, private foundations, international aid agencies, and the like (Isenberg, 2010).
- The ecosystem is a holistic approach; it doesn't help much to change just one aspect of the entrepreneurship ecosystem. Accordingly, several elements need to be enhanced in parallel (Isenberg, 2010).

4.1.2 Objectives

It is important to have a healthy entrepreneurship ecosystem in a country since Entrepreneurs are most successful when they have access to the human, financial and professional resources they need, and operate in an environment in which government policies encourage and safeguard entrepreneurs. In the case of Egypt, the key conditions that would define a healthy ecosystem are:

- Should be customized to cater for the local unique environment in Egypt (i.e. avoid seeking to replicate other models such as trying to be the next Silicon Valley) (Isenberg, 2010).
- Target reducing bureaucratic obstacles as government policies support the unique needs of entrepreneurs and tolerate failed ventures (Isenberg, 2010).
- Actively encourages and invites financers to participate in new ventures.
- Is reinforced, not created from scratch, by government, academic or commercial organizations (Isenberg, 2010).
- Able to change cultural biases against failure or operating a business (Isenberg, 2010).
- Promotes successes stories, which in turn attract new ventures (Isenberg, 2010).
- Often is supported by dialogue among various of the entrepreneurship stakeholders.

4.1.3 Entrepreneurship Ecosystem Map

The entrepreneurship ecosystem consists of hundreds of specific elements. These elements can be grouped into six general domains: a conducive culture, enabling policies and leadership, availability of appropriate finance, quality human capital, venture-friendly markets for products, and a range of institutional and infrastructural supports (Isenberg, 2011). Although any society's entrepreneurship ecosystem can be described using the same six domains, it's the highly complex and idiosyncratic interaction between the elements that makes each ecosystem unique (Isenberg, 2011).

The below figure shows a comprehensive map prepared by professor Isenberg as part of Babson's Global Entrepreneurship Ecosystem Project and can be a working benchmark model for preparing the ecosystem in Egypt.

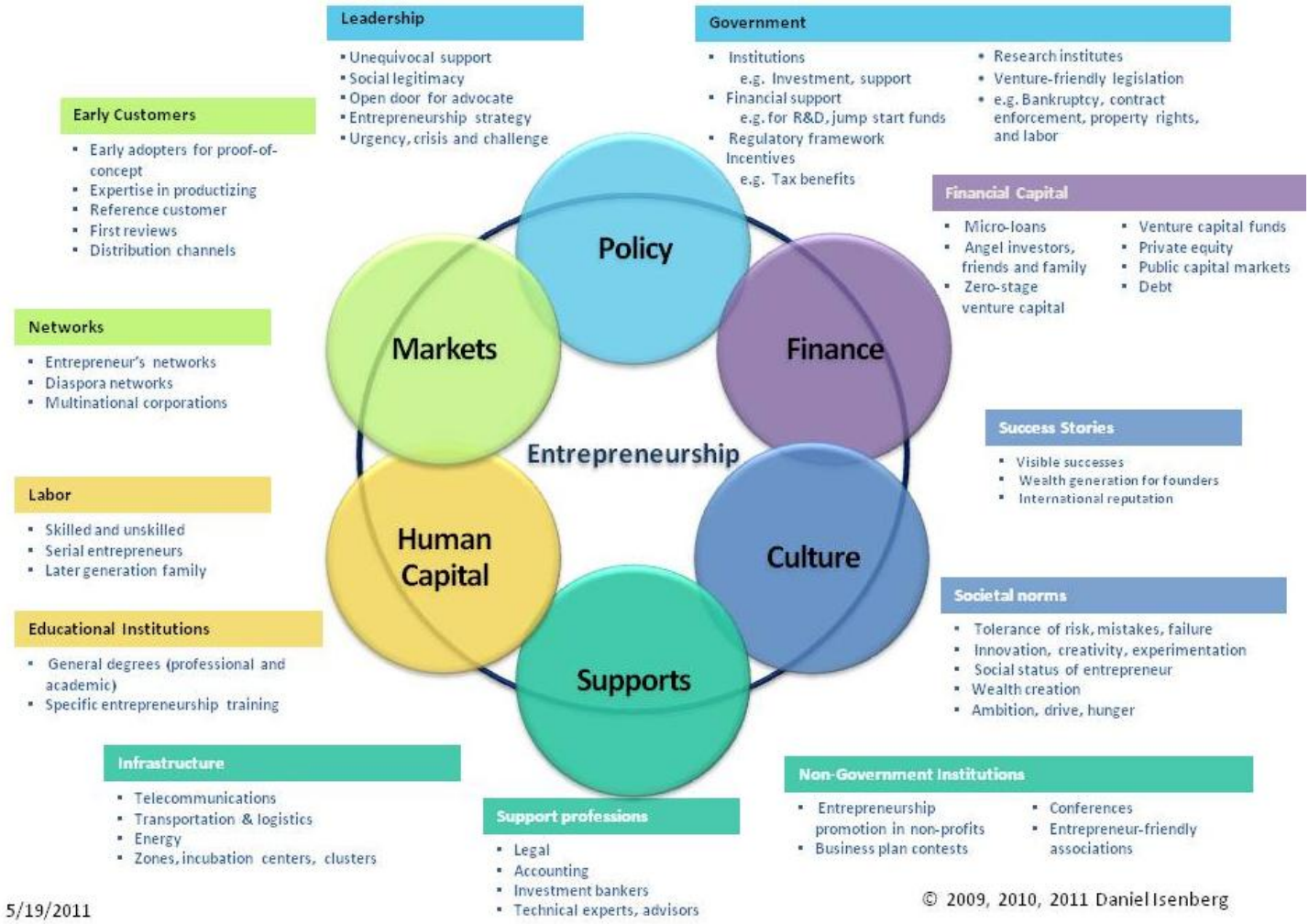

Figure 2: Map of entrepreneurship ecosystem domains

4.2 Key Roadmap Initiatives

Most of the following initiatives and action points for the overall improvement of the entrepreneurship environment have been proposed by several local and international organizations within the context of general economic and development reforms, with many of them discussed by experts in the area of entrepreneurship, and presented in numerous events and publications over the last few years. Many of these initiatives lead to success stories in other countries. So, there is little novelty or innovation in this domain and the focus is broad with no specific emphasis on entrepreneurship. However, pooling together the key elements should be the basis for consensus, in addition to providing some practical action points towards achieving the proposed measures.

The hope is for a 'trickle-down' effect to impact on greater entrepreneurship activity through the following initiatives;

4.2.1 Improving Access to Finance

The availability of early-stage financing, from both public and private sources is a critical framework condition. Lack of access to start-up capital can be a major deterrent for entrepreneurs to start-up new companies. Banks traditionally have not been that eager to finance new businesses, unless they can properly assess the risk, which is quite problematic in a developing economy like Egypt. Most new businesses start with rather small amounts of money that they are able to pull together from personal resources.

We showed in the situation analysis section that informal investors play a large role in the financing of new and early-stage ventures, and that formal venture capital is a critical form of financing for high-growth enterprises. These findings were similar to the Global Entrepreneurship Monitor (GEM) study findings, which also stated that the majority of Egyptian early-stage entrepreneurs needed to finance their start-ups with less than LE 50,000 (60%) but the amount ranged from LE 100 to LE 10 million (31% needed between LE 50,000 and LE 500,000 and 9% over LE 500,000). This raises a serious question about the availability of sufficient financing for new startup as well as for growing firms, particularly equity and venture capital financing. Accordingly, improving the financing environment to encourage more start-ups and growth firms would appear to be a policy imperative.

Action Points

It is crucial to develop a stronger financial-support environment in Egypt in order to enhance the creation and development of entrepreneurial start-ups and growth ventures. There are multiple action points that can be suggested in that regard based on best practices implemented by many countries around the world. Below is a list of the most suitable best practices for the Egyptian case:

Accessing Banking Loans

Improving this aspect can happen by having banking regulations that can increase the extent to which banks extend loans to new start-ups, and match the terms of these loans with the needs and capacities of the venture. This means revising the current required collaterals against loans, as well as considering softer pay-back policies (Nasr, 2008).

In addition, since banks are a primary source of external financing for SMEs depend primarily on banks for external finance a good relationship between the two is crucial, as indicated by the experience of the European Commission. And in that regard, the government should initiate Round Table discussions between Bankers and SMEs, which will focus on key problems related to both loan and equity financing of start-ups (European Commission, 1998).

Selective Micro-Financing

While microfinance for small-scale entrepreneurs has become the norm, the call for the reallocation of resources to support high-potential entrepreneurs may seem elitist and unbalanced (Isenberg, 2010). But especially if resources are limited, programs should try to focus first on ambitious, growth oriented entrepreneurs who address large potential markets (Isenberg, 2010).

The social economics of high-potential ventures and small-scale employment alternatives are significantly different (Isenberg, 2010). To clarify the idea further, professor Isenberg of Babson College gives an example of 500 microfinanced sole proprietorships and one rapidly globalizing 500-person operation create the same number of jobs, many experts argue that the wealth creation, power to inspire other start-ups, labor force enrichment, and reputational value are much greater with the latter. A good example of an organization that recognizes this value is Enterprise Ireland, which is an agency responsible for supporting the growth of world-class Irish companies (Isenberg, 2010).

Facilitating More Equity Funding

As was recommended in a survey of national experts conducted by GEM researchers in Egypt, it is important to give attention to the active role played by angel investors and venture capital funds in responding to the seed capital needs of new and early-stage, innovative and high growth potential enterprises with limited access to funds from traditional sources. This may involve:

- Offering incentives to private sector investors to share some of the risk in diverting funds to early-stage ventures with limited track records but high growth-potential (Hattab, 2008).
- Ensuring that the appropriate regulatory environment for the functioning of venture capital companies is in place (Hattab, 2008).
- Engaging business angels to play a more active role in supporting entrepreneurship, especially high growth start-ups, by raising funds from non-traditional sources and providing mentoring to new entrepreneurs (Hattab, 2008).

Encouraging an Equity Culture

Taking from the European Commission's experience, the Egyptian government should encourage the development of an equity culture, highlighting to owners the advantages of accepting outside shareholders in their business since there is evidence to show that companies with such finance grow faster and create more jobs than the average SME. The government should also consider promoting new forms of participation in the entrepreneurship process through equity pay and employee shareholding so as to strengthen the benefits to all the labor force (European Commission, 1998).

Awareness of Available Financing Resources

Awareness/help desk: It is important while implementing all the above reforms and action points to provide guidelines and awareness to new entrepreneurs and MSMEs of the new financial resources that are and will be available for them in order to facilitate efficient utilization of these resources.

4.2.2 Boosting Entrepreneurship through education and training

4.2.2.1 Entrepreneurship Education for Youth

According to the Global Entrepreneurship Monitor research the 25-34 age group has the highest entrepreneurial activity rates, and this is true for all GEM countries including Egypt. And this age group is considered the most significant pool of potential entrepreneurs from which the majority of new

enterprises and jobs will be created in coming years (Hattab, 2008). The age group with the second highest TEA rate in Egypt is among the 18-24 year age group, which is not the case in most GEM countries (Hattab, 2008). And since the median age of the Egyptian population in 2008 was 24.5, and almost 60% of the total population is younger than 25, it is thus safe to say that Egypt's young population gives it a strong "entrepreneurial" advantage (Hattab, 2008).

The policy implication is that considerable efforts should be made in Egypt to foster the development of entrepreneurial skills, ability, and know-how of young Egyptians. This should start early in the education system as part of the formal curriculum and extracurricular activities (Hattab, 2008).

In a recent roundtable on entrepreneurship education organized by the World Economic Forum in Morocco, the following items were identified by the participants as the key elements to establish entrepreneurship education in a country:

- Strategies for implementing entrepreneurship education should be locally relevant – local needs and priorities should be identified (World Economic Forum, 2010).
- Entrepreneurship education should be linked to learning (World Economic Forum, 2010).
- Mentorships are important and should be leveraged (World Economic Forum, 2010).

Preparing the youth at such an early stage will have an impact on developing entrepreneurial potential and on the quality of the enterprises eventually started (Hattab, 2008). This should be followed through with dedicated programs to support young entrepreneurs in the start-up and early-stage growth process, such as exist in many other countries (Hattab, 2008).

4.2.2.2 Increasing the Average Education Level

TEA rates in the population generally rise with the level of education (Hattab, 2008). So countries with large cohorts of highly-educated people may have an "entrepreneurial" advantage. Although Egypt basically follows the pattern of GEM countries — TEA rates are highest among adults with post-secondary education or higher —unfortunately, the average education level in Egypt is relatively low, so the better educated people with higher TEA rates are in the minority (Hattab, 2008). GEM studies have also found that entrepreneurs with higher levels of education are more likely to be innovative and growth-oriented (Hattab, 2008).

Action Points

The major implication of this result is that the low level of education of Egyptians generally is a barrier to growth of the entrepreneurial population and is considered one of the main constraining factors to entrepreneurship development in Egypt (Hattab, 2008). With some reforms, the education system in Egypt can become a main driving factor in the development of entrepreneurship (Hattab, 2008). In the medium-term, Egypt must continue to raise the average education level of the population. According to the GEM research initiative, in the short- and medium-term this can be achieved through:

- Restructuring the educational system to foster creativity, self-sufficiency, personal initiative, and independent thinking, and make sure of matching education and workforce skills to actual skills and knowledge demanded by the private-sector, especially the capacity to innovate.
- Reviewing the design of school curriculum at the elementary and secondary levels to incorporate entrepreneurship principles and accelerate the teaching of entrepreneurship materials in more schools and classes.
- Integrating entrepreneurship classes on how to start a business as part of any vocational or technical training programs/courses.
- Capitalizing on the high entrepreneurial activity prevalence rates of university students by encouraging a career advisory system in universities to embrace the idea of students starting-up their own businesses.
- Introducing entrepreneurship as a major in the universities.
- Introducing management skills modules at secondary schools, vocational institutions and universities.
- Establishing non-degree issuing programs to enhance the level of skills and capabilities necessary in starting-up and growing a business.
- Setting up enterprise incubators and entrepreneurship centers on university and college campuses to promote entrepreneurship, provide counseling and mentoring services, and provide linkages between the centers of knowledge creation and potential entrepreneurs.
- Dramatically expanding the offer of flexible entrepreneurship orientation, training and mentoring programs through business resource centers, youth centers, SFD Regional Offices, the IMC, and qualified NGOs and business associations throughout the country.
- Address issues of education quality and relevance through implementing quality assurance and accreditation procedures, with improved institutional capacity for strategic planning and implementation management, including the articulation of institutional learning objectives as a

basis for revising curriculum, pedagogy and assessment, and for reporting on educational outcomes. (Handdoussa 2010)

4.2.3 Increasing the Level of Female Entrepreneurship

The situation analysis in the previous section showed a huge gap in female entrepreneurship in Egypt. According to GEM studies, rapid gains in start-up rates can be achieved by increasing the participation of women in the entrepreneurial process, and provide evidence that countries with the highest start-up rates tend to have a higher level of female participation. This suggests that more efforts should be made to target the entrepreneurial development of women.

The policy implication is that Egypt should engage more aggressively in efforts to promote women's entrepreneurship and launch supporting initiatives (Hattab, 2008).

Action Points

Women in Egypt represent a large untapped source of entrepreneurial potential. The TEA rate for some groups of women is very high, although their overall participation in entrepreneurial activity is low compared to that of men, and to that of women in many other GEM countries (Hattab, 2008). Women represent an economic force if their potential is supported and encouraged more fully (Hattab, 2008). This could be achieved through:

- Launching cultural awareness campaigns to recognize female contribution as economic and wealth-creating agents, as well as address the social and cultural impediments facing women who would like to play a more active role in economic activity by starting their own business (Hattab, 2008).
- Launching a campaign to promote entrepreneurship for women, including a systematic network of entrepreneur and business support services to help transfer the knowledge and skills needed to develop business ideas and new ventures (e.g. special programs to mentor and coach women on starting up businesses, expanded women's enterprise centers, etc.) (Hattab, 2008).
- Encourage women's entrepreneurship and employment by creating a business enabling environment (OECD, 2009).
- Making entrepreneurship training opportunities more available to women who are trying to break into the labor market (Hattab, 2008).

- Facilitate business registration and growth through enhanced access to finance, in particular for women-owned businesses (e.g. less rigid collateral requirements, tailored pay-back mechanisms) (OECD, 2009).

4.2.4 Boosting R&D and Technology

Upgrading the level of technology in use by Egyptian enterprises is critical to improving product quality, efficiency and competitiveness. The vast majority of early stage entrepreneurs in Egypt are not particularly technology-oriented or differentiated in their product market combinations (Hattab, 2008).

Action Points

Proper attention should be given to R&D, related infrastructure and centers, its transfer to the entrepreneurial sector, and support for all forms of innovation. And this can be achieved by:

- Expanding government support for research and development by allocating more resources and public investment to encourage R&D efforts (Hattab, 2008).
- Encouraging research centers in the universities, especially the public ones, to innovate through dissemination of knowledge, facilitating access to funds, increasing exposure to advanced technologies, and facilitating the commercialization of innovative ideas developed in these centers by building bridges with entrepreneurs. It should be noted that, as demonstrated by international experience, technology and innovation centers must be demand-oriented, which is essential for their financial sustainability (OECD, 2010).
- Establishing a Technology Acquisition Fund that can be used by new and young firms to secure financing for the acquisition of the latest technologies or to develop new technologies with market potential (Hattab, 2008).

4.2.5 Culture and Awareness Building

Reading into the situation analysis, one can point out some cultural issues that might impact the development of an entrepreneurial society. However, the GEM Egypt 2008 research results show that the attitudes of the Egyptian population towards entrepreneurship are quite favorable. This is important

because GEM studies reveal that the level of cultural and societal support for entrepreneurial activities is a critical factor influencing entrepreneurial activity rates.

Egypt compares reasonably with GEM countries on the percentage of the population agreeing that entrepreneurship is a desirable career choice; the fear of failure is lower than in most countries; almost 8% of the population is currently trying to start a business; more than third of the adult population expects to start a business in the next three years; and there appears to be a high level of serial entrepreneurship in the country.

Action Points

Egypt needs more entrepreneurs. While the population expresses quite favorable attitudes towards entrepreneurship and its role in society, the situation analysis showed the lingering of some traditional cultural attitudes.

Promoting role models is one of the effective ways to inform and motivate more positive attitudes. This can be achieved by:

- Over-celebrating entrepreneurs' success stories, and encouraging self-employment and fostering an entrepreneurial-promoting culture. This can be done through media events, highly publicized awards, government literature, speeches, and interviews. This will also help make role models out of entrepreneurs (Isenberg, 2010).
- Honoring entrepreneurship in social traditions and practices to assign value and high social status to starting up a business and becoming an entrepreneur (Hattab, 2008).
- Encouraging creativity and more openness to new products and services through awareness campaigns (Hattab, 2008).
- The government, media, and education system should play a role in changing attitudes and raise awareness about the opportunities entrepreneurship presents, as well as the tools it requires (Isenberg, 2010).

4.2.6 Supporting Entrepreneurship through Government Policy

Governments have an important role to play in nurturing entrepreneurial activity. Governments also directly influence the level of entrepreneurial activity through program measures and interventions, the

establishment of information and business resource centers, enterprise development centers, and R&D subsidies, etc.

The situation analysis showed many possibilities for potential improvement. In addition, the GEM Egypt 2008 study revealed several areas where government can add value in the fostering of entrepreneurship and, thus, position and promote Egypt as a regional hub for entrepreneurship. The below action points should help in that direction.

Action Points

Involving private sector

Government cannot build an ecosystem and boost entrepreneurship alone. On the other hand, the private sector has the motivation and perspective to develop self-sustaining, profitable markets. Accordingly, the government will need to involve the private sector early in the process to ensure suitable steps are taken in the right direction to foster entrepreneurship in the country (Isenberg, 2010).

Comprehensive Entrepreneurship Policy

One of the important things government could do to accelerate the development of entrepreneurship would be to formulate such a comprehensive entrepreneurship policy and framework for actions to serve as a cross-government roadmap for the development and implementation of measures. Such a policy should focus on addressing needs and gaps of different types of entrepreneurs at each stage of the entrepreneurial process. An important objective of the policy would be to foster higher-quality start-ups with more growth potential and competitive advantages (Isenberg, 2010).

Entrepreneurship Council

Appointing a high-level National Entrepreneurship Council, with representatives from the policy community, business associations, universities, and development organizations can be the right vehicle for raising the policy profile of this key economic growth issue, and then later follow up on progress and suggest corrective measures and amendments (Hattab, 2008).

Reducing Legal and Regulatory Barriers

Some of the action points that can be taken to this effect are:

- Ensuring that competition policy and anti-trust legislation are effective and well enforced to ensure fair, equal, and open opportunities for the competitive entry of new and growing firms in sectors of the market (Hattab, 2008).
- Easing the company/product registration and licensing requirements and processes through enhancing/setting up effective one-stop shops in all governorates, to streamline steps and procedures (Capaul, 2008). This could contribute to an increase in the attractiveness of pursuing formal entrepreneurial activities in Egypt as well as the competitiveness of early-stage enterprises (Isenberg, 2010).
- Making provisions in the labor laws to allow self-employed persons to participate in social security schemes such as medical insurance, pension, etc (Hattab, 2008).
- Amending bankruptcy laws to international standards with flexible procedures for closing down a business in cases of insolvency. The legal consequences of "failure" should not prevent entrepreneurs from having a second chance through adopting flexible procedures for closing down a company and allowing entrepreneurs to restart (Isenberg, 2010).
- Simplify tax regime and strengthen auditing and collection, while maintaining reasonable incentives for startups (Isenberg, 2010).

Expand Government Support For Entrepreneurship

This can be achieved through:

- Aligning government support programs towards enhancing entrepreneurial activity in Egypt. Establishing networks in collaboration with the private sector to respond to the needs of new entrepreneurs, reducing impediments to the creation and development of businesses, and supporting established businesses in ways that will enhance their sustainability (Hattab. 2008).
- Establish Technology Acquisition Fund for new & young firms (Hattab, 2008).
- Increase the export potential of new companies through facilitating linkages with other countries whose markets have high potential for Egyptian products, reducing tariffs, and providing assistance in the transportation of products out-of-country (Isenberg, 2010).

4.2.7 Enhancing Infrastructure

The more support the government provides for developing the infrastructure of the country, the more positive the impact will be on entrepreneurship activities and the economy in general (OECD-MENA, 2010). This could be achieved by:

Action Points

In general, Egypt should consider adjusting all infrastructure user fees to market levels, while distributing cash subsidies to the poor so as to offset any hike in prices. OECD best practice views infrastructure subsidies as inefficient, since they mostly end up subsidizing the rich and encouraging overconsumption of artificially cheap goods, commodities, and services (OECD-MENA, 2010).

In addition, reforms should be continued to ensure full unbundling of the three tiers of governance: policy making at ministry level; an independent regulatory agency; and a corporatized operating company, possibly with private participation and contracts open to competitive bidding (OECD-MENA, 2010).

To address the infrastructure challenges discussed earlier, below are more specialized action points for each infrastructure sector based on OCED MENA Unit research recommendations:

Telecommunications

- The Telecom Regulatory Authority should end monopoly on land lines, and also consider fully liberalizing VoIP in order to improve the competitiveness of international phone calls.
- Egypt must take steps to streamline the connection procedure for new landlines and bring it into line with good practice.
- Enforce full independence of telecom regulator, according to international best practice, in order to minimize conflict of interest issues and guarantee the fair trading conditions in which competition may flourish.
- Speed up broadband Internet uptake by investing in network upgrades, as well as introducing measures to boost PC penetration in small and medium-sized businesses (e.g. by introducing tax breaks on PC purchases and training).

Transportation

- The Ministries of Transport and the Interior must take coordinated action to enforce current safety legislations and possibly pass new laws to improve safety in all transport modes (especially road, railway, sea).
- Implement the national logistics and supply chain strategy, which involves building road-rail-river transhipment terminals, as well as encouraging the emergence of integrated point-to-point logistics providers. Examples to be borne in mind are those of the German and French national railways. They have acquired large trucking companies in order to provide seamless door-to-door logistics service.
- Create a sustainable financing scheme for transport infrastructure, whether from user charges or subsidies, or from a combination of both. Financing must be in line with international benchmarks, otherwise the required level of maintenance and investment cannot be secured.

Electricity

- Implement the electricity reform and push for independent management of operating companies in order to lower the electricity bill subsidies.
- Create conditions for the implementation of Renewables and Energy Efficiency targets.
- Streamline the connection procedure to reduce the unacceptably long waiting times between applying for a new connection and obtaining it.

4.3 Conclusion and Areas for Further Research

In conclusion, this document highlights some of the major findings of the research conducted by the author to identify the main challenges and propose suitable initiatives to foster entrepreneurship in Egypt. The situation analysis provided in the second part of the document present insights to identifying the current situation according to relevantly recent data collected within the past 2 years. This was then followed by recommended initiatives and action points to boost entrepreneurship.

The second appendix at the end of this document is an attempt to discuss speculations on the priorities, costs, and lead-times for the previously discussed roadmap initiatives and action points. However, to get more useful and concrete result on that front this thesis work can be expanded to a much larger project through:

- Breaking down the main entrepreneurship ecosystem into industry based sub-ecosystems, and identify the stakeholders for each industry.
- Providing more in-depth analysis of the challenges currently faced by the various stakeholders within the entrepreneurship ecosystem, and the interactions governing their relations with each other. A suggested method would be to use peer review.
- Collaborate with relevant stakeholders to turn the action point initiatives into action plans with detailed cost/benefit analysis.

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Appendix 1: Egypt Fact Sheet*

Country Name: Arab Republic of Egypt
Capital: Cairo
Administrative Divisions: 29 Governorates
Languages: Arabic (official), English and French widely understood by educated classes
Climate: Desert – hot dry summers with moderate winters.
Total Area: 1,001,450 sq km
Population: 84.6 million (2010)
Population Growth Rate: 1.96 % (2011 est.)
Age Structure: 0-14 years: 32.7% ; 15-64 years: 62.8% ; 65 years and over: 4.5%
Urban population: 43.4% of total population (2010)
GDP (purchasing power parity): $497.8 billion (2010 est.)
GDP – real growth rate: 5.1% (2010 est.) ; 4.7% (2009 est.) ; 7.2% (2008 est.)
GDP – per capita: $6,200 (2010 est.)
GDP – Composition by sector: agriculture: 13.5% ; industry: 37.9% ; services: 48.6% (2010 est.)
Labor Force: 26.1 million (2010 est.)
Labor Force by Occupation: agriculture: 32% ; industry: 17% ; services: 51% (2001 est.)
Unemployment rate: 9.7% (2010 est.)
Inflation Rate (consumer prices): 12.8% (2010 est.)
Agriculture Products: cotton, rice, corn, wheat, beans, fruits, vegetables; cattle, water buffalo, sheep, goats
Industries: textiles, food processing, tourism, chemicals, pharmaceuticals, hydrocarbons, construction, cement, metals, light manufactures
Exports: $25.34 billion (2010 est.)
Export Commodities: crude oil and petroleum products, cotton, textiles, metal products, chemicals, processed food
Export Partners: US 7.95%, Italy 7.26%, Spain 6.78%, India 6.69%, Saudi Arabia 5.53%, Syria 5.3%, France 4.39%, South Korea 4.27% (2009)
Imports: $46.52 billion (2010 est.)
Imports – Commodities: machinery and equipment, foodstuffs, chemicals, wood products, fuels
Import Partners: US 9.92%, China 9.63%, Germany 6.98%, Italy 6.88%, Turkey 4.94% (2009)
FDI inflows (% of GDP): 6.1%
Exchange rate (av) E£:US$: 5.9
Natural Resources: petroleum, natural gas, iron ore, phosphates, manganese, limestone, gypsum, talc, asbestos, lead, rare earth elements, zinc

**(Source: Economist Intelligence Unit, and CIA World Fact-Book)*

Appendix 2: Attempting to answer the questions of Priorities, Costs, and Lead time

Looking at the previous sections proposing key road map initiatives, one would naturally wonder how much would such initiatives cost, what would be their impact, how long would it take to implement them, in what order should these changes be implemented, and where will the money to execute them come from. It would be extremely difficult to answer such questions with reasonable accuracy without sufficient data and proper expert resources in place. However, one can speculate some of these answers to try and have a feel of what might be involved in the entrepreneurship boosting process.

Prioritization:

As indicated earlier, this should be a holistic approach as tackling one area at a time would not yield the benefits sought. In addition, the costs and benefits of each action point would play a big part in determining what actions to take and when. However, I believe that the area where the GOE have most control on and would cost the least in studying and planning would be policy making. A well studied pack of laws and policies targeting entrepreneurship would surely impact most stake holders in the ecosystem and facilitate their positive interaction, in addition to showing the political will to foster entrepreneurship in the country.

Other areas that should have high priority and would yield a positive and quick impact are pumping cash to boost entrepreneurs' access to financing, and supporting entrepreneurship training and awareness campaigns which would impact both knowledge and cultural issues.

One can argue that areas with longer term impact, such as infrastructure for example, should have less priority at this stage. However, since these areas have a relatively longer lead time to implement, their planning should start immediately together with general policy discussions.

Lead Time:

The lead time for achieving any task is directly related to the amount of resources dedicated to it. If we refer back to the above priorities, a task such as putting together a pack of policies should have proper resources to achieve it within a reasonable time frame of 3 to 6 months. While a campaign targeting training and awareness in the short term should not last more than a year before it can have measurable outcome.

Costs, Benefits, and Funding:

A cost benefit analysis is very decisive on which policies to implement, which action points to execute, and in what order. Obviously, the government should move faster on items with high benefit to cost ratio. However, it's worth noting that many billions of dollars are pledged to Egypt to support the economic and political reform and stability after the revolution by the US, EU, GCC countries, and many international organizations. A big chunk of these funds would be directed to certain stakeholders within the entrepreneurship ecosystem. And it's up to the GOE to present a valid case why this money should be spent in a certain way that would yield higher benefits; otherwise these funds will end up either misspent or unutilized.