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ENTREPRENEURSHIP EDUCATION AS PART OF HIGHER EDUCATION REFORM IN  
EGYPT

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Entrepreneurship Education as Part of Higher Education Reform in Egypt: An Exploratory  
Qualitative Case Study

A Thesis Submitted to  
The International and Comparative Education Graduate Program  
School of Humanities and Social Sciences  
The American University in Cairo

In partial fulfillment of the requirements for  
the degree of Master of Arts in  
International and Comparative Education

by

Mona Saber Ali Mersal

Under the supervision of Dr. Teklu Abate Bekele

December, 2021

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### **Abstract**

Higher Education plays a key role in developing societies' economies through preparing successful leaders and citizens who can compete in today's rapidly-changing labor market.

Entrepreneurship education can pave the way for job creation, innovation, critical thinking, and economic growth. The aim of this study is to explore the views of higher education stakeholders about the economic, socio-cultural, and pedagogical implications of entrepreneurship education in a private international higher education institution in Egypt, namely the American University in Cairo (AUC). Moreover, the study seeks to investigate some of the obstacles and best practices of entrepreneurship education at the AUC. The study adopted a qualitative case study design to answer the study questions. Semi-structured one-on-one interviews were utilized to gather the required data. The purposeful sampling technique was utilized for selecting fourteen stakeholders from the AUC. Clark's (1998) framework of the entrepreneurial university informed data collection and provided the lenses from which the study results were analyzed and interpreted. The study provides a clear picture and deep understanding of entrepreneurship education in higher education, its implementation practices and the challenges faced in one of the Egyptian international higher education institutions. The findings showed that there is a direct correlation between entrepreneurship and economic growth, innovation, and job-creation. Moreover, entrepreneurship education acts as a catalyst for tackling social issues and changing learners' mindset to take risks, pursue opportunities, and become job-creators. The findings also revealed that although the AUC is considered as the best university that supports

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entrepreneurship and business ventures in Egypt, there is still a lot to be done to advance entrepreneurship at the AUC.

*Keywords:* Entrepreneurship, Entrepreneurship Education, Higher Education, Successful Entrepreneurs, Higher Education Reform

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## **1. Chapter One: Introduction**

### **1.1 Background**

Entrepreneurship is a key pillar of economic growth and innovation (Inada, 2020). It is a distinct area that currently receives more attention by business and education researchers, policymakers, and academics due to its positive impact on society. In today's world, small businesses are the vehicle for entrepreneurship which contributes to the development of employability, innovation, and political and social stability (Sandhu et al., 2010). Entrepreneurship education is needed to provide learners with the skills and competencies that would qualify them to be successful entrepreneurs and leaders in today's labor market.

According to Sam and Van der Sijde (2014), many changes have occurred in the field of education among which is the introduction of lifelong learning due to the immense effects of the knowledge society. The concepts of entrepreneurship and lifelong learning have been introduced in a similar way by various international institutions such as the United Nations (UN) and The Organization for Economic Co-operation and Development (OECD). In a technology and information-driven economy, creativity, entrepreneurship, flexibility, and innovation are key to lifelong learning commitment (Sezen-Gultekin & Gur-Erdogan, 2016). Entrepreneurship education is a fundamental part of lifelong learning since entrepreneurial competencies can be developed and supplemented at various stages of life (Finnish Ministry of Education, 2009). As illustrated by Gibb and Hannon (2006): "the university degree is regarded as no longer a voucher for life-long employability but merely an entry ticket into the world of work" (p. 5). Consequently, universities are currently under a great pressure as they are burdened with the

responsibility of preparing learners for lifelong learning so as not to be left behind by the demands of the labor market in today's world. It is claimed that higher education institutions ought to be "entrepreneurial" so that they can successfully cope with these changes (Sam & Van der Sijde, 2014).

Higher education plays a key role in developing societies' knowledge-based economies through the preparation of highly skilled entrepreneurs who can contribute to economic growth, specifically in the 21<sup>st</sup> century. Knowledge-based economies can be defined as advanced economies that rely highly on high skill levels, information, and knowledge, all of which ought to be readily accessible to both the public and business sectors (OECD, 2005). Therefore, higher education should be put on the reform agenda of countries worldwide to be able to cope with the dynamic highly-competitive labor market not only nationally, but also internationally (Blesia et al., 2021). In today's world, the role of universities has dramatically changed due to the development of their responsibilities, resulting in developing entrepreneurial universities. These entrepreneurial universities provide learners with business incubators and learning opportunities that help them build up entrepreneurial competencies which enable them to respond to societal challenges (Lusena-Ezera et al., 2016). An entrepreneurial university is defined as an innovative university that undertakes entrepreneurial activities for the sake of enhancing its financial advantage as well as national or regional economic performance to meet the needs of society and the labor market (Sam & Van der Sijde, 2014). Entrepreneurial universities, over the past few decades, have received considerable attention owing to their contribution to ensuring sustainable higher education that helps citizens become responsible agents in society (Bikse et al., 2016). As

illustrated by Mazla et al. (2020), creativity and innovation are key to enhancing the value of entrepreneurship. That is, creativity can help improve the practices of existing businesses, whereas innovation can change an idea of invention to a more marketable service or product. According to Sheta (2012), entrepreneurship education should be involved in any development policy since entrepreneurship courses can boost learners' innovation and critical thinking, the key pillars of society development. "This is advocated by many international organizations, such as the Organization for Economic Co-operation and Development (OECD), the World Economic Forum (WEF), the United Nations Educational, Social and Cultural Organization (UNESCO), and the European Commission, as a policy imperative" (Sheta, 2012, p.51).

## **1.2 Statement of the Problem**

Owing to the great effect of small businesses on economies, specifically by the end of the 20th century, linking entrepreneurship to education has started to grow (Kyro, 2006) and various initiatives have been developed to support entrepreneurship, specifically in relation to education (Joensuu et al., 2015) which can play a fundamental role in preparing successful innovative entrepreneurs. The European Union, for instance, sheds light on the significance of learning entrepreneurial skills for the sake of creating welfare. However, entrepreneurship education is still considered an uncommon area of investigation in many countries, specifically in higher education, (Seikkula-leino, et al., 2012) and little research has been conducted on entrepreneurship education (Joensuu et al., 2015).

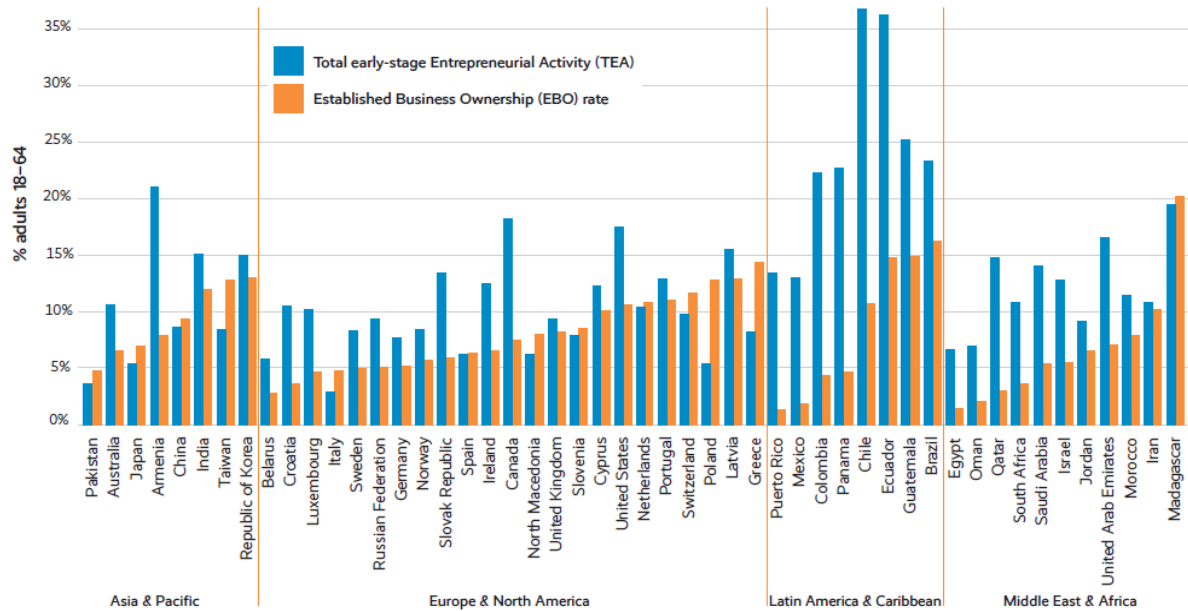
In the Egyptian context, many graduate students involved in entrepreneurial activities do not have the expertise required for starting up a business since they have not received any formal

education associated with entrepreneurship (Sheta, 2012). Furthermore, there is a lack of job opportunities in the Egyptian labor market, in both the private and public sectors, and the unemployment rate is relatively high (Sheta, 2012), recording 7.3 percent in quarter 2 in 2021 according to Egypt CAPMAS (Egypt Today, 2021). Therefore, integrating entrepreneurship into universities' curricula would not only develop learners' creativity, critical thinking, project management, problem solving, and innovation competencies, but also build up their entrepreneurial knowledge and skills that would enable them to develop successful businesses or work in organizations, including social enterprises, that support entrepreneurs (Sheta, 2012). Furthermore, incorporating entrepreneurship into university education in Egypt has other outcomes including boosting economic growth and tackling environmental, economic, and social issues (Sheta, 2012).

According to the Global Entrepreneurship Monitor Report (2020), the level of "Total Early-Stage Entrepreneurial Activity (TEA)" is the lowest in Egypt, almost 7% of adults starting or running a new business, compared to other 10 countries in the Middle East and Africa, as illustrated in figure 1. The figure also shows that less than 2% of adults in Egypt own and run their established business. Furthermore, according to the report, various entrepreneurial activities are conducted with the help of entrepreneurial employees, "intrapreneurs", who contribute significantly to the development of business activities. Interestingly, less than 1% of adults in Egypt develop novel business activities for their employers, as a part of their job (Bosma et al, 2020).

**Figure 1.**

*New and Established Business Owners*



*Source:* (Bosma et al, 2020, p.37)

Although there is a growing interest in entrepreneurship education in the Egyptian context, there is a lack of opportunities for students to learn about entrepreneurship in their formal university education (Sheta, 2012). Furthermore, in spite of the growing awareness of the importance of entrepreneurship and building up an enterprise culture in Egypt, little is known about the best practices and obstacles of its implementation in the Egyptian context (Kirby & Ibrahim, 2011). Therefore, this study aims to explore the views of higher education stakeholders on the economic, socio-cultural, and pedagogical implications of entrepreneurship education in an Egyptian international higher education institution, namely the AUC. Interviewing

stakeholders who are directly involved in making decisions linked to entrepreneurship education is more likely to provide a deeper understanding of its implementation at the AUC. Stakeholders in this study encompass decision makers, staff, faculty members, and students. Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education at the AUC. For the purpose of this study, the best practices in the institution under investigation would encompass a wide range of policies, programmatic approaches or individual activities that can be utilized in achieving positive changes in academic behaviors or learners' attitudes (Arendale, 2010).

### **1.3 Research Questions**

1. What are the higher education stakeholders' perceptions about the economic, socio-cultural, and pedagogical implications of entrepreneurship education at the AUC?
2. What are some of the obstacles as well as best practices of entrepreneurship education at the AUC?

### **1.4 Definitions of Terms**

In this section, some key terms used in the present study will be defined. These terms are: entrepreneurship and entrepreneurship education.

#### **Entrepreneurship**

The Global Entrepreneurship Monitor Report (2020) defines entrepreneurship as any attempt of creating a new venture whether as a new business or an expansion of an existing one,

by an established business, a team of individuals or an individual. The majority of the literature on entrepreneurship describes it as a process that is characterized by creativity, innovativeness, and risk taking. Creative entrepreneurs have the capability to come up with novel ideas, monitor the current situation, and assemble all the available resources in a given context. Moreover, they dare to take risks and make use of all the available opportunities for escalating their profit and productivity. As pointed out by Blesia et al. (2021), entrepreneurship involves three key components, namely innovativeness, pro-activeness, and risk taking. Innovativeness refers to entrepreneurs' ability to create novel ideas and creative actions that lead to the development of new technological advancements or facilities and services. Pro-activeness is concerned with tackling future contingencies and competitors' behaviors, whereas risk taking is the ability to take actions while taking into account the probability of failures (Blesia et al., 2021). For the purpose of this research, entrepreneurship can be defined as a social phenomenon that highlights the value of small businesses and successful entrepreneurs in improving societies' economies, creating welfare, and advancing political, social, and economic stability. This social phenomenon requires creativity, pro-activeness, innovativeness, and risk taking on the part of policy makers and entrepreneurs.

### **Entrepreneurship Education**

Entrepreneurship education can be defined as entrepreneurial activities, "in the form of patenting, licensing, research joint ventures with private companies and the creation of spin-off companies" (Siegel et al., 2007, p.489) that are done by the educational sector, and supported by various labor market organizations for the sake of promoting entrepreneurship. Multiple practical

measures are utilized to inculcate positive attitudes towards entrepreneurship, create new businesses, boost entrepreneurs' competencies, and build up an entrepreneurial culture in workplaces (Finnish Ministry of Education, 2009). In this study, I define entrepreneurship education as activities done by education institutions for the sake of developing learners' critical thinking, project management, problem solving, innovation, and entrepreneurial competencies which enable them to compete in today's rapidly-changing labor market. These activities do not only prepare innovative entrepreneurs, but also develop successful employees who will be able to contribute to the success of various organizations in society, including social enterprises. There are two aspects of entrepreneurship education: the venture creation process that focuses on starting up new businesses and the entrepreneurial mindset that is associated with changing learners' mindset to become innovative, creative, and risk-taking.

Entrepreneurship education encompasses activities that are focused on building up entrepreneurial attitudes, approaches, and skill-based knowledge (Pandit et al., 2012). As illustrated by Pandit et al. (2012), the objectives of entrepreneurship education include four stages: (1) raising awareness of entrepreneurship education by providing learners with knowledge linked to entrepreneurship, self-employment, and small businesses, (2) training learners on how to initiate a business and prepare for its taxation, legality of regulations, and finance, (3) enhancing their entrepreneurial behaviors that enable them to improve and sustain the entrepreneurial dynamics of their businesses, and (4) providing mature learners with specialized advanced education and increasing the scope of existing businesses. According to Jarvi (2012), there are various models of implementing entrepreneurship education, each with a



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unique content. Entrepreneurship education helps learners think differently, value creation, and interact with others (Inada, 2020). Moreover, entrepreneurial learning encompasses two key approaches: content learning (the what) and the process perspective (the how). The social constructivist view of entrepreneurial learning highlights the significance of utilizing learning by doing which does not only focus on theoretical knowledge, but also practical applications (Jarvi, 2012).

## **2. Chapter Two: Literature Review**

In this chapter, a review of the literature on entrepreneurship education is presented to clarify the gap in the literature and to provide support to the research questions. Accordingly, international perspectives on entrepreneurship education in higher education are highlighted. The role of entrepreneurship universities in society is also discussed. Additionally, I shed light on perceptions of stakeholders about entrepreneurship education. Moreover, obstacles and best practices of employing entrepreneurial universities are explained. Finally, contextualization of entrepreneurial education in higher education in Egypt is highlighted.

To conduct the literature review, online databases, including the AUC database, were utilized to search for literature linked to entrepreneurship and entrepreneurship education. Articles as well as official documents published by different international organizations were utilized to gather relevant data. I used various key words such as entrepreneurship, entrepreneurship education, higher education reform, successful entrepreneurs, and others to gather reliable and trustworthy data. The gathered data was then synthesized and presented using themes linked to both the study questions and the theoretical framework that underpins the study.

### **2.1 International Perspectives on Entrepreneurship Education in Higher Education**

The evolution of entrepreneurship education has started since the 1970s, stimulated by three fundamental findings. First, small businesses and firms have created more job opportunities than the large ones (Kyro, 2006). Small and medium-sized enterprises are defined as independent and non-subsidiary firms that employ fewer numbers of employees (OECD, 2005). Second, entrepreneurship education is perceived as an educational issue. Third, the advancement of

entrepreneurial behaviors as well as small businesses has proved to have deep cultural roots (Kyro, 2006). Due to considering entrepreneurship education as “an individual- and business-oriented rather than educational and social-oriented phenomenon” (Kyro, 2006, p. 64), the aforementioned findings stimulated more studies in entrepreneurship than education.

Furthermore, the focus of these studies has been on content question and curriculum rather than the learning dynamics and pedagogy. Recently, research on entrepreneurial processes has started to attract education researchers. However, only preliminary steps have been taken in relation to research on entrepreneurship education (Kyro, 2006). As illustrated by Ruiz et al. (2020), the entrepreneurial university is still considered as an evolving concept and more studies are needed to investigate this new social phenomenon, taking into account its social function and being a marketer of knowledge.

According to multiple international studies, there is a considerable rise in the number of education institutions offering university-level entrepreneurship courses, specifically in western countries. For instance, a study conducted by Vesper and Gartner (1999) revealed that the number of universities providing entrepreneurship courses soared significantly from 85 in 1970 to 383 in 1990. Additionally, multiple studies reported similar results in France and Canada. These entrepreneurship courses include various topics, among which are project management, small business management, business plans, and a new business foundation. In Finland, a study revealed that 18 out of 21 universities, in 1996/1997, offered courses involving similar contents not only as a major but also as a minor or separate course, specifically in management and engineering (Kyro, 2006).

According to Sheta (2012), the US, historically, offers the most advanced entrepreneurship programs at the university level, which started in 1948 at Harvard University. Furthermore, he states that entrepreneurial mindsets are deeply rooted in the American culture. Based on “the 1999-2000 National Survey of Entrepreneurship Education in the US”, 2200 entrepreneurship courses were offered by 1600 colleges and universities. Moreover, more than 200 university-based centers are offering entrepreneurship programs in the US. With respect to European universities, they are together providing more than one thousand courses. In Malaysia, undergraduate entrepreneurship courses are offered in 18 colleges and universities. India and China are also offering a wide range of entrepreneurship courses in their degree programs (Sheta, 2012).

The European Union considers entrepreneurship as the key element for boosting the prosperity and development of its member countries. One of the main goals of the “Lisbon European Council” is to foster entrepreneurial practices for the sake of turning the union into the most dynamic and competitive knowledge-based economy worldwide that is “capable of maintaining economic growth, generating new and better jobs and creating social coherence. The European Commission’s Green Paper *Entrepreneurship in Europe* assumes encouraging entrepreneurship by fostering the right mindset, entrepreneurship skills and awareness of career opportunities as an entrepreneur” (Kyro, 2006, p. 64). Moreover, the European Commission has been putting the “Foster Entrepreneurial Mindsets through Education and Learning” initiative into action since 2006. Additionally, one of the recommendations of the European Parliament and Council, held on December 18, 2006 on “Key Competencies for Lifelong Learning, is

identifying the “sense of initiative and entrepreneurship” as one of the key competencies that should be integrated into all stages of training and education (Sheta, 2012).

There are other various international organizations that support advancing entrepreneurship education for the sake of tackling economic growth and employment issues. The World Economic Forum (WEF), for instance, developed an initiative for advancing entrepreneurship education called the “Education Initiative”. The Euro-Mediterranean Charter for Enterprise incorporated entrepreneurship education outcomes into the enterprise policy frameworks. Another example is the Organization for Economic Co-operation and Development (OECD) which continuously shares best practices and various initiatives. Besides, the UNESCO introduced an initiative called “Entrepreneurship Education Project in the Arab States 2009-2012” which highlights the significance of entrepreneurship education in the Arab countries, focusing on policy and coordination, networking and connectivity, equipment and teaching infrastructure, teacher education and training, and curriculum development (Sheta, 2012).

Despite all the aforementioned developments, more efforts are still needed to integrate entrepreneurship into higher education programs efficiently. Based on the data available, most of the entrepreneurship courses are incorporated into economic and business programs, although it has been proved that integrating entrepreneurship into the curriculum of other disciplines, including engineering, music, pharmacy, architecture, arts, and science, has started to grow. Most entrepreneurship courses in Asia and Europe are elective, offered to undergraduate students, however, in post-graduate degrees, they are seldom offered as a complete track. Finally, it can be concluded that entrepreneurship education is still evolving internationally and is still in its initial phase (Sheta, 2012).

## **2.2 The Role of Entrepreneurial Universities in Society**

“Entrepreneurship has the most potential economic power” (Blesia et al., 2021, p. 56). It is believed that raising the number of entrepreneurs in society can accelerate economic growth as they would contribute to the development of technological innovation, market competitiveness, and employment opportunities. Furthermore, they play a fundamental role in handling issues linked to poverty, wealth inequalities, and market failures (Blesia et al., 2021).

Integrating entrepreneurship into education systems does not only spur learners to start new businesses after graduation, but also helps them become more creative, pro-active, and innovative in society. This is simply because learners boost their entrepreneurial identity, competence, and behaviors through the entrepreneurial activities they are involved in during their study. Furthermore, such entrepreneurial activities enable them to advance their action and initiative taking, creativity, self-efficacy, and self-reliance (Blesia et al., 2021).

One of the key roles of entrepreneurship education in society is changing graduates' mindsets, from “job seekers to job creators” (Blesia et al., 2021) which is key to boosting innovation and job creation. Therefore, a well-structured model of the entrepreneurial university that integrates experiential learning into the curriculum would help develop the entrepreneurial spirit among learners, future entrepreneurs, who are expected to create jobs for others (Blesia et al., 2021).

Higher education institutions, particularly universities, are the vehicle for economic growth and competitiveness. Over the past few decades, various initiatives have been introduced to endorse academic entrepreneurship for the sake of generating knowledge that can stimulate

innovation and economic advancement (Lehmann et al., 2020). Moreover, higher education is responsible for promoting citizen formation in the era of globalization which is characterized by the advancement of technology and the knowledge society which have an immense impact on universities, their curriculum, administrative structure, knowledge dissemination, research quality, and financial management (Ruiz et al., 2020). Ruiz et al. (2020) believe that the entrepreneurial ecosystem encompasses numerous actors including universities, the civil society, financial institutions, non-profit organizations, and industries. Such actors generate and integrate diverse areas of knowledge and probe partnership potentials for the sake of generating environmental, cultural, social, and economic values.

In today's society, due to the development of knowledge-based economies, global competitiveness, and information technology, preservation and knowledge transfer are no longer the only functions of universities (Sam & Van der Sijde, 2014). Nevertheless, "a third mission has emerged for higher education – next to its two traditional missions of education and research – which reflects an expected close engagement, in the first place economic, of higher education with society" (Massen, 2014, p. 33). Owing to globalization, liberalization, and democratization, higher education institutions are under a lot of strain since they need to demonstrate their contribution to society. They are expected to contribute to economic growth, innovation, sustainability, social cohesion, and democratization (Bekele & Ofoyuru, 2021).

Various entrepreneurial universities worldwide have been working on internationalizing their activities. The rationale behind doing that is to be prestigious universities since international entrepreneurial activities are expected to attract foreign investments; and accordingly, such

universities would contribute to the national and regional developments. Besides, internationalization can be the vehicle for creating an international network that would develop research outputs (Bizri et al., 2019).

### **2.3 Perceptions of stakeholders about entrepreneurship education**

According to Sam and Van der Sijde (2014), policymakers believe that the new enterprise culture will open up new business ventures as well as job opportunities; therefore, entrepreneurship education is needed for learners to be able to compete in the rapidly-changing labor market. Furthermore, it will help university graduates to act entrepreneurially and become self-employed which is required in the context of globalization. “Globalization is considered a breakthrough factor in the scientific and academic arena of the 21st century” (Arokiasamy, 2012, p. 150). However, transforming traditional universities into entrepreneurial ones takes several years since it requires multiple infrastructural and cultural changes, in addition to transforming the culture of governments, various ecosystems, industries, and other stakeholders including learners, teachers, and managers (Ruiz et al., 2020).

Bizri et al. (2019) believe that there are university-specific factors that are key to the success of the entrepreneurial university. One of them is strategic planning which is defined as “the process of developing and maintaining a strategic fit between the organization and its changing marketing opportunities” (Bizri et al., 2019, p. 386). University leaders who utilize strategic planning along with building up capabilities are more likely to boost universities’ competitive advancement. In order to implement this strategy, five fundamental factors should be found, namely “incorporating entrepreneurship in the university’s strategy; committing to the



strategy's execution; viewing innovation as central function of the university; committing to local and regional development; and committing to business development and partnerships" (Bizri et al., 2019, p. 386). Another important factor is the existence of an efficient governance and organizational design which can be an indicator of the degree to which the activities of an entrepreneurial university are institutionally supported that can be reflected on their ability to disseminate values as well as advocate persistent structures and stability. From another perspective, the engagement of various stakeholders is a significant factor that has been highlighted by a multitude of frameworks. A successful entrepreneurial university would never be able to achieve its mission without transforming its innovative knowledge into social, economic, and financial assets in society. Therefore, through the extension of the theory of knowledge, the government, industry, and entrepreneurial universities can jointly co-construct knowledge resulting in richer knowledge production that would facilitate another factor, namely knowledge transfer, since this transfer would not be a one-way process but a continuous exchange of best practices and research findings. Other factors that can contribute to the success of entrepreneurial universities include internationalization of their activities, efficient instructional methods, resources and capabilities, effective entrepreneurship environment, and a strong entrepreneurial culture. All of the aforementioned factors are key to achieving the entrepreneurial universities' strategic objectives which are innovation and entrepreneurship (Bizri et al., 2019).

Various studies have been conducted on entrepreneurial skills and the competencies that can make successful entrepreneurs. These studies indicate that successful entrepreneurs are risk-

taking, innovative, and creative. They are capable of finding out and exploiting opportunities that are considered risks by others. Furthermore, they strongly trust their competencies and instincts, believe in their ideas, and can convince others to accept them. Additionally, successful entrepreneurs are able to inspire people and create strong networks to achieve common goals. They can set and achieve challenging aims as well as make risky decisions utilizing a little amount of data, and sometimes conflicting information. Other competencies encompass self-confidence, dissatisfaction with their present status quo, tolerance of ambiguity, concern for details, and responsible competence (Tautila, 2010).

#### **2.4 Obstacles and Best Practices of Employing Entrepreneurial Universities**

Although most countries have put entrepreneurship as a priority on their higher education reform agendas, they have been facing many challenges. Governments are currently challenged to develop highly-skilled graduates who are able to contribute to the socio-economic developments. Put differently, they need to respond to the competitive and rapidly-changing labor market in today's world (Blesia et al., 2021). One of the common problems of entrepreneurship education is that learners have little exposure to practice which leads to failing to turn entrepreneurial knowledge into behaviors. Consequently, higher education institutions ought to reconceptualize education and integrate entrepreneurial education programs into all disciplines (Towers et al., 2020).

Besides, lack of awareness of entrepreneurship can also be a challenge that may prohibit university graduates from choosing entrepreneurship as a future career. Even if they develop their entrepreneurial awareness through education, strong professional networks are needed to

support them along the way (Tomy & Pardede, 2020). There are other issues associated with employing entrepreneurial universities, among which are the philosophical concept of university change over time, technology transfer between universities and industries, and the commercialization of research. Other obstacles encompass the internationalization of universities in response to the current social, economic, and development problems; the funding of universities; and above all highlighting the “public value” of higher education institutions (Ruiz et al., 2020).

From a pedagogical perspective, entrepreneurship education is key to building up learners’ confidence, however, it can only be efficient if built on innovative pedagogic techniques and entrepreneurial learning outcomes. Entrepreneurship capacity-building in higher education institutions is still emerging and its effective implementation is challenging since a rigorous strategic planning is needed at all levels to ensure that the core dimensions are implemented efficiently. Furthermore, well-structured curricula and a strong collaboration between universities and the business sector are needed to provide learners with fruitful entrepreneurial experiences. Moreover, developing relevant learning, teaching, and assessment pedagogies in line with various disciplines is important. The context where learners are provided with entrepreneurial learning opportunities is of utmost significance (Towers et al., 2020). “Even if an HEI includes experiential learning projects that include learning self-awareness, developing dynamic and flexible goal-setting, responding to uncertainty, forming social networks and implementing lean start-ups, novice student entrepreneurs do not see them as a real-life project” (Towers et al., 2020, p. 888). That is, context sometimes inhibits learners’ real-life engagement

with the business sector. Therefore, entrepreneurship capacity-building should be linked to real-world enterprise projects and activities (Towers et al., 2020).

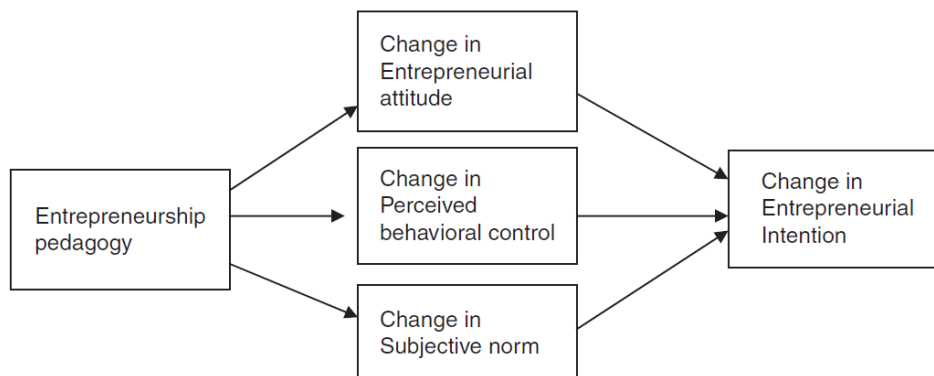
With respect to developing learners' entrepreneurial intentions, Tomy and Pardede (2020) state that learners who have strong entrepreneurial intentions are more likely to start their businesses after graduation. "Entrepreneurial intentions can generally be defined as a self-acknowledged conviction by an individual that they intend to set up a new business venture and consciously plan to do so at some point in the future" (Tomy & Pardede, 2020, p. 1425). Entrepreneurial intentions can also be linked to self-efficacy that can be developed, along with other significant business skills, through university education. Entrepreneurship education does not only enable learners to build up these competencies that help them manage enterprises, but also boosts their willingness to become entrepreneurs. There is a multitude of mechanisms that can be employed by higher education institutions to advance learners' entrepreneurial intentions, among which are entrepreneurship trainings, internships, competitions, entrepreneurial workshops and projects, incubators' activities as well as awards and funding opportunities (Tomy & Pardede, 2020).

Recent studies have proven that entrepreneurship intentions can be utilized to anticipate start ups' future behaviors; accordingly, they can be used as a proxy for entrepreneurial potential which refers to the extent to which learners are equipped with entrepreneurial competencies that would enable them to become business creators in the future (Joensuu et al., 2015). Joensuu et al. (2015) proposed a conceptual model of entrepreneurial potential that is based on three key attributes, namely entrepreneurial attitude, perceived behavioral control, and subjective norm, as

illustrated in figure 2. Entrepreneurial attitude refers to the individual's perceptions in relation to the outcome of starting a new business. Perceived behavioral control is associated with to what extent performing entrepreneurial behaviors is easy or difficult, which is based on the availability of opportunities and resources, whereas subjective norm is concerned with the perceived social pressure that affects individuals' willingness to perform or not to perform entrepreneurial behaviors, specifically starting new businesses (Joensuu et al., 2015).

**Figure 2**

*The Conceptual Model of Entrepreneurial Potential*



*Source:* (Joensuu et al., 2015, p. 567)

## **2.5 Contextualization of Entrepreneurship Education in Higher Education in Egypt**

In Egypt, the present situation can be described by the following: (1) limited financial resources relative to the escalation of the number of learners, (2) hyper-competition owing to the rise of the number of private universities, (3) drop of Egyptian universities' ranking internationally, and (4) crusade for quality and the constant development programs adopted by

the Ministry of Higher Education and Scientific Research in 2004 (Sheta, 2012). As illustrated by Sheta (2012), the number of universities offering entrepreneurship courses does not reflect how significant is this topic for Egypt's economic growth.

Although there is growing awareness of the significance of entrepreneurship and building up an enterprise culture in the Egyptian context, little is known about the best practices and obstacles of its implementation in Egypt (Kirby & Ibrahim, 2011). The results of a survey conducted in 2008 on behalf of the "Middle Eastern Council for Small Business and Entrepreneurship" revealed that the purpose of the research that has been conducted was to make decisions and inform policy. The respondents also reported the need for creating an enterprise culture. In the same year, the "Egyptian National Competitiveness Council" reported that there is a decline in Egypt's economic competitiveness owing to the quality of its higher education system. Additionally, there is a mismatch between the needs of the economy and the Egyptian graduate workforce who do not have the required competencies to compete internationally (Kirby & Ibrahim, 2011).

As explained by Abou-Warda (2015), various stakeholders including ministries, local governments, and governorates have been working on issuing regulations that aim at financing and supporting entrepreneurs and the entrepreneurial orientation in Egypt. Moreover, Egypt collaborated with both the UN and the OECD for supporting the development of small and medium enterprises as well as advancing entrepreneurial education (Abou-Warda, 2015; Abou-Warda, 2016). Furthermore, on September 27, 2010, the "the Minister of Communications and Information Technology (MCIT) opened the Technology Innovation and Entrepreneurship

Center” (Abou-Warda, 2015, p. 193) that works as Egypt’s vehicle for becoming the top regional player in the field of information and telecommunication technologies. However, such contributions do not provide clear evidence until now whether entrepreneurship has become a widespread subject in the Egyptian higher education institutions (Abou-Warda, 2015).

In 2014, Hattab conducted a study to explore the effect of entrepreneurial education on developing Egyptian university learners’ entrepreneurial intentions to start new businesses. The researcher utilized Linen’s model in her study. A paper and pencil close-ended questionnaire was used to gather the data. The study involved students enrolled at three faculties at the British University in Egypt. The participants consisted of 171 Business Studies students, 156 Engineering students, and 49 Computer Science students. The results revealed that the number of learners, across the three faculties, who are willing to pursue entrepreneurial careers is relatively high. Additionally, the researcher found out that there is a positive relationship between entrepreneurship education and students’ entrepreneurial intentions and perceived desirability, whereas there is no relation with self-efficacy or perceived feasibility. The researcher suggested that owing to the significance of entrepreneurship, it is essential to reform the Egyptian education system to help learners boost their innovativeness and creativity.

Another study was conducted by Kirby and Ibrahim (2011) to investigate the entrepreneurial tendencies of learners studying Business Administration at the British University in Egypt utilizing “the Durham University General Enterprising Tendency Test”. The researchers compared between Egyptian and British Business Administration learners, specifically in terms of their performance, entrepreneurial tendencies, and brain dominance. This study was compared

with another research conducted on undergraduate Management students at the Surrey UK University. The sample comprised 55 Egyptian Business Administration students who studied “Small Business and Entrepreneurship” module. The results showed that despite using the knowledge acquisition pedagogy with the Egyptian students, their entrepreneurial propensity is higher than the UK students. Moreover, the learners’ GET scores increased by approximately 8% by utilizing an entrepreneurial pedagogy over a 12-week period. The researchers suggested that changing the educational paradigm can change how learners think and behave, resulting in bringing about an entrepreneurial culture.

## **2.6 Conclusion**

After reviewing the literature on entrepreneurial education internationally and in the Egyptian context, it can be concluded that the impact of entrepreneurship on the political, social, and economic aspects of society is invaluable. I think that entrepreneurship education is key to improving learners’ employability and developing future entrepreneurs who are more likely to start their own businesses and create jobs for others. Moreover, it helps prepare successful employees who are expected to be innovative pro-active agents not only in the workplace, but also in society.

In a nutshell, entrepreneurship education is a social phenomenon that is currently receiving more attention worldwide. It plays a fundamental role in developing the economy of any society. Consequently, ministries of higher education ought to invest in building up an entrepreneurial culture that supports learners and prepares them for the workplace. Additionally, they should consider entrepreneurship education as a priority and support its efficient



implementation. Although there is growing awareness of the importance of entrepreneurship education in higher education in Egypt, little is known about its actual implementation in the Egyptian context, as illustrated by the aforementioned literature. In order to address this gap in literature, the present study seeks to investigate the perceptions of higher education stakeholders about the economic, socio-cultural, and pedagogical implications of entrepreneurship education at an Egyptian private international university, namely the American University in Cairo (AUC). Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education at the AUC.

### **3. Chapter Three: Theoretical Framework**

Clark's (1998) framework of the entrepreneurial university informed data collection and provided the lenses from which the study results were analyzed and interpreted. The rationale behind choosing this theoretical framework is that it illustrates the pathways of transformation into entrepreneurial universities. In his book *Creating Entrepreneurial Universities*, Clark (1998) highlights that such transformation is based on five key elements: "a strengthened managerial core; an enhanced developmental periphery; a diversified funding base; a stimulated academic heartland; and an entrepreneurial culture" (Clark, 1998, p.5). Clark sheds light on the significance of collective efforts and decision making in shaping a successful institutional transformation of traditional universities into entrepreneurial universities (Uslu et al., 2019). According to Clark (1998), an entrepreneurial university attempts to undergo a substantial shift by being innovative in its organizational structure for the sake of maintaining a promising stance in the future. They aspire to become universities, acting as key actors in society (Clark, 1998).

#### **3.1 Pathways of Transformation**

##### ***3.1.1 The Strengthening Steering Core***

As illustrated by Clark (1998), ambitious universities, specifically those concerned about their marginality and survivability, do not rely on weak steering or traditional habits. However, they seek to become more flexible and quicker while responding to the rapidly-changing demands of today's labor market. Consequently, a strengthened steering core is key to helping such universities become more organized when it comes to reshaping their capabilities. Despite having various forms, it should be built on "central managerial groups and academic

departments” (Clark, 1998, p. 2). The second sub-element of a strengthened steering core is the transition from “highly personal leadership” to “highly group-based or collective leadership” which plays a substantial role in strengthening a university steering capacity. Bolstering the authority of groups in various departments, by changing the “I” to the “We”, at an enterprising university can also enhance this capacity. The rationale behind this change is that the highly personal forms of leadership, the authoritarian figures, cannot work properly for a long time in an entrepreneurial university. That is, entrepreneurialism at universities ought to be collegial (Clark, 2001).

### ***3.1.2 The Expanded Developmental Periphery***

According to Clark (1998), entrepreneurial universities encompass professionalized outreach offices or units that are responsible for knowledge transfer, fundraising, continuing education, intellectual property development, industrial contact, and alumni affairs. “In another larger, and more basic, form they are interdisciplinary project-oriented research centers that grow up alongside departments as a second major way to group academic work” (Clark, 1998, p. 2). Academic departments, on the other hand, of various disciplinary areas of knowledge as well as their disciplinary competence are significant, specifically when it comes to protecting their domains; however, they cannot alone meet all the needs of an enterprising university. Therefore, the outward-reaching research centers can strike a balance and bridge the gap between the outside world and internal departments since they are more flexible and are able to tackle issues associated with social and economic developments in society (Clark, 1998). Put differently, an

enterprising university can develop a mechanism for its internal transformation through promoting these non-traditional organizational structures (Shattock, 2010).

### ***3.1.3 The Diversified Funding Base***

In order for entrepreneurial universities to meet the needs of their change-oriented characters, they need multiple financial resources and discretionary funds (Clark, 1998). Clark (2001) classified these financial sources into three categories: “mainline institutional support from a governmental ministry; funds from governmental research councils; and all other sources lumped together as “third-stream income” (Clark, 2001, p. 12). Owing to the low institutional support, enterprising universities depend highly on “research councils” and “third streams” and even compete for contracts and grants (Clark, 1998). “They set out to construct a widening and deepening portfolio of third-stream income sources that stretch from industrial firms, local governments, and philanthropic -foundations, to royalty income from intellectual property, earned income from campus services, student fees, and alumni fundraising” (Clark, 1998, p. 2). Clark (2001) classified this third stream into three sub-streams, namely other governmental sources, private organized sources, and university-generated income. By escalating the funds from second and third streams, enterprising universities are more likely to make substantial moves faster rather than waiting for slow standardized enactments (Clark, 1998; Clark, 2001).

### ***3.1.4 The Stimulated Academic Heartland***

As clarified by Clark (1998), traditional academic departments continue to be the heartland of enterprising universities even after they develop a strong steering core, diversify their financial sources, and build up outreach structures. The operating base of these universities,

where academic work is completed, encompasses multidepartment faculties, the basic units and research and teaching sites. Therefore, accepting or opposing significant transformations by these units is critical since they are considered the heartland that is responsible for promoting changes as well as innovative steps. In other words, if these units oppose universities transformations, any innovative changes are more likely to fail. Consequently, in order for change to take place, each unit at enterprising universities ought to be entrepreneurial, building up strong connections with the outside world and proving third stream income. Furthermore, their members ought to take part in central steering groups. They need to understand that “individuals as well as collegial groups will have stronger authority in a managerial line that stretches from central officials to heads of departments and research centers. The heartland is where traditional academic values are most firmly rooted” (Clark, 1998, p. 3). Clark (1998) believes that these traditional academic values should be blended with the new managerial points of views. He states that the heartland of entrepreneurial universities can accept and cope with modified belief systems.

### ***3.1.5 The Integrated Entrepreneurial Culture***

Similar to business firms, enterprising universities build up “a work culture that embraces change. That new culture may start out as a relatively simple institutional idea about change that later becomes elaborated into a set of beliefs which, if diffused in the heartland, becomes a university-wide culture” (Clark, 1998, p. 3). Clark (1998) believes that strong cultures result from powerful entrepreneurial practices. He states that the culture side of an entrepreneurial university can play a key role in promoting its unique reputation and institutional identity,

through the interaction between practices and ideas. Moreover, in the transformation process, values or beliefs take the lead or could follow, in a cyclical interaction, the advancement of other elements. Besides, he states that “Organizational values ought not be treated independently of the structures and procedures through which they are expressed” (Clark, 1998, p. 3) which means that an institutional perspective is needed.

## **4. Chapter Four: Research Design and Methodology**

### **4.1 Research Approach**

To answer the research questions, the study adopted a qualitative approach. The rationale behind selecting this research approach is that it would help provide broader insights into the phenomenon under investigation. Qualitative research can be defined as a process of inquiry that is utilized to draw data about a phenomenon by describing the events that occur in a given context and the perspectives of people involved in this context. This process helps researchers derive explanations through interpreting the gathered data using induction. The overarching goal of qualitative research is to investigate a phenomenon through understanding the perspectives of the participants involved in specific situations. The qualitative research design lies within the “interpretivist paradigm” whose focal point is social constructs which are less likely to be interpreted using precise measurements since they are complex by nature (Gorman et al., 2005). In this study, I investigated the perceptions of higher education stakeholders about the economic, socio-cultural, and pedagogical implications of entrepreneurship education in a private international higher education institution in Egypt, namely the American University in Cairo. Additionally, I explored their perceptions regarding the obstacles and best practices of advancing entrepreneurship education at the American University in Cairo. To ensure validity and to provide a full picture of the phenomenon under investigation, I used data source triangulation by interviewing different stakeholders (decision makers, staff, faculty members, and students) from two schools at the AUC. “Researchers may draw from multiple data sources by gathering data from different time periods, locations, or perspectives. For example, a researcher may interview

people who hold different viewpoints or possess varying amounts of power” (Natow, 2020, p. 161).

#### **4.2 Research Design**

In this study, I adopted a qualitative case study design to answer the study questions. A case study can be defined as “an in-depth investigation of a discrete entity (which may be a single setting, subject, collection or event) on the assumption that it is possible to derive knowledge of the wider phenomenon from intensive investigation of a specific instance or case” (Gorman et al., 2005, p. 47). This study is considered as a qualitative case study since I gathered and analyzed qualitative data to investigate stakeholders’ perceptions about entrepreneurship education at the AUC to provide a full picture of its implementation through developing themes and illustrating the lessons learned (Clark & Creswell, 2015). My case is an interview case study as I used qualitative data collected from a series of individual interviews (Gorman et al., 2005). The overarching aim of employing the case study research design is to help me investigate the perceptions of stakeholders about economic, socio-cultural, and pedagogical implications of entrepreneurship education at the AUC. Moreover, it enabled me to explore their perceptions about the obstacles and best practices of advancing entrepreneurship education at the AUC. For the purpose of this study, perceptions can be defined as individuals’ unique ways of viewing a phenomenon (entrepreneurship education in this study).

#### **4.3 Participants**

Semi-structured one-on-one interviews were conducted with stakeholders at the American University in Cairo where the researcher works. Participants included a wide range of



stakeholders from two schools at the American University in Cairo offering undergraduate and graduate programs to help gather rich data about the research phenomenon. The rationale behind selecting two schools only is to increase the number of participants selected from each school in order to have a deeper analysis. Specifically, the researcher selected 7 stakeholders from the AUC School of Business: one stakeholder from the top management, two staff members, two faculty members and two students (one graduate student and one undergraduate student). Additionally, the researcher interviewed 7 participants from the AUC School of Sciences and Engineering: two stakeholders from the top management, one staff member, two faculty members and two students (one graduate student and one undergraduate student). To ensure anonymity, I gave each participant a number from participant 1 to participant 14, as illustrated in table 1.

**Table 1**

*Participants' Positions*

School	Participants	Position
The AUC School of Business (SB)	Participant 1	Top management
	Participant 2	A staff member
	Participant 3	A staff member
	Participant 4	A faculty member
	Participant 5	A faculty member
	Participant 6	An undergraduate student

	Participant 7	A graduate student
The AUC School of Sciences and Engineering (SSE)	Participant 8	Top management
	Participant 9	Top management
	Participant 10	A staff member
	Participant 11	A faculty member
	Participant 12	A faculty member
	Participant 13	A graduate student
	Participant 14	An undergraduate student

#### 4.4 Sampling

Sampling was selected from the American University in Cairo since it is one of the leading universities in Egypt that promotes entrepreneurship education (Abou-Warda, 2016). The purposeful sampling technique was utilized for selecting participants. Purposeful sampling aims at choosing participants who are more likely to provide rich data since they are directly involved in the phenomenon under investigation (Clark & Creswell, 2015). A purposeful sample enables researchers to choose representatives, stakeholders in this study, who have specific characteristics in relation to the research phenomenon (Gorman et al., 2005). Stakeholders can be defined as any individual or group who can be affected by achieving an organization's goals or who can affect achieving an organization's goals (Freeman & Reed, 1983). In this study, gathering data from stakeholders who are directly involved in making decisions associated with

entrepreneurship education enabled me to have a deeper understanding of its implementation in an Egyptian higher education institution.

#### **4.5 Data Collection Methods and Procedures**

The researcher utilized semi-structured one-on-one interviews to gather the required data for the study. As pointed out by Gorman et al. (2005), this type of interviews enables in-depth intensive exploration of a research phenomenon. This is simply because through an interactive conversation, researchers can extensively investigate the research issue as much as available and necessary. Moreover, interviews would enable them to receive immediate answers to the interview questions, unlike other data collection tools. Besides, interviews provide researchers with the opportunity to resolve any ambiguities by clarifying the meaning of questions, specifically open-ended questions, whenever needed. Unlike quantitative research, interviews enable researchers to ask “why” organizations or individuals behave in a certain way. Furthermore, the personal contact during interviews provides participants with a friendly stress-free environment where they feel more comfortable to voice their views. Also, interviews help researchers gather huge amounts of rich data in a short time (Gorman et al., 2005). The aforementioned benefits enabled me to gather rich data about entrepreneurship education at the AUC. I used open-ended questions as well as probes. Probes are sub-questions that enable researchers to elicit more information and encourage participants to elaborate on their ideas and viewpoints (Clark & Creswell, 2015). Questions were prepared by the researcher as illustrated in the appendix section below. Each interview took almost 30-50 minutes, except students whose interviews took approximately 15 minutes for each student. Audio-recordings were utilized

during carrying out the interviews, after taking participants' permission. Some interviews were conducted at the AUC campus and some were conducted via Zoom.

Participants were contacted via email to get their approvals on participating in the study. After obtaining their approvals, I scheduled a meeting with every participant to conduct the interview at the AUC campus or via Zoom. During interviews, I followed the interview protocol that was designed and approved by IRB along with the interview questions, as illustrated in the appendix section below. An interview protocol is a form prepared by the researcher that encompasses information about the interview process, the questions that will be asked to the participants and spaces where the researcher can take notes during interviews (Clark & Creswell, 2015). The next step was asking participants to read and sign the consent form. After that, I started recording, after taking their permission, and asked them the interview questions.

#### **4.6 Data Analysis**

After conducting the interviews, the researcher transcribed and paraphrased data by typing, in a word document, the transcripts in an organized way to help develop themes. The researcher analyzed data using the thematic coding approach. This can be done by sorting and identifying the interrelationships among the gathered data to come up with the smallest meaningful pieces of information, themes, that can help develop conclusions linked to the research context (Gorman et al., 2005). As illustrated by Clark and Creswell (2015), codes help researchers illustrate the meanings of texts and images associated with the research's central phenomenon. The researcher narrowed data and developed themes linked to the study's research questions and the theoretical framework using an inductive approach. Inductive analysis can be

defined as approaches that rely primarily on detailed readings of the gathered data to come up with a model, themes or concepts through interpreting the raw data by a researcher (Thomas, 2006). The findings of the study were explained in light of these themes, the literature review, and the theoretical framework that underpins the study.

#### **4.7 Quality Parameters**

The five aspects of trustworthiness in qualitative research were considered while conducting this study. These aspects are credibility (internal validity), transferability, dependability, confirmability, and reflexivity. Credibility refers to the extent to which the study findings provide plausible information and correct interpretations in light of the participants' ideas (Korstjens & Moser, 2018). In order to ensure implementing this criterion, I utilized the "prolonged engagement" technique by encouraging participants to support their statements with examples and asking them follow-up questions. The second aspect is transferability which represents the possibility of transferring the qualitative research results to other settings or contexts (Korstjens & Moser, 2018). To facilitate transferability, I provided a thick description of data collection tools, participants, and the setting to enable researchers to benefit from the findings of the study. Another aspect is dependability (audit trail) which is concerned with consistency and whether the analysis process is done based on the accepted standards of a research design (Korstjens & Moser, 2018). This was done through transparently describing all the steps that were taken from the start of the project till developing and reporting the findings. With respect to confirmability (neutrality), I avoided any bias and reported all the findings objectively. Finally, the researcher took into consideration reflexivity as I critically reflected on

myself as a researcher while gathering and analyzing data. Reflexivity is " the process of critical self-reflection about oneself as researcher (own biases, preferences, preconceptions), and the research relationship (relationship to the respondent, and how the relationship affects participant's answers to questions)" (Korstjens & Moser, 2018, p. 121).

#### **4.8 Ethics**

Before gathering data, approval from the Institutional Review Board (IRB) was obtained. Furthermore, I asked participants to sign a consent to report their acknowledgment that they are willing to participate in the study. The rationale behind using this consent is to inform participants that their participation is voluntary and optional, and they are capable of withdrawing anytime for any reason. Besides, privacy and confidentiality were the driving principles of this study. Therefore, I informed participants about the objectives of the study and the confidentiality of their data. I also illustrated that their data will be used for academic purposes only and will be kept in the most safe and secure environment. Additionally, I helped participants voice their ideas about the study's phenomenon by providing them with a comfortable atmosphere where they were not harmed psychologically or physically.

## **5. Chapter Five: Presentation of Findings**

In this chapter, the findings of the study are presented in light of the research questions, the literature review, and the theoretical framework that underpins the study. Accordingly, higher education stakeholders' perceptions about the economic, socio-cultural, and pedagogical implications of entrepreneurship education at the AUC are explained. Moreover, higher education stakeholders' perceptions about the best practices and obstacles of entrepreneurship education at the AUC are highlighted. Furthermore, the pathways of transforming the AUC into an entrepreneurial university are illustrated. Finally, higher education stakeholders' suggestions for advancing entrepreneurship education at the AUC are elaborated.

### **5.1 Higher Education Stakeholders' Perceptions**

#### ***5.1.1 Economic Implications of Entrepreneurship Education at the AUC***

The majority of participants agree that there are two different aspects of entrepreneurship education. The first one is about the entrepreneurial mindset and the second one is about the venture creation process. The entrepreneurial mindset aspect is concerned with helping students, regardless of their major, think about taking initiative, building new things, taking risks, and thinking in a creative and innovative way. The venture creation process is about how they start, manage, and grow their startups, whatever the types are.

One of the issues in Egypt is the lack of job opportunities in the labor market. As stated by Participant 8 (SSE): "Career opportunities in Egypt are becoming more limited due to the shifting dynamics in their political and economic environments". He thinks that being independent is a plus, and entrepreneurship education equips learners to be independent

entrepreneurs. Participant 5 (SB) also pointed out that “entrepreneurship has an important impact on the economy in general. Unfortunately, entrepreneurship education is a weakness in Egypt”. However, he believes that the AUC has been doing a lot to promote entrepreneurship which leads to increasing employment opportunities owing to advancing starting new ventures.

As illustrated by participant 2 (SB): “there is a direct correlation between entrepreneurial activities and economic development, especially in rising countries like Egypt”. She believes that Egyptians are entrepreneurial by nature since they are capable of taking risks to secure their daily income. Entrepreneurship can play a key role in eliminating poverty in Egypt. As pointed out by Participant 2 (SB), it is very important to differentiate between entrepreneurship that helps eliminate poverty and entrepreneurship that contributes to boosting economy and innovation. With respect to entrepreneurship that eradicates poverty, entrepreneurs ought to be supported by helping them secure their legal framework, registration, and set up. Regarding entrepreneurship that advances economic growth and innovation in Egypt, participant 2 (SB) added:

we have seen a major change in the past 2 to 3 years in Egypt in this regard headed by the Ministry of Communications and Information Technology and the Ministry of Planning and Economic Development. We have seen lots of efforts pushing into the direction of supporting and helping the rising entrepreneurship spirit in the country. (Participant 2, SB)

With respect to the AUC, Participant 1 (SB) pointed out that introducing entrepreneurship at the AUC started 12 years ago. It was only taught as a chapter in a course. Then, the AUC School of Business restructured the school strategy in which entrepreneurship is



a key pillar. The school also has started offering courses, degrees, activities and courses for non-students and the community as well as establishing an incubator. He said: “although entrepreneurship education is hosted by the School of Business, it serves the community at large at the AUC”. Over the years, it has become an ecosystem within the AUC campus. Moreover, The bulk of students who take entrepreneurship courses are from the other schools. Moreover, there are various entrepreneurship activities open to learners from across Egypt.

Participant 1 (SB) illustrated that the AUC is not benefiting from all the entrepreneurship activities done on and/or off campus. He believes it is a very important step that has not been taken yet by the AUC compared to other universities in the US, for instance. As explained by participant 1 (SB): “universities are not there to make money”, however, one of the factors that make universities famous is the graduates who go through their systems and the start-ups they make. He added:

Over the years, many of the start-ups that went through the system at AUC ended up very successful startups in the community, starting from Bey2ollak that was established 10 years ago, leading to Swvl that was founded 2 or 3 months ago, and anything in between. (Participant 1, SB)

He also illustrated that universities around the world have started to take equity in the start-ups they train. The value of this equity goes up when these companies are sold. Accordingly, this could generate more resources for universities to invest in more start-ups.

Participant 3 (SB) explained that the number of start-ups which went through the AUC system is approximately 250, creating around 10,000 jobs. The AUC graduates who have an entrepreneurial mindset are definitely better citizens, employees, and leaders for businesses, the government, the civil society or wherever they will end up working. That is, the entrepreneurial mindset would enable them to be more efficient in their career path.

Being entrepreneurial is one of the most thought out attributes for leaders and graduates. With respect to the technical part which is the venture creation process, this is specifically for people who are interested in starting a company, and for that the impact is basically getting more startups and companies. At the end of the day, these companies create more jobs, innovation, new technologies and so on. (Participant 3, SB)

Participant 10 (SSE) explained that there are other indirect economic implications. Many students will realize that entrepreneurship is a culture at the AUC, and accordingly, many students would be interested in joining the AUC undergraduate and graduate programs.

Companies that are created could be one of two things: they can be spin-offs of the university, which would typically be research-based start-ups, or normal start-ups that get built by graduates of the university, they do not necessarily have to be research-based. Both of them will have a positive impact if we are able to provide proper entrepreneurship education at the university.  
(Participant 11, SSE)

If entrepreneurship education is implemented effectively, learners will acquire the entrepreneurial skills that would qualify them to start their own businesses. Accordingly, more jobs will be created and revenues will be generated, which ultimately will reflect on corporate taxes that will be paid to the government.

### ***5.1.2 Socio-Cultural Implications of Entrepreneurship Education at the AUC***

Most of participants agree that the Egyptian society is typically a risk-averse society. Families in Egypt are very cautious about encouraging their sons and daughters to start their own businesses. Although there are some examples of successful entrepreneurs, changing Egyptians' mindset requires intervention and should start from school education. When graduates have a strong entrepreneurial mindset, they are more likely to do new things and push for change which is a positive addition to the Egyptian culture.

As explained by Participant 4 (SB), the entrepreneurial ecosystem encompasses culture, economics, politics, human relations, and finance. He stated that if there is a growth in the gross domestic product (GDP), people are more likely to pursue business opportunities. Accordingly, these entrepreneurial opportunities can contribute to alleviating poverty. Entrepreneurship can be considered as a mechanism that can tackle various problems since it is based on pursuing opportunities. Entrepreneurship education prepares future leaders for pursuing opportunities and creating a social impact which lead to tackling various problems in society.

Entrepreneurship can transform lives. Entrepreneurship education can have an impact on solving social problems such as problems associated with health, education, waste management, recycling, etc. For instance, the United Nations Population Fund (UNFPA) which is "the United

Nations sexual and reproductive health agency” (The United Nations, 2021, p. 1) has recently built an incubator that supports start-ups for tackling societal issues.

Entrepreneurship education is crucial. I think all students should have some level of exposure to entrepreneurship education because if students come to the university and then focus on technical fields like chemistry, physics, engineering or whatever, without being exposed to aspects of entrepreneurship education, I think they will be missing a substantial piece of the game.

(Participant 12, SSE)

Therefore, they need to be aware that they can start their own businesses and capitalize on their ideas to handle issues or provide services in society since there are various challenges in society.

### ***5.1.3 Pedagogical Implications of Entrepreneurship Education at the AUC***

Participant 11 (SSE) pointed out that instilling an entrepreneurship culture at universities should be done in both the top-down and bottom up directions. There should be some formal programs and policies that come from the top-down direction. “For example, the intellectual property policy of the university can be modified in a way that would encourage researchers to actually develop their intellectual property” (Participant 11, SSE). “There are other things that could be done on a formal level like creating technology transfer offices at universities, creating formal education, creating formal seminars talking about this, inviting people over the university and so forth” (Participant 11, SSE). He believes that creating a proper reform at the top level would have a positive impact on the education system. On the other hand, there are other steps

that can be done by stakeholders from the bottom-up direction such as student clubs that can promote entrepreneurship or incorporating entrepreneurship into the curriculum activities.

Participant 2 (SB) illustrated that there are some entrepreneurship courses that are offered in some public and private universities in Egypt. However, these courses are still limited even at the AUC School of Business, which is considered as an entrepreneurial school, compared to other universities in the United States with a similar ranking. There is still a lot more to be done regarding how entrepreneurship education should be. Entrepreneurship courses can only help learners learn some basics, however, thinking entrepreneurially is not something to be taught in class, but is learnt through experience.

As explained by Participant 9 (SSE), the AUC curricula are designed in such a way to address the competencies needed to work in any workplace. The AUC develops learners to be good citizens who can contribute to their society and their workplaces.

Roughly half of the student population graduate with some sort of an entrepreneurship course. It is a huge change in their mindset, their competitiveness in the labor market and their ability to lead different institutions. It is a fantastic addition and in my perspective, it needs to be part of the core education that we do. It is just like scientific thinking, philosophical thinking, there should be entrepreneurial thinking which is about the mindset of identifying, discovering, and seeking opportunities. (Participant 3, SB)

Participant 4 (SB) pointed out that learners at the AUC do not only learn about entrepreneurship, but also experience entrepreneurship. For instance, in one of the graduate courses at the School of Business, learners practice how to start a venture within a semester. They are also encouraged to talk to their potential customers, brand their service, and price their products. Furthermore, they are encouraged to reflect on their experiences.

Participant 1 (SB) believes that entrepreneurship education cannot be taught at the School of Business, separately from the other schools. Students who join the university are adults, at the age of 18. If they were not taught creativity, innovation, and critical thinking at their schools, it would not be easy to change their mindset. Therefore, this creative pedagogical approach should start at the school level to make it easier for students to think creatively and entrepreneurially. Moreover, parents play a key role in building their characters from a young age.

## **5.2 Higher Education Stakeholders' Perceptions about the Best Practices and Obstacles of Entrepreneurship Education at the AUC**

Participant 1 (SB) explained that the AUC created a buzz about the significance of entrepreneurship in Egypt as a whole. The AUC has been offering multiple activities, seminars, and competitions not only locally, but also regionally and internationally. The AUC is considered as the biggest and best university in Egypt that advances both entrepreneurship education and start-ups. "Most universities have university-based incubators. However, what I have seen is that despite being inside universities, they do not serve university students, they serve entrepreneurs from the ecosystem" (Participant 2, SB). Examples of these incubators include the AUC Venture Lab and Cairo University FEBS incubator. The majority of AUC

students are not acquainted with the accelerators and entrepreneurial activities unless they take entrepreneurship courses. Therefore, incubators that only serve university students are needed to guide them from an early age.

Participant 2 (SB) illustrated that the AUC School of Business started off in 2010 by developing an entrepreneurship and innovation program. It was considered as the first entrepreneurship program in a time when entrepreneurship was still an uncommon theme in Egypt. In 2013, the AUC Venture Lab was born and has been supporting entrepreneurs and providing them with its services for free. It is based on external funding to support the ecosystem in Egypt. Moreover, “the AUC School of Business provides one of the top offerings of entrepreneurship courses in Egypt” (Participant 2, SB). Additionally, it recruits highly-qualified professors to teach these entrepreneurship courses. The AUC Entrepreneurship and Innovation Centre works in two directions: the first one is that it empowers youth entrepreneurship activities such as entrepreneurship competitions and experiential learning programs. The Centre does not only impact students in Egypt, but also the region and the whole world. The second direction is that it supports women entrepreneurship activities through the fund received from the UN Women. This is a non-discriminatory program that aims at training 1000 women (aged 15-60) in entrepreneurship. With the guidance of the School top management who has an entrepreneurial mindset, the School has been doing a great job in relation to entrepreneurship. The school staff members have professional backgrounds which help drive the school with an entrepreneurial mindset since they support developing innovative ideas and programs.

“At the AUC School of Business, entrepreneurship is gradually getting imbedded in every aspect of the school curricula. We have a major in Business and Entrepreneurship and a minor in Entrepreneurship at the AUC School of Business” (Participant 3, SB). Additionally, there are various courses around different varieties of entrepreneurship in the other majors such as marketing and finance.

Education at the undergraduate level is not limited to courses, but it has to be complemented with activities. We always push our students to participate in activities in the Entrepreneurial Society Club and participate in various competitions that are available everywhere, may be to complement what they do and apply what they learn in the courses they take. (Participant 5, SB)

He added that at the graduate level, there is a graduation project at the end of the Business Management and Entrepreneurship program. There is also a course called Entrepreneurial Lab which enables them to apply their business ideas, and they are coached and guided by faculty members.

Entrepreneurship is a highly visible theme at the AUC School of Business. This can be seen in the educational side, the community support through the AUC Venture Lab and supporting students across the whole university. Moreover, “entrepreneurship has been one of the key pillars for the past ten years in the formal strategy of the AUC School of Business” (Participant 3, SB). He added that the school started with introducing an elective course, then it shifted to introducing a minor which is highly subscribed. Then a concentration is added to the Business major, even if students’ concentration is Corporate Management, they take at least an



entrepreneurship course. Additionally, there are several new faculty members who came to that space.

Participant 4 (SB) explained that the AUC has been in touch with some of the top universities internationally to learn from their experiences in relation to entrepreneurship. For example, participant 4 (SB) travelled to Babson College in the United States of America which is considered as the number one college in entrepreneurship in the world for the past 20 years. He spent a semester there where he learnt about their pedagogical approaches and implemented them at the AUC. Moreover, he explained that the AUC is part of the Babson collaborative, along with other 27 universities, in which they share their best practices. They also together have a yearly summit where they talk about their entrepreneurship education practices, the challenges they face, and how they assess students.

Participant 11 (SSE) illustrated that one of the good practices of the AUC is having a technology transfer office which teaches learners about how they can create economic value for their projects. This opinion is seconded by Participant 12 (SSE) who pointed out that the AUC Technology Transfer Office has started the license agreement in 2013. This agreement enables AUCians to spin-off their companies from the AUC. The Technology Transfer Office also fosters commercial and innovative research done by the AUC community across all disciplines. However, many students are not aware of this opportunity. Besides, participants from the School of Sciences and Engineering illustrated that there is an elective course which gives learners some of the basic principles of entrepreneurship education. There is also a center at the School of Sciences and Engineering called the Center of Nanoelectronics and Devices that supports start-

ups. Furthermore, the School of Sciences and Engineering is working with the Centre of Learning and Teaching to incorporate some entrepreneurship outcomes into the school courses. Moreover, the school is revamping its courses to incorporate the concepts of design thinking. The school has started to move towards the entrepreneurial direction, but it will take time to transform it into an entrepreneurial college. There is more that needs to be done to enable learners to implement their engineering ideas. Participant 8 (SSE) said: “I don’t think we have a good practice at the AUC School of Sciences and Engineering, we need to improve our practice”.

Faculty members pointed out that the Centre of Learning and Teaching offers multiple professional development opportunities and various technological tools. Furthermore, there are different professional development opportunities such as training programs, conferences, and being involved in the Babson Collaborative. The AUC School of Business also supports faculty members by providing them with workshops or linking them to other universities. Faculty members help learners develop entrepreneurial competencies through experiences, case studies, and reflection. They encourage them to act, learn, and build based on these experiences and reflection. They try to develop an entrepreneurial mindset through all the courses they teach.

Faculty members illustrated that one of the most important steps is to expose learners to success stories. The AUC has a strong network of alumni who are entrepreneurs and employers. They are usually invited to judge competitions or give speeches to share their expertise with learners. One of the faculty members stated:

My philosophy about education is not about courses only. The courses provide a basis and room for some applications, but students who really need to be entrepreneurs need to involve themselves in clubs, activities and attend workshops and events. (Participant 5, SB)

Participant 12 (SSE) explained that he asks students in all engineering courses to develop a proposal for an innovative solution for the purpose of establishing a start-up company. He also teaches a course in the bio-technology program called bio-entrepreneurship in which he starts with giving them information and then involving them in real issues to think about how to tackle them using the technical knowledge they gain. Moreover, there have been changes in the catalogue of the chemistry program, at the School of Sciences and Engineering, in which two entrepreneurship courses have been introduced for undergraduate students.

Participant 11 (SSE) said that he helps learners develop their entrepreneurial competencies in a formal level and in an informal level. He said:

In an informal basis, I provide a lot of coaching to a lot of students. You will find people coming to my office telling me, you know, we have this idea, can you please tell me what should be my next step or my plan, and I give this kind of feedback. (Participant 11, SSE)

He added that there are three steps that he prefers to follow. The first step is knowledge sharing which helps them learn about topics linked to market research, building a business

model, financial planning, etc. The second step is providing them with tools to practice what they have learned. Finally, they apply these concepts to their business problems.

Students illustrated that there are various workshops and talks about entrepreneurship education. There are also various internships offered through the Career Centre at the AUC. Moreover, there are various activities that are offered through the AUC Venture Lab, the Technology Transfer Office and the Entrepreneurial Society. Participant 6 (SB) explained that there is a link between what she studies and the workplace. She did 12 internships so far, among which are 3 in start-ups, during her study at the School of Business. During these internships, she had the opportunity to practice what she learned in the entrepreneurship and innovation course which is the only course she took. She said:

Well, the only course I took that is related to entrepreneurship was Entrepreneurship and Innovation, and it was really helpful because it made us, like, go through the whole cycle of creating small and medium enterprises, starting from the idea to developing it, how to do a financial plan, how to get investors, and how to attract them. (Participant 6, SB)

However, the other courses helped her develop her entrepreneurial competencies, but in an indirect way. Entrepreneurship education helps her develop the competencies needed to start her own business. It also helps her improve her critical thinking and leadership skills. It also provides her with the skills needed to pitch an idea in front of investors and convince them to finance her project. Participant 7 (SB) who is also a student explained that it is very important to learn about entrepreneurship even if some students are not planning to start-up their businesses

since it equips them with the skills that would enable them to be creative and proactive in any institution they end up working in. Entrepreneurship education is also beneficial outside the career life. “People who have the entrepreneurial competencies are more likely to be outgoing and more social, and they have more strategies at maintaining multiple and different social circles. They are able to deal with almost any person they encounter” (Participant 7, SB).

With respect to the obstacles, Participant 1 (SB) illustrated that entrepreneurship education should have started away before 2009. Despite incorporating multiple entrepreneurial activities at the AUC, professors up till now are not trained enough to push learners to their limits. Moreover, experiential learning is not integrated enough into entrepreneurship courses. Although the AUC is one of the best universities in Egypt that implements entrepreneurship education, there is still a lot to be done to advance entrepreneurship at the AUC. Participant 3 (SB) added that one of the obstacles is how to fit a new entrepreneurship course in the curriculum since they cannot keep adding courses to students, but existing courses are replaced with new ones. Participant 11 (SSE) said that the number of entrepreneurship courses that engineering students take is not sufficient.

Participants 2 (SB) and Participant 5 (SB) illustrated that it is hard to find faculty members who have practical entrepreneurial experiences. Therefore, it is very important to invite entrepreneurs to share their experiences with learners to complement what faculty members do. Participant 4 (SB) added that the AUC continuously recruits professors which requires helping them understand entrepreneurship and train them on how to use experiential learning to make sure that they are aligned with the AUC pedagogical approaches. Moreover, participant 2 (SB)

explained that capacity-building programs are needed to train professors on how to teach entrepreneurship. Another obstacle is the lack of specialization in entrepreneurship topics. Most professors teach all topics associated with entrepreneurship, unlike other entrepreneurial universities in other countries. Moreover, there is no funding to support training specialized professors and investing in coming up with entrepreneurship programs and curricula.

Furthermore, participant 12 (SSE) added that the lack of dedicated mentors who assist students along the way is one of the obstacles at the AUC. “Students need an advisory board and more intimate involvement in the company to make sure this company will make it to the market” (Participant 12, SSE). Another challenge is making students aware that entrepreneurship is not only about business and making profit, but it is for all different types of disciplines.

“Entrepreneurship is a way of life and a way of thinking” (Participant 4, SB). Students should learn how to take risks and work with uncertainty which is against the Egyptian culture.

### **5.3 Pathways of Transformation**

#### ***5.3.1 The Strengthening Steering Core***

Participant 1 (SB) illustrated that the key to transformation is to have a vision and the will to change. Transforming a traditional university into an entrepreneurial one is not difficult. It requires having faculty and staff who are willing to change the ways they have been using in teaching and management for many years. “Entrepreneurship cannot go in silo without creativity and innovation” (Participant 1, SB). Therefore, leaders ought to be innovative when they make decisions and allocate resources. They also need to think outside the box and take risks.

Participant 2 (SB) believes that if the university leadership introduces managing a university entrepreneurially, it will be able to cascade it down to everyone. However, it takes time and requires commitment and belief.

Any major transformation is about change, and change is about dropping some things and adding other things, and in general change is not easy... So, the role of leadership is basically managing that transition, helping people move from point A to point B, shifting the resources and the agenda, changing the narrative and communication, so this is what leaders play in that. (Participant 3, SB)

Participant 1 (SB) believes that entrepreneurship education has to start from the top and the bottom as well. Leaders can have a good vision, but still they need a support system to enable them to achieve the vision. "I believe in leadership that is based on the bottom-up approach (Participant 1, SB)". Leadership cannot succeed without being strong. "Collective and consensual brainstorming is extremely important", however, "at the end of the day, there is one person who is driving the ship (Participant 1, SB)". Therefore, a very strong leadership is highly needed in the transformation process.

Participant 2 (SB) thinks that universities are huge institutions that require collective group thinking. The top management should be the umbrella under which all members are working to achieve common goals. Participant 3 (SB) believes that both the personal leadership and the group-based collective leadership are important. He said:

In a place like the AUC, you cannot move anywhere without having the collective leadership, but I am a strong believer that the personal leadership is not something you can substitute with the collective leadership. You have to have someone on the top who believes in whatever direction you want to go and is pushing towards that direction, and then is mobilizing and creating that collective sense of leadership, but without that, you will not go anywhere.

(Participant 3, SB)

Most of the AUC stakeholders agree that leaders play a key role in making decisions linked to the transformation process. Participant 8 (SSE) believes that the top management needs to have a stronger relationship with the industry so that students would have more practical opportunities. Moreover, the AUC needs to organize more events, competitions, and conferences where students can practice the entrepreneurial concepts they learn. The AUC management also needs to attract people to fund some of the students' ideas. He said: "the highly group-based leadership is more beneficial, but it is very difficult to implement and maintain. Entrepreneurship requires an interdisciplinary kind of education" (Participant 8, SSE), so an individual leadership is not expected to succeed in this type of education.

### ***5.3.2 The Expanded Developmental Periphery***

Some of the AUC stakeholders pointed out that we always have to be linked to what is happening outside the university to be relevant to the outside world. Participant 3 (SB) explained that the School of Business has been historically very well connected with the outside world in terms of practice. Most of the faculty members are practitioners working with the industry. The



school also invites speakers from the industry to speak in classes about their industries and what they are doing. Participant 1 (SB) illustrated that the AUC School of business collaborates, hosts, coordinates, and organizes with the community approximately 60 events monthly. Participant 2 (SB) also explained that all the centers, including the Centre for Entrepreneurship and Innovation and the AUC Venture Lab, at the AUC School of Business are highly linked to entities in and outside Egypt through an international office at the School. These linkages play a key role in linking the School to the labor market and advancing entrepreneurship in Egypt. Linking the AUC School of Business internal departments to society for advancing entrepreneurship is part of the school mission.

Through the AUC Venture Lab (V-Lab), we have more than 40 partnerships with community organizations, corporates, and governments. We work with the Ministry of Communications and Information Technology, the Ministry of Planning and Economic Development, the Central Bank of Egypt, NGOs, and the civil society foundations that promote entrepreneurship. We are very present everywhere in the ecosystem and we support building this ecosystem.

(Participant 3, SB)

He added that the V-Lab has been working over the past 8 years to support and accelerate more than 250 startups. These startups are in different sectors and collectively raise 3 billion pounds and generate around 10,000 jobs. The V-Lab also transfers knowledge to other universities' incubators and accelerators. It also supports early-stage entrepreneurs. Moreover, it publishes the Global Entrepreneurship and Monitoring Report.

With respect to the AUC School of Sciences and Engineering, participant 9 (SSE) illustrated that each department at the school has an industrial council which meets twice or three times a year to discuss ideas and issues linked to entrepreneurship, programs development, and internships. The school incorporates the industry into the advisory boards of the school departments. This collaboration enables them to share experiences and provide learners with internships. Participant 8 (SSE) added that there is also a link with other education institutions through the Centre of Learning and Teaching. Moreover, the department of Electronics and Communications Engineering is linked to the industry, and it creates internships for students. However, there is no strong link yet between the School of Sciences and Engineering and the industry. Additionally, there is no direct relationship with potential people who might finance students' start-ups, there are no even plans till now to work on this.

### ***5.3.3 The Diversified Funding Base***

The AUC stakeholders pointed out that the School of Business depends on fundraising and sponsorships from companies, banks, international organizations, or donors. Many people are currently interested in entrepreneurship, so there are no limits in funding. It also depends on the university funding, and it pushes a lot towards adding more financial sources around entrepreneurship. With respect to the V-Lab, a big chunk of the funding is through partnerships and grants from corporates that support entrepreneurs in Egypt. Regarding the School of Sciences and Engineering, it relies on the university support, the allocated budget for research, and some national and international grants.

#### ***5.3.4 The Stimulated Academic Heartland***

Participant 1 (SB) explained that all the elements needed for advancing entrepreneurship education at the AUC are implemented but with varying degrees. What is needed is pushing their implementation forward. He added that the AUC School of Business changed its departments to be entrepreneurial through various steps. The school restructured the organization several times. Moreover, it created staff and faculty positions to cater for its journey of entrepreneurship education. Additionally, a unit has been established to promote the school efforts in relation to entrepreneurship. The school also invites international speakers to train faculty members on entrepreneurship. Sometimes, they travel to learn from the experiences of other countries. There are also units at the AUC such as the Centre of Learning and Teaching that trains them on pedagogical approaches that are primarily experiential.

Participant 1 (SB) also pointed out that the AUC School of Business has not been transformed yet into an entrepreneurial school. But the management team is transforming itself to get there. Participant 1 (SB) illustrated that “the school is run as a progressive enterprise”. Yet, they still need to push themselves more, have a more active incubator, and introduce much more transformative pedagogical approaches across more courses.

#### ***5.3.5 The Integrated Entrepreneurial Culture***

“The entrepreneurial culture is a journey” (Participant 1, SB). He believes that the AUC School of Business has been doing a lot to build up an entrepreneurial culture, but we cannot consider the AUC at large is thinking entrepreneurially. Participant 2 (SB) added that the school builds up an entrepreneurial culture by encouraging employees to be innovative and creative.

This helps them come up with novel ideas and develop new entrepreneurship programs at the AUC School of Business.

Other stakeholders pointed out that entrepreneurship is incorporated into various courses at the school. Faculty members always integrate critical thinking, problem solving, and innovation into their teaching. Moreover, most of the undergraduate courses offered are project-based. These courses encourage learners to think creatively and come up with innovative solutions to various problems. Additionally, the school enables learners to participate in many national and international competitions which are based on innovation.

As for the School of Sciences and Engineering, participant 8 (SSE) explained that it builds up an entrepreneurial culture, but not in a formal way. The school currently relies on students initiating their interest in starting up a business. Once they do that, the school directs them to certain faculty who are themselves entrepreneurs to help them.

#### **5.4 Higher Education Stakeholders' Suggestions for Advancing Entrepreneurship**

##### **Education at the AUC**

The AUC stakeholders suggested that the AUC as a whole should adopt entrepreneurship education across all disciplines. Moreover, faculty members across all disciplines need to have training in entrepreneurship and how it can be implemented in their discipline. This could be part of the main orientation provided to any new faculty recruited at the AUC. Furthermore, the AUC needs to develop the Technology Transfer Office to support start-ups more. One-stop-shop place is also needed to address the needs of all start-up companies. Moreover, AUCians need strong

networks of dedicated mentors who have time to support start-ups. Furthermore, high-risk funding is needed to fund the AUC start-up companies.

Another suggestion is to enrich the AUC entrepreneurship courses further with applications and linkages. This would help learners apply what they learn in real-life situations. Also, it is very important to provide learners with the environment needed to develop their entrepreneurial competencies. There also should be a collaboration between the Centre of Entrepreneurship and Innovation, the AUC Venture Lap, and the Entrepreneurial Society Club to enrich learners' experiences. Additionally, more co-curricular activities ought to be integrated. One of the participants suggested that we need to achieve synergy between all the entrepreneurship centers available at the School of Business. Moreover, students ought to engage more with the business accelerator. One of the students suggested utilizing simulations in the courses offered where they create virtual companies.

They also suggested that there should be more entrepreneurship courses, graduation projects, seminars, and industrial internships. The AUC can also revisit the intellectual property policy and share it with researchers. Moreover, the AUC can take a look at the curricula of all its schools and decide which courses could encompass an entrepreneurial component. Besides, the AUC could select faculty members to be innovation champions who can give seminars, get involved in committees that would promote entrepreneurship education in different departments, be responsible for the internship programs, etc.

## **6. Chapter Six: Discussion of Results**

### **6.1 Research Question Number One**

What are the higher education stakeholders' perceptions about the economic, socio-cultural, and pedagogical implications of entrepreneurship education at the AUC?

The results showed that there is a direct correlation between entrepreneurship and economic growth. The majority of the AUC stakeholders agree that entrepreneurship has a positive impact on advancing the economy, innovation, and employability. I think entrepreneurship education equips learners with the competencies needed to become successful entrepreneurs and leaders who are capable of creating jobs for others. Moreover, I think it prepares learners to be creative, pro-active, and innovate employees who can develop innovative business ideas as part of their job. As illustrated in the literature review chapter, this conclusion is supported by Blesia et al. (2021) who believe that it has the most potential economic power. Moreover, they pointed out that entrepreneurship is a key driver of innovativeness, market competitiveness, and employment opportunities. Entrepreneurship education does not only prepare learners to be successful entrepreneurs, but also enable them to be innovate, pro-active, and creative in society. Additionally, entrepreneurship education changes learners' mindset to become job-creators which is fundamental to boosting job creation and innovation in society (Blesia et al., 2021).

As pointed out by Sam and Van der Sijde (2014), an entrepreneurial culture plays a key role in opening up new business ventures, increasing job opportunities, and providing learners with the competencies needed to compete in the rapidly-changing labor market. As illustrated by

various AUC stakeholders, introducing entrepreneurship education into the AUC system only started 12 years ago, and it has been a gradual integration over the years. The majority of participants also pointed out that the AUC has successfully developed an entrepreneurial ecosystem within the campus. It offers a multitude of entrepreneurial activities on/off campus that support the community at large. However, as illustrated by the interviewed stakeholders, the AUC does not benefit from these activities economically, compared to other universities in the United States. I think this is a significant step that should be taken by the AUC to be able to support the start-ups that go through its systems. The AUC has been able to support almost 250 start-ups and has created approximately 10,000 jobs. Accordingly, I believe that if the economic aspect was considered at the AUC, it would have a great impact on the entrepreneurial ecosystem at the AUC.

With respect to the socio-cultural aspect, the interviewed stakeholders agree that the Egyptian society is a risk-averse society where families do not usually encourage their sons and daughters to start up their own businesses. Therefore, I think changing Egyptians' mindset is needed to encourage people to take risks and pursue opportunities. This conclusion is also reached by Kyro (2006) who found out that entrepreneurial practices and small businesses have deep cultural roots. Moreover, the interviewed participants pointed out that entrepreneurship is a vehicle for alleviating poverty in the Egyptian society. Additionally, learners who develop an entrepreneurial mindset are more likely to mobilize on their ideas to handle social issues, including challenges associated with education, food, energy, the environment, health, etc. These

findings were also illustrated by Blesia et al. (2021) who pointed out that entrepreneurship can contribute to tackling issues linked to poverty, wealth inequalities, and market failures.

As for the pedagogical aspect of entrepreneurship education, the AUC stakeholders pointed out that the AUC, specifically the School of Business, has been doing a lot in terms of instilling an entrepreneurial culture. It has introduced an entrepreneurship program, courses, entrepreneurial activities on/off campus, various entrepreneurial centers, an incubator, etc. Bizri et al. (2019) also illustrated that an entrepreneurial university is capable of transforming its innovative knowledge into social, economic, and financial assets in society. I think the AUC students have the opportunity not only to learn about entrepreneurship, but also experience entrepreneurship since they are encouraged to practice how to start their own businesses during their study. Furthermore, the AUC develops responsible citizens who can contribute to the society and the workplace. However, I believe that that AUC should integrate entrepreneurship education into all disciplines to equip all learners with the competencies needed to become successful agents in society who are able to tackle social issues and contribute to the development of their country.

## **6.2 Research Question Number Two**

What are some of the obstacles as well as best practices of entrepreneurship education at the AUC?

The results showed that the AUC is considered as the best university that advances entrepreneurship and business ventures in Egypt. It advances entrepreneurship through a multitude of practices not only locally, but also regionally and internationally. Moreover, it



provides one of the top offerings of entrepreneurship courses in the Egyptian context. Innovation is one of the pillars of the AUC strategic plan, and entrepreneurship is one of the key pillars of the formal strategy of the School of Business. The AUC School of Business developed an entrepreneurship and innovation program. There is a major in Business and Entrepreneurship and a minor in Entrepreneurship at the AUC School of Business. It also built the AUC Venture Lab which supports the entrepreneurial ecosystem in Egypt. Additionally, the AUC Entrepreneurship and Innovation Centre empowers youth entrepreneurship activities and women entrepreneurship in Egypt.

The AUC students are also encouraged to participate in the activities offered by the Entrepreneurial Society Club. They also practice how to start up their own businesses in various courses. The AUC recruits highly-qualified professors who guide and support learners along the way. Furthermore, the AUC collaborates with the top universities internationally, including Babson College in the United States of America, to learn from their experiences and borrow their practices. It also fosters commercial and innovative research across all disciplines through The AUC Technology Transfer Office. Besides, it supports start-ups done by engineering students through the Center of Nanoelectronics and Devices. Despite all the aforementioned good practices, more efforts are still needed to integrate entrepreneurship education into all the programs at the AUC. Sheta (2012) also reached a similar conclusion in his study which focuses on Egyptian universities. He found out that entrepreneurship education is still in its initial phase and should be incorporated more not only into economic and business programs, but also the programs of other disciplines.

The AUC Centre of Learning and Teaching plays a key role in training faculty members and providing them with various technological tools that help them teach efficiently. They also have the opportunity to attend multiple training workshops organized by the AUC School of Business. The findings of the study showed that faculty members utilize various teaching strategies such as experiential learning, case studies, reflections, etc. to enrich students' learning experiences. They also expose them to success stories through inviting entrepreneurs to share their experiences and judge their competitions. Moreover, they have an opportunity to do internships through the collaboration between the AUC and the business sector. This finding is also concluded by Towers et al. (2020) who supported the significance of the collaboration between universities and the business sector to provide learners with authentic entrepreneurial experiences. Moreover, faculty members at the School of Sciences and Engineering help learners identify the problems in our society and build up their creativity to tackle these challenges through the knowledge they gain during their study. They also provide them with guidance and support in a formal and an informal way. The interviewed students illustrated that entrepreneurship courses and activities help them develop their entrepreneurial competencies that enable them to start up their own businesses. They have developed their creativity, innovation, and leadership skills. Hattab (2014) has reached a similar result which is that there is a direct correlation between entrepreneurship education and students' intention to start up their own businesses.

I think the AUC entrepreneurial practices are in line with the "Entrepreneurship Education Project in the Arab States 2009-2012" which was introduced by the UNESCO. This

initiative highlighted the significance of policy and coordination, networking and connectivity, equipment and teaching infrastructure, teacher education and training, and curriculum development (Sheta, 2012).

As for the obstacles of entrepreneurship education at the AUC, there are issues linked to training professors on how to teach entrepreneurship. Capacity-building programs are needed to train all recruited professors in how to enrich students' entrepreneurial experiences. The lack of specialization is another issue since it is hard to find professors specialized in entrepreneurship. Another obstacle is linked to how to fit entrepreneurship courses into the curricula since it requires replacing old courses with new ones. At the same time, more entrepreneurship courses are needed across all disciplines as the number of courses offered is not sufficient, and they do not provide learners with all the practical experiences needed in their life after graduation. The lack of dedicated mentors is another serious issue at the AUC. Students ought to be provided with dedicated mentors who are capable of guiding them throughout all the steps of starting up their businesses. The abovementioned obstacles are different from the ones mentioned in the literature review section. The interviewed stakeholders pointed out that one of the obstacles at the AUC is that the experiential learning component ought to be integrated more into the AUC curricula. This obstacle is also found in other higher education institutions as illustrated by Blesia et al. (2021) and Towers, et al. (2020).

### **6.3 Conclusions**

In terms of Clark's (1998) framework, The AUC has been moving towards becoming an entrepreneurial university. The AUC stakeholders support the group-based collective leadership

guided by a strong leader who is capable of driving the ship. Clark (1998) supported this argument and highlighted the significance of a strengthening steering core in the transformation process. With regard to the expanded developmental periphery, the AUC, specifically the School of Business, is very well linked to the outside world in terms of practice. It also plays a key role in advancing the entrepreneurial ecosystem in Egypt. I think the AUC is moving towards Clark's (1998) direction that stresses the importance of establishing units responsible for knowledge transfer, fundraising, continuing education, intellectual property development, industrial contact, and alumni affairs. These practices are done at the AUC through the AUC Venture Lab, the Centre of Entrepreneurship and Innovation, the Entrepreneurial Society Club, and the AUC Technology Transfer Office. Clark (1998) also shed light on the diversified funding base needed to meet the needs of an entrepreneurial university. The AUC relies on its budget and fundraising and sponsorships from companies, banks, international organizations, or donors. Accordingly, the AUC depends highly on the third-stream income and does not rely on the other categories, namely the "mainline institutional support from a governmental ministry and funds from governmental research councils" (Clark, 2001, p. 12). Regarding the stimulated academic heartland, the AUC schools and internal departments have not been transformed yet into being entrepreneurial. The only school that has been moving towards this direction is the School of Business, as illustrated by the AUC stakeholders. It restructured the organization several times, created staff and faculty positions to cater for its journey of entrepreneurship education, and established a unit to promote the school efforts in relation to entrepreneurship. Finally, the AUC at large has not built a fully integrated entrepreneurial culture yet. As pointed out by the AUC

stakeholders, only the School of Business has been building up an entrepreneurial ecosystem on campus.

#### **6.4 Limitations**

One of the limitations in this study is that I could not interview all the participants I was planning to interview. I aimed at interviewing 20 stakeholders, but I only could interview 14 participants. Unfortunately, the other stakeholders apologized owing to their busy schedules or their unfamiliarity with entrepreneurship education. Another limitation is that the results of the study cannot be generalized since it is a case study that reflects the perceptions of stakeholders about entrepreneurship education in one higher education institution. A third limitation is that only interviews were utilized to gather the required data. Other research tools such as focus groups, document analysis, and observations may enrich the data.

#### **6.5 Recommendations for Future Research**

Researchers can explore the implementation of entrepreneurship education in other Egyptian higher education institutions and compare the results to the findings of the present study and other studies in different countries. They can also investigate entrepreneurship education from different angles utilizing different research methods.

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## **Appendices**

### **Appendix A**

#### **Interview Protocol for the AUC Deans, Associate Deans and Directors**

Location:

Date/Time:

My name is Mona Mersal. I will be conducting this semi-structured one-on-one interview. The purpose of this study is to explore the perceptions of higher education stakeholders about the economic, socio-cultural and pedagogical implications of entrepreneurship education in an Egyptian higher education institution, namely the American University in Cairo. Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education at the AUC. The information you will share will provide a deeper understanding of the implementation of entrepreneurship education at the American University in Cairo. This study will be submitted to the American University in Cairo in partial fulfillment of the requirements for the degree of Master of Arts in International and Comparative Education. This interview will take approximately 50-60 minutes and we will follow a designed interview protocol.

1. To get started, please introduce yourself.

In your introduction, kindly explain your professional background, work responsibilities and duties.

2. How do you define entrepreneurship education?

3. What are your perceptions about the economic, socio-cultural and pedagogical implications of entrepreneurship education at the AUC?
4. What are some of the obstacles of entrepreneurship education in higher education at the AUC?
5. What are some of the best practices of entrepreneurship education in higher education at the AUC?
6. What are the steps that the school has taken to advance entrepreneurship education?

Probe: Do you think that the school has been transformed into an entrepreneurial college? If yes, kindly explain how.

7. What is the role of university leadership in transforming a traditional university into an entrepreneurial university?

Probe: which is more beneficial in the transformation process: the highly personal leadership or highly group-based collective leadership? Why?

8. What is the importance of linking the school internal departments to the outside world to promote entrepreneurship?

Probe: how does the school link its internal departments to society for advancing entrepreneurship?

9. What are the financial sources that the school depends on to advance entrepreneurship education?

10. Does the school change its internal departments and units to be entrepreneurial? How?
11. Does the school embrace and/or build up an entrepreneurial culture? How?

### **Interview Protocol for the AUC Faculty Members**

Location:

Date/Time:

My name is Mona Mersal. I will be conducting this semi-structured one-on-one interview. The purpose of this study is to explore the perceptions of higher education stakeholders about the economic, socio-cultural and pedagogical implications of entrepreneurship education in an Egyptian higher education institution, namely the American University in Cairo. Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education at the AUC. The information you will share will provide a deeper understanding of the implementation of entrepreneurship education at the American University in Cairo. This study will be submitted to the American University in Cairo in partial fulfillment of the requirements for the degree of Master of Arts in International and Comparative Education. This interview will take approximately 50-60 minutes and we will follow a designed interview protocol.

1. To get started, please introduce yourself.

In your introduction, kindly explain your professional background, work responsibilities and duties.

2. How do you define entrepreneurship education?

3. What are your perceptions about the economic, socio-cultural and pedagogical implications of entrepreneurship education at the AUC?
4. What are some of the obstacles of entrepreneurship education at the AUC?
5. What are some of the best practices of entrepreneurship education at the AUC?
6. Do you help learners develop their entrepreneurial competencies? How?
7. What are the courses/pedagogies that you use to build up learners' entrepreneurial skills at the school?
8. Does the AUC and/or school provide you with professional development trainings on how to teach entrepreneurship courses?
9. What are your suggestions for advancing entrepreneurship education at the school and the AUC?

### **Interview Protocol for the AUC Students**

Location:

Date/Time:

My name is Mona Mersal. I will be conducting this semi-structured one-on-one interview. The purpose of this study is to explore the perceptions of higher education stakeholders about the economic, socio-cultural and pedagogical implications of entrepreneurship education in an Egyptian higher education institution, namely the American University in Cairo. Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education at



the AUC. The information you will share will provide a deeper understanding of the implementation of entrepreneurship education at the American University in Cairo. This study will be submitted to the American University in Cairo in partial fulfillment of the requirements for the degree of Master of Arts in International and Comparative Education. This interview will take approximately 50-60 minutes and we will follow a designed interview protocol.

1. To get started, please introduce yourself.

In your introduction, kindly give us more information about what you study at the school.

2. How do you define entrepreneurship education?

3. Do you think it is important for you to develop your entrepreneurial competencies?

Probe: How will these competencies help you after graduation?

4. Do you think the courses you take at the AUC help you build up these entrepreneurial competencies? How?

5. Do you think there is a link between what you learn at the AUC and the workplace requirements? How?

6. Are there any entrepreneurial activities the AUC provides you with in/outside the university to help you improve your entrepreneurial skills?

7. Do you have any suggestions for advancing entrepreneurship education at the AUC?

## **Appendix B**

### **Participants' Consent Form**

**Project Title:** Entrepreneurship Education as Part of Higher Education Reform in Egypt:  
An Exploratory Qualitative Case Study

**Principal Investigator:** Mona Mersal

**Email Address:** [mona.mersal@aucegypt.edu](mailto:mona.mersal@aucegypt.edu)

- You are being asked to participate in a research study. The purpose of the research is to explore the perceptions of higher education stakeholders about the economic, socio-cultural and pedagogical implications of entrepreneurship education in the Egyptian context. Moreover, the study seeks to explore some of the obstacles and best practices of entrepreneurship education in higher education in Egypt, and the findings will be published. The expected duration of your participation is 50-60 minutes.
- The procedures of the research will be as follows. You have been communicated prior to this interview to get your consent on participating in the study. During interviews, I will follow the interview protocol that has been designed along with the interview questions. The next step is reading the consent and asking you to sign it. After that, I will start recording, if you agree, and ask you the interview questions. After conducting the interviews, the gathered data will be transcribed and analyzed.
- There will not be certain risks or discomforts associated with this research.
- There will not be benefits to you from this research.

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- The information you provide for purposes of this research will be kept confidential.
- In case you agree on voice recording this interview, the interview will be audio-recorded and a transcript will be produced.
- The transcript of the interview will be analyzed by the researcher for research purposes.
- Access to the interview transcript and tapes will be limited to the researcher, and the research supervisor only. The gathered data will be kept on the researcher's personal laptop that has an access password and will be deleted after three years.
- Questions about the research, my rights, or research-related injuries should be directed to Mona Mersal at +201020793460
- Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or the loss of benefits to which you are otherwise entitled.

Signature \_\_\_\_\_

Printed Name \_\_\_\_\_

Date \_\_\_\_\_

## Appendix C

### IRB Training Certificate



## Appendix D

### IRB Approval



**Case# 2021-2022-005**

**To:** Mona Saber Ali Mersal  
CC Dr Teklu Abate Bekele  
Dena Riad

**From:** Heba Kotb Chair of the IRB  
**Date:** 16 September 2021  
**Re:** IRB approval

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This is to inform you that I reviewed your revised research proposal entitled

“Entrepreneurship Education as Part of Higher Education Reform in Egypt: An Exploratory Qualitative Case Study”

It required consultation with the IRB under the "expedited" category. As you are aware, the members of the IRB suggested certain revisions to the original proposal, but your new version addresses these concerns successfully. The revised proposal used appropriate procedures to minimize risks to human subjects and that adequate provision was made for confidentiality and data anonymity of participants in any published record. I believe you will also make adequate provision for obtaining informed consent of the participants.

This approval letter was issued under the assumption that you have not started data collection for your research project. Any data collected before receiving this letter could not be used since this is a violation of the IRB policy.

Please note that IRB approval does not automatically ensure approval by CAPMAS, an Egyptian government agency responsible for approving some types of off-campus research. CAPMAS issues are handled at AUC by the office of the University Counsellor, Dr. Ashraf Hatem. The

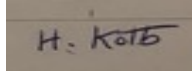
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EGYPT

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IRB is not in a position to offer any opinion on CAPMAS issues, and takes no responsibility for obtaining CAPMAS approval.

This approval is valid for only one year. In case you have not finished data collection within a year, you need to apply for an extension.

Thank you and good luck.

A small, rectangular image showing a handwritten signature in dark ink on a light-colored background. The signature appears to be 'H. Kotb'.

Heba Kotb  
IRB chair, The American University in Cairo  
2078 HUSS Building  
T: 02-26151857  
Email: [hebakotb@aucegypt.edu](mailto:hebakotb@aucegypt.edu)