



Entrepreneurial Behavior Evidence from Egyptian Public Universities

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ABSTRACT

One of the main goals of the Egyptian government's economic reform plans is to reduce unemployment among young Egyptians and create jobs for them. Entrepreneurship has been identified as a means of influencing business start-ups, which in turn creates jobs and sustains growth. The thesis examines the factors affecting students' entrepreneurial behavior within the context of the theory of planned behavior in public university students. It also took into account two additional variables, such as the impact of entrepreneurial education and leadership skills on entrepreneurial intent. A questionnaire was conducted among students' public universities in all regional units across Egypt who received entrepreneurial training using a stratified sampling technique whereby 672 questionnaires were retrieved. A structural equation model analysis with the Smart PLS software to test the 7 hypotheses derived from the research model.

The results revealed that all coefficients in the model are positively significant and all hypotheses are supported except leadership skills. It also addressed the link between entrepreneurial behavior and entrepreneurial intentions. To increase awareness and support for entrepreneurship, the startup ecosystem and policymakers must comprehend the variables that influence young people's decisions to launch their own enterprises. Furthermore, universities must improve the level of formal education provided to students in entrepreneurship by providing academic and business support to generate ideas, start and nurture a new business, and enhance the required skills.

Keywords- Entrepreneurship, Entrepreneurial intentions, Entrepreneurial behavior, Entrepreneurial education, leadership skills.

INTRODUCTION

Entrepreneurship is the process of individuals designing, planning, undertaking, and operating an innovative new business venture that usually involves taking risks. Entrepreneurs undertake activities



in order to create opportunities, as well as to establish the businesses or organizations to pursue these opportunities. Entrepreneurship as a term is always referred to business ventures, however recently it been used to refer to governmental policies to promote economic development and job creation, educational development, and social fluctuations (Miller and Sardais, 2014). In order to support and sustain new jobs for people, economic progress in every country depends on the establishment of new businesses and business innovation. The creation of new opportunities and the subsequent expansion of human capital are just two examples of how entrepreneurship contributes to the development of societies and their well-being. In addition, entrepreneurial activities also result in the development of new goods and services (Renko and Simon, 2012).

Entrepreneurs also invest in their communities by contributing to educational organizations, which allows for further development beyond his/her startups. In addition to that, he/she has t an impact on social change though adding new technology and services. Finally, entrepreneurs encourage other entrepreneurial endeavors, leading to greater availability of funding, opportunities for economic development, and increased employment (Acs and Hessels, 2008).

Given fierce competition both within countries and internationally to innovate in technology, production, efficiency, delivery of services, communication, and science, entrepreneurship is particularly important for development and establishment of businesses in current times. Countries and cities with higher levels of entrepreneurship may have better educational opportunities resulting from improved job opportunities. These regions tend to be more productive in economic development and growth than those with lower levels of entrepreneurship (Ding, 2017). Entrepreneurship may lead to a virtuous cycle of development, such that an entrepreneurial culture enhances the development of entrepreneurship, which further reinforces this culture activity in various cities or region, including changing the way individuals conceptualize innovation (Obschonka, 2017).

RESEARCH BACKGROUND

Studying the behavior of the entrepreneur has been a very attractive area for study since Schumpeter who contributed to defining entrepreneurs in his famous economic book *Democracy, Socialism, and Capitalism*. His definition opened the door for researchers to examine the entrepreneur from different perspectives. The entrepreneur has been looked at as an individual with plenty of innovations ready to seize an opportunity and create a new venture which contradicts traditional market norms and businesses. Literature afterward examined so many aspects of entrepreneurship and its impact on the economy in developing versus developed countries, especially in innovation-driven economies (Whaples and Parker, 2013).

Business life includes entrepreneurship, which significantly contributes to the success of the economy. People that are actively involved in their own business are found to be the most accountable for the realization of their vision. As a matter of fact, they don't share the same background and education, that's why studying entrepreneurship process became unavoidable. Additionally, as technology and the economy advance, new forms of entrepreneurship emerge and the level of competition rises. According to some, it is the most powerful economic force the world has ever known (Paco, 2011). In both the past and the present, it has been recognized that entrepreneurs have shaped



and will continue to shape both the economy and society. She/he is introducing different dynamism in the activity within their territory. It have been examined how the entrepreneur identifies innovation, the opportunities and his choice of the product or service to be sold in the economic market. The economic conditions also play a very big role in the individual's turn to be entrepreneurs and the outcome of it on society and the economy.

Gartner (1988) pinpointed that encouraging economic growth requires more entrepreneurship researchers to further investigate the process of new business creation. He spotted there is a big weight on entrepreneurship education's impact on the creation of new ventures since it is fundamental to grass-roots economic growth. Thus, he also believed that more research should include both the education and the behavioral patterns of the entrepreneurs. In addition to this, many researchers also have examined the characteristics of the entrepreneurs and the set of skills and decision-making processes of businesses versus traditional organization and management skills needed. More questions are raised when entrepreneurship spawned positionally in all aspects of life. Could entrepreneurial behavior be taught? Could entrepreneurial behavior be learned? Does formal entrepreneurial education have any impact on entrepreneurial behavior? What set of leadership skills is needed for the entrepreneur to start her/his business venture?

The entrepreneurial behavior from the perspective of some of these questions in the Egyptian context is going to be examined specifically the entrepreneurial behavior among public university students in Egypt who represents the majority of the workforce of the Egyptian economy and who are faced with so many challenges that could lead to entrepreneurial activity. In Egypt, most public universities don't have formal entrepreneurial education rather they have several training programs that help the students explore the world of entrepreneurship.

It is worth noting that the Egyptian economy is characterized by being diversified as it is composed of tourism, agriculture, manufacturing, and services sectors all contributing with semi-equal ratios to the gross national product. Due to recent structural reform, the Egyptian economy is achieving high growth rates and an attractive investment climate has evolved thanks to positive developments in several critical functions for example infrastructure specifically the telecom infrastructure in addition to the establishment of new modern industrial cities and free zones. Over the last decade, Egypt has been fortunate to have a growing number of supporting organizations, new policies and legislation, and numerous government and donor support initiatives. Every year, hundreds of thousands of school graduates, university graduates, and vocational education and training institute graduates enter the job market in search of their first jobs. Entrepreneurship can be a viable career option for many people if they have a strong desire to do so. Over the last five years, more emphasis has been placed on encouraging students to become entrepreneurs (Hattab, 2014). It has been noticed that there are efforts from the Ministry of Communications and Information Technology, General Authority for Investment, Central Bank of Egypt, and, Ministry of Higher Education who introduced several programs that operate on specific groups and need to be collectively bumped up to the national level.

In its Egypt National Report 2020/2021, the Global Entrepreneurship Monitor (GEM) provides a detailed study of the state of entrepreneurship in Egypt during the COVID-19 pandemic and in



comparison, to previous years. The objective of such a comparison is to show the effect of different aspects of policies, regulations, education, and social culture on the local ecosystem of entrepreneurs. The key insights of the report indicated that more Egyptians are starting new businesses during the COVID pandemic which is similar to worldwide patterns. According to the GEM report, the early-stage entrepreneurial activity (TEA) indicator in Egypt reached 11.3% of the adult population aged (18-64) in 2020, with either actively setting up a new business or having started a business that is less than three and a half years old. However, it is lower than the global average which reached 14.5%. In addition to that entrepreneurial intention remains extremely high, with 56.9% of Egyptian non-entrepreneurs surveyed indicating interest or intentions to start a business within the next three years. Such an indicator showed that Egypt is ranked fifth among all GEM countries surveyed. It is significant to see how GEM evaluates people's characteristics, aspirations, attitudes, perceptions, and intentions. It examines what influences how they think and act. Such indications are crucial to the entrepreneurial pipeline, which connects aspiring entrepreneurs with deliberate entrepreneurs and those who are actively starting a successful, expanding business.

It specifically examined the societal perception of entrepreneurship as a viable career option, the social standing of entrepreneurs, and the impact of the media. While individual attributes included demographic characteristics, individual's perceived capabilities, perceived opportunities, fear of failure, intention, ease of starting a business, and knowing someone who has a business) and motives and ambitions for starting a business. Significant government and donor investments are pouring into the ecosystem, but need to be better focused and targeted using evidence-based analysis. There is a clear need for more rigorous research to understand more areas surrounding the entrepreneur, such as the behavior of individual entrepreneurs, the innovative environment and dynamics of startups, national culture and its impact on behavior, and government legal support (Ismail, et al., 2021).

RESEARCH SIGNIFICANT

In a world full of uncertainty and thriving for innovation, the role of entrepreneurship is considered to be of exceptional significance in fast-tracking the pace of economic development and growth. It has brought big changes for both developing as well as developed countries during recent decades. It is responsible for individuals attaining extraordinary prosperity by pursuing their own goals, desires, and dreams via new firm creation. It is known as a pillar for creating job opportunities and innovation for the economy (Postigo and Tamborini, 2004). It not only brings changes through innovation but also increases societal development (Rayan and Carney, 2010). Given these benefits, developing individuals' entrepreneurial motivation is very important.

The research aims at examining entrepreneurial behavior in students who received an entrepreneurship training program in their public universities and colleges as part of their willingness to get introduced to the entrepreneurial ecosystem. The assumption is that entrepreneurial education and leadership skills will also influence students' behavior toward starting a new business by positively swaying their intention to perform entrepreneurial activities.

The outcomes of the research are expected to have several implications and significance to various stakeholders in the startup ecosystem in Egypt, including prospective and current students,



entrepreneurs, policymakers, universities, and startups ecosystems that include NGOs, incubators, accelerators, governments, venture capital VCs, technology, and service providers who are involved in the startup and innovation ecosystem.

LITERATURE REVIEW

There were discussions on what shapes the individual's interest to become an entrepreneur and the factors affecting the intentions of the young people and whether formal education about entrepreneurship at a university have significant role in the decision-making process to choose this career. In addition to the skills knowledge and abilities to build their business case and thus their intent to become an entrepreneur (Fayolle and Gailly, 2015; Vanevenhoven and Liguori, 2013). The decision to become an entrepreneur is considered to involve conscious thinking and complex cognitive processes (Krueger et al., 2000; Baron, 2004). Thus, it meets the criteria for behaviors that are strongly influenced by intentions. Entrepreneurial intention (EI) is theorized to be the best predictor of entrepreneurial behavior (Krueger et al., 2000). Several empirical studies report direct links between entrepreneurial intentions and actions (Goethner, et al., 2012; Kolvereid and Isaksen, 2006). To predict Entrepreneurial intention (EI) and hence, entrepreneurial activity, prior research typically applied the theory of planned behavior (TPB). It one of the well-known psychological theories that links beliefs to behavior. The main objective of the theory is to predict the intention and behavior of individuals at a certain time and place. It has three main components and it explains how attitude, subjective norms, and perceived behavioral control shape the individual's behavioral intentions.

Icek Ajzen explained that the theory purpose is to improve the predictive power of the theory of reasoned action (TRA) which also aimed to explain the relationship between attitudes and behaviors within human action. Ajzen's idea in his theory to include perceived behavioral control. Perceived behavior control was not a component of (TRA). He indicates in his theory that perceived behavioral control is the perception of the individual's capabilities. While, attitude refers to the degree an individual evaluates the behavior of interest as has a favorable or unfavorable for him/her and it includes his/her consideration of the outcomes of such behavior. Also, norms refers to the his/her belief about the importance what other people think he/she engagement in the such behavior.

University Students as Potential Entrepreneurs

It's been compelling to research the various stages of entrepreneurial activity that comprise the business creation process, from the potential to the consolidated phase. The so-called high-growth ventures have gotten a lot of attention because of their greater impact on job creation and wealth creation. However, there is an argument that the startup's economic development potential is dependent on the university community. Because of their high level of human capital, they present an ideal group for their research as potential generators of high-impact entrepreneurship. Thus, potential entrepreneurs are the source that nurtures future business creation, highlighting the importance of determining the factors that drive these students' entrepreneurial intentions (Expósito et al., 2022). This reinforces the idea that people with higher levels of education are the most crucial component since they have traits



like drive, human capital, and creativity. Additionally, this is required for the growth and upkeep of high-quality entrepreneurship (Millán, 2014). As discussed earlier, entrepreneurship can be taught or at least encouraged by entrepreneurship/business education (Wang and Verzat, 2011). Individuals possessing limited education are less enthusiastic to participate in entrepreneurial activities. Therefore, getting an adequate and proper education may encourage, but research on entrepreneurial intention and education in developing countries is still lacking behind (Lestari et al., 2022). It is paramount important to investigate, digest, and understand the perceptions of students at the higher education level regarding factors that influence their intention to be entrepreneurial (Vaillant and Lafuente, 2007). There are large disparities between company goals and actual behavior, according to expert literature (Liguori, et al., 2018).

As a result, many people declare their intention to launch a business but take little activity to actually accomplish so (Van Gelderen, 2015). As a result, more research is required on both the variables that influence intentions as well as how new intentions are formed as they get closer to the activity that will be the subject of the research. In this regard, the idea of intention of implementation, which appeared towards the end of the 1980s, may be able to provide answers to these questions. Researchers have been interested in it recently since it can be used as a more accurate predictor of a specific conduct than an objective or general intention. Because of this, the current study seeks to identify and examine the variables that may contribute to the development of implementation intentions to behavior in a group of university students who attend public universities in Egypt and who thus account for the vast majority of students in that country. In addition, the current literature in the Egypt context is limited research with a focus on intention rather than behavior in addition to the studied groups of students from specific colleges or privately-owned universities located in Cairo and Giza. Further, the objective of the research is required to explore other factors affecting the behavior of public university students and to be generalizable to all students across Egyptian governorates.

Entrepreneurship Explained by the Theory of Planned Behavior

Several theories predicted entrepreneurial intention such as the theory of the entrepreneurial event (Shapiro and Sokol, 1982), the model of implementing entrepreneurial ideas (Bird, 1988) the maximization of the expected utility model (Johnson, et al., 2002), and the theory of planned behavior (TPB) (Ajzen, 1991). TPB is an extension of the Theory of Reasoned Action (TRA).

Several studies applied theories by taking the sample of university students and fetched significant results. TPB, on the other hand, has demonstrated appropriate performance and fits well in researching students' entrepreneurial intentions globally, which is the behavior under consideration in this research (Linan and Chen, 2009; Lortie and Castogiovanni, 2015). The TPB is used successfully in the past to describe the entrepreneurial intentions of students in several countries for example in the U.S. (Krueger et al., 2000). Evidence also is seen in Europe for example Netherlands (Gelderen, 2015), Norway (Kolvereid, 1996); Russia (Tkachev and Kolvereid, 1999); Finland & Sweden (Autio, 2001); Spain



(Rueda et al.,2015). It is also applied in Africa and Middle East for example : South Africa (Gird and Bagraim, 2008); Iran (Ali, 2013) ; Egypt (Mostafa, 2021); and UAE (Mohammed, 2019).

Entrepreneurial Behavior and Intention

An intention is served as a stepping stone to executing an entrepreneurial behavior (Tubbs and Dahl, 1991). Similarly, it is argued that entrepreneurial intention is a strong predictor of becoming involved in entrepreneurial behavior which may lead to a start-up venture (Krueger, 2000). Entrepreneurial intention is the personal commitment to a new venture (Reynolds and Miller, 1992). There are two reasons why the researchers found the potential value of studying intention in entrepreneurship. The first reason is, that entrepreneurial intention formation is seen as the first and indispensable stage in the process of starting up an own business. Thus, the research on factors affecting intention is considered a feasible behavioral approach. Secondly, entrepreneurship is always planned and has a clear intention. This behavior is the result of a process of careful consideration and selection by individuals (Bird, 1988). However, the literature is more focused on the intention rather than the behavior and that's why the current research is trying to explain such link.

Attitude Towards Entrepreneurship.

Attitude towards entrepreneurship refers “the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question” (Ajzen, 1991, p. 188). In the context the research, it has been defined as “the difference between perceptions of personal desirability in becoming self-employed and organizationally employed” (Souitaris 2007, p. 570). It is also can be defined as “attitude toward start-up is the degree to which the individual holds a positive or negative personal valuation about being an entrepreneur” (Liñán and Chen, 2009, p. 596)

Schlaegel and Koenig (2014) and Kolvereid (1996) tested the relevance of attitude as a significant predictor and discovered it to be significant. Other scholars confirmed that attitude towards entrepreneurship and perceived behavioral control have strong effects on entrepreneurial intention. It was persuaded to argue that the more positive the attitude toward a behavior, the stronger should be the individual's intention to perform that behavior (Armitage and Conner, 2001). Earlier studies have affirmed this relationship empirically that a greater entrepreneurial attitude positively enhances one's entrepreneurial intention drive (Saleem, 2020). Moreover, intention toward a behavior can be a strong indicator of that behavior. In turn, we can say the intention of carrying out a given behavior will depend on the person's attitude toward that behavior (Ajzen, 1991). Thus, having a more favorable attitude toward an act will eventually make the intention looks more feasible to pursue.

Social Norms

Social norms are the term for the positive or negative opinions of a person's family, friends, and peers regarding a person's choice to engage in a particular behaviour, corroborating that a person is encouraged to start a business by a reference group's positive opinion while discouraged by a reference group's negative opinion (Saleem, 2018). The existence of inter- actions and indirect effects of SN on intention could be explaining these results. Therefore, although there is support for the idea that a



direct SN–EI relationship might be established, some controversy remains. In this sense, the possibility of indirect effects of SN on EI should be investigated further. In this sense, there may be reasons to consider that SN affects both ATE and PBC. Consequently, Social norm is a pre-notion emphasis that upon the viewpoint and its significance from a reference group and corroborates positively or negatively on the perception of any individual's mind. It is the magic of conveying the message from the group of reference people namely, family, friends, and important others and usually, it differs in its reaction. In many cultures, we can notice that individuals are pursuing or not-pursuing an entrepreneurial career based on family members' expectations of the extrinsic inspirations from the external pro or anti-entrepreneurial vibes (Nabi, 2017).

Perceived Behavioral Control

The third antecedent of TPB is perceived behavioral, which is commonly referred to as self-efficacy. Due to discrepancies and differences in empirical findings concerning its impact on intention, PBC is regarded as the most disputed construct. It was defined as a “person's perception of the ease or difficulty of performing the behavior of interest” (Ajzen, 1991, p. 183). Initially, Ajzen (2002) looked at PBC as a unidimensional construct, almost equivalent to Bandura who stated that social learning construct of self-efficacy is an individual's perception of his or her capability to execute courses of action required to deal with prospective situations (Bandura, 1982). The view that PBC and self-efficacy are essentially similar constructs led a number of researchers to replace in their studies PBC with self-efficacy (Kolvereid & Isaksen, 2006; Krueger, 2000; Moriano, 2015; Gelderen, 2018). However, it has been discussed in TPB literature whether PBC and self-efficacy are distinct or swappable constructs, that ambiguity resulted in the interchangeable use of the constructs in entrepreneurial literature (Schlaegel and Koenig, 2014). Thus, numerous studies on either used self-efficacy instead of PBC or at least mentioned this interchangeability (Lortie and Castogiovanni, 2015).

Perceived behavioral control has a direct impact on behavior, and it also has an indirect effect on behavior through intention (Madden, 1992). PBC is made up of two components: self-efficacy (the perceived ease or difficulty of performing the behavior) and controllability (the extent to which performance is under the actor's control). As a result, both the actual situation and the individuals' expectations regarding the successful performance of the target behavior are captured (Autio, 2001). The role of PBC in predicting entrepreneurial behavior and its direct and indirect effect is explained in the context of the current research.

Leadership Skills

Entrepreneurship is associated with different types of skills that are studied in the literature and referred to as soft and hard skills. Soft skills are the behavioral skills essential for the application of hard skills and knowledge in organizations (Rainsbury, 2002). Other authors categorize soft skills as (1) interpersonal skills; (2) personal and social skills; and (3) cognitive skills (Faulconbridge, 2007).

In their review of entrepreneurship and leadership literature, much of entrepreneurial behavior is essential for leadership behavior (Tarabishy, 2005). The concept of entrepreneurial leadership may be considered a new paradigm. In addition to that, many past types of research identified leadership as



one of the most important organizational factors that influence entrepreneurial activity (Elenkov, 2005).

Entrepreneurial Education

One of the challenges that face university graduates who are seeking jobs or new career choices is that of formal university education. It is no longer a passport to securing employment for graduates. This requires young graduates to consider taking courses in fields of interest to be ready for a career path either during their university years or after graduation. Recent years witnessed a strong and growing student interest in entrepreneurship (Fayolle and Gailly, 2015). Entrepreneurship and self-employment have been seen as viable career options. While the number of entrepreneurship education programs is growing, their impact is under-researched and studies paint an ambiguous picture of the impact of entrepreneurship education.

Entrepreneurial education is one of the determinants of entrepreneurial intention, therefore, becomes important to understand its impact by drawing on the theory of planned behavior. It can be defined as a whole education and training activity whether it is an educational system or a non-educational system that tries to develop participants' entrepreneurial intention or some factors that affect the intention, such as knowledge, desirability, and feasibility of the entrepreneurial activity. It is worth noting that Harvard Business School opened its first education program in 1945 and since then, entrepreneurial education has been spreading at a fairly rapid pace (Liñán and Fayolle, 2015).

Studies have shown the relationship between entrepreneurship education attitude toward entrepreneurship and entrepreneurial intention. Tam (2009) and Dell (2008) in their studies on students of universities have proved that entrepreneurship education has a significant impact on student's attitudes toward pursuing entrepreneurial paths., there is a common agreement that entrepreneurial education is very important as a response to the increasingly complex world we live in, requiring all people and related organizations in society should work to increase their entrepreneurial competencies. Therefore, governments are challenging their education systems to create graduates who are capable of seeing opportunities and harnessing the resources to bring them to fruition, in the process bringing about change.

Entrepreneurial Ecosystem in Egypt

More than 10 years passed on new challenges that faced most countries in the Arab countries. In 2010, the people of Tunisia started the first online organized calls for protest against their regime. Egypt followed with the 25th of January revolution that witnessed major political, economic, and social reforms with several challenges then; a crash in tourism, removal of subsidies, devaluation of the Egyptian pound, rising energy prices, and high inflation. The political climate in the early 2010s affected Egypt's entrepreneurship ecosystem development and maturity (Ragab, 2020).

It was indicated that in the period between 2015 -2016, entrepreneurial intention increased according to Egypt GEM Report to 65.5% of Egyptians (non-entrepreneurs) who were surveyed to check if they had interest or intentions to start a business within the next three years. This score is more than 2.5x the global average in the same period. Such interest was indicated as a trend as the score was witnessing a gradual increase- especially among youth- in 2015 (39.5%) and 2012 (43.6%) scores



(Ismail, 2017).

According to a recent report on Egypt's Tech startup ecosystem, it is a mature one with activity going back to before the revolution, but it only really began to truly grow in around 2015. Its peak period for startup launches was in 2018 and 2019, with this being the same time that the country gatecrashed what was known as the "big three" of South Africa, Nigeria, and Kenya in terms of investment (Egyptian Startup Ecosystem Report, 2022).

However, there is no standard framework for promoting entrepreneurship, all successful frameworks across the globe can be only viewed as best practices. Isenberg (2010) explained that successful experiences examined across different countries cannot be generalized where each government will be able to come up with appropriate strategies according to their specific economic, social, and political circumstances.

The ecosystem in Egypt was stimulated by the establishment of the Technology Innovation and Entrepreneurship Center (TIEC) in 2010. The expansion of government-led initiatives to stimulate growth and create an environment conducive to entrepreneurship and innovation can be attributed to the startup sector's emergence as a significant contributor to the UAE's economy. UAE gathered the most inward startup capital in the country, accounting for 60% of total inflows, followed by Egypt and Saudi Arabia with 14% and 9%, respectively (MENA Venture Investment Report, 2019).

In addition to that the creation of the first private start-up accelerator/incubator Flat6Labs in 2011 and the launch of The GrEEK Campus in 2013, became the de facto entrepreneurship and innovation hub in Cairo. RiseUp was also founded in 2013 and since then an annual global entrepreneurship summit has been taking place in The GrEEK Campus in Cairo, with an exponentially growing attendance from local, regional, and global entrepreneurs, angel investors, venture capitalists, entrepreneurship advocates, support organizations and other stakeholders. Inspired by what has been happening in Cairo, a young entrepreneur from Alexandria launched Techne Summit, which has been organizing global annual entrepreneurship summits in Alexandria since 2015. Along with a group of young Alexandria-based young entrepreneurs, in 2016 he created Alexandria Angels, the first angel investors group in Alexandria. In Egypt, there has been a significant upsurge in the level of awareness of promoting entrepreneurship (Mansour, 2018).

In addition to two major international non-governmental organizations, Endeavor and Injaz, continue improving their programs as well. With the rise of these catalysts and leaders, some traditional business associations and government agencies have pulled back on their support for entrepreneurship, whereas others have tried to catch the rising stars.

These developments provided global visibility to the Egyptian nascent ecosystem, which resulted in global players like 500 Startups investing in Egyptian start-ups like Wuzzuf, Edfa3ly, ElWafeyat, Eventtus, MoviePigs, Mumm, and Breakfast. This triggered further interest from global VC entities according to (Egypt Venture Capital Report, 2021), startups raised a record \$490 M in VC funding, with a CAGR of 100% over the past 5 years, Despite Covid-19's impact on several deals, yet funding recorded 30% YoY growth. In concurrence with the trend noted across MENA, the number of deals in Egypt declined by 14% YoY.

Despite all these seemingly very promising signs that suggest that the start-up ecosystem in Egypt



is experiencing healthy growth, the reality is that it is facing serious challenges most important of which are funding, mentorship quality & capacity, entrepreneurship education & awareness, and adequacy of infrastructure, and regulatory related. These challenges need to be effectively addressed for entrepreneurship to reach its full potential in Egypt. Despite having such successful entrepreneurs, Egypt is ranked number 95 on the list of best countries to do business as indicated by Forbes. It was claimed that Egypt's current entrepreneurial boom is a testament to its tech-savvy and multilingual youth rather than the success of the entrepreneurial ecosystem (Mansour, 2018).

Entrepreneurial Training Programs in Universities

In Egypt, several training programs are conducted by private universities, the government, non-government organizations, and other players in the ecosystem. The AUC started the Entrepreneurship and Innovation Program in 2010, while its Venture Lab, which is a startups accelerator and incubator, was launched in 2013. The mission of the Venture Lab is to translate technologies and innovations, enable innovative start-ups to capitalize on its knowledge, wide network, outstanding facilities, and alumni in various countries, and foster an environment of innovation, education, and business (Abou-Warda, 2016).

The Youth Entrepreneurship Program (YEP) was launched in 2020 with the Citi foundation targeting young Egyptian men and women from 20-29 who live in upper Egypt and wish to pursue entrepreneurship. The program will provide training and access to resources including incubation space, attendance at business summits around Egypt, coaching, and mentoring. In addition, participants will have an opportunity to compete for seed funding under the grant.

INJAZ promotes entrepreneurial education, training, and skill development through its workshops. It helps introduce the culture of entrepreneurship into schools and universities across Egypt. They run start-up competitions to stimulate the experience among young students and integrate into their systems the importance and merits of entrepreneurship. Such competitions are performed under a partnership between INJAZ and the Ministry of high education and the private sector (Abbas, 2016).

Endeavor, is also providing training however, it is not focused on students. It creates special advisory boards to help its entrepreneurs with mentorship and the needed training. Member entrepreneurs receive the needed training as long as they remain in the Endeavor network.

Moreover, MCIT launched its first strategy for technology innovation and entrepreneurship (2011-2014) developed by the Technology Innovation and Entrepreneurship Centre (TIEC) is divided into three categories: (1) establishing the foundation for innovation and entrepreneurship; (2) empowering businesses; and (3) recognizing innovation and entrepreneurship (TIEC, 2011). Innov-Egypt is one of the training programs provided by TIEC on innovation and entrepreneurship and is customized for university students and graduates.

Literature also is limited in the review of training programs offered in public universities for entrepreneurship in Egypt. Abbas (2016), studied 18 commerce colleges in public universities in Egypt and outlined the state of entrepreneurship and social entrepreneurship education in higher education. Though it is well known that entrepreneurship education is absent, a detailed description of this absence



is not presented in the published papers until now. A review of all programs confirms the absence of any undergraduate majors or minors in entrepreneurship or social entrepreneurship. Even on the course level, there is no course, whatsoever, covering this area – taking into consideration that some universities don't list courses inside each program online. To conclude, there is a drastic shortage of entrepreneurship programs at all public universities with one exception at the graduate level (Abbas, 2016). In this research, Innov-Egypt Training program graduates from public universities studies were examined to study the factors affecting the entrepreneurial behavior of undergrads.

CONCLUSION

The overall results of the research can be used by educational institutions, universities, organizations such as the Ministry of higher education or policymakers, or anyone else who is aiming for developing and creating more entrepreneurs in the future. Entrepreneurs play a significant role in promoting the economy hence this research makes a significant practical contribution.

THE RESEARCH STRATEGY

It is necessary to apply the right method to answer research questions properly (Zikmund, 2013). The objective of this research is to measure entrepreneurial behavior among Egyptian students, which is required to gather data from a big sample group of students from all regional units of Egypt who research in public universities. Web-based surveys give the opportunity of having highly standardized data collection at a low cost and have been shown to collect data validly (Gosling, 2004). Furthermore, such surveys are expected to increase the response rate because the questionnaire can be completed without having to mail any forms (Mann and Stewart, 2000). As a result, this research utilized the quantitative method to gather data from a large number of university students in public universities in Egypt. The quantitative survey is used to answer questions of who, what, where, how many, and how much. Experimental strategy is more concerned to explain research questions of how and why. Action research will give responses to who, what, and where questions. Since the research question of this research is what factors are influencing entrepreneurial behavior? It requires collecting data from a large number of students (big sample size), and a survey strategy has been chosen for this research.

The questionnaire is designed to ask statements about the assigned dimensions using a 5-point Likert scale to be able to measure variations in the students' opinions regarding the mentioned variables. 1 (lowest) to 5 (highest). The questionnaire was consisting of seven constructs namely: ATE, PBC, SN, EE, EI, LS, and EB. In addition, another section in the questionnaire was dedicated to gathering the demographic profiles of the respondents.

THE RESEARCH HYPOTHESES AND FRAMEWORK

Receiving formal education about entrepreneurship would lead to better evaluation of the entrepreneurial opportunities which in turn will affect attitude towards entrepreneurship, social norm, and perceived



behavioral control along with strengthening the relationship between entrepreneurial education and entrepreneurial intention (Kuckertz and Wagner, 2010). Entrepreneurial education researchers confirmed have come out with the results that there is a positive relationship (Saleem, 2019). In another study conducted by (Dyer, 1995). It was witnessed that specialized courses and formal training about starting a new business would make people feel more confident about their control on behavior when starting a new firm. To conclude, generating more entrepreneurs will promote innovation and economic improvement. Therefore, higher education institutions and universities tend to deliver or encourage entrepreneurial education to achieve these objectives. In particular, entrepreneurial education has an important role to play in promoting students' level of intention to start their new businesses (Keat, 2011).

Some research has linked entrepreneurial intention with other individual characteristics and specifically to various aspects of leadership (Iakovleva and Solesvik, 2014). Leadership skill has been associated with attributes such as individual motivation, uncertainty tolerance, and the ability to take risks (Kansikas, 2012). However, the conceptualization of leadership skill as a driver of entrepreneurial intention has not previously been undertaken within the TPB framework. In the Latin American context, characterized by middle-income countries with a strong emphasis on family-owned businesses self-perception of leadership skills, acquired about externally observed behaviors of older family members, may connect closely with the formation of social norms and capital for young people (Fernández, 2016). As a result of that, the below table indicates the seven hypotheses of the research.

Table 1: Hypotheses of the research

| | |
|---|---|
| 1 | There is a significant relationship between entrepreneurial intention and attitude toward entrepreneurship in undergrads of public universities |
| 2 | There is a significant relationship between entrepreneurial intention and subject norms in undergrads of public universities |
| 3 | There is a significant effect of statistical significance of perceived behavioral control entrepreneurial intention in undergrads of public universities. |
| 4 | There is a significant effect of statistical significance of leadership skills entrepreneurial intention in undergrads of public universities. |
| 5 | There is a significant effect of statistical significance of entrepreneurial education entrepreneurial intention in undergrads of public universities. |
| 6 | There is a significant effect of statistical significance of entrepreneurial intention entrepreneurial behavior in undergrads of public universities. |
| 7 | There is a significant effect of statistical significance of perceived behavioral control entrepreneurial behavior by entrepreneurial intention - as a mediator variable undergrads of public universities. |

Additionally, the framework is shown below Figure, where the research variables could be classified as follows:

1. **Dependent variable:** Entrepreneurial Behavior (EB)
2. **Mediator:** Entrepreneurial Intention (EI)
3. **Independent variables:** Social Norm (SN), Entrepreneurial Education (EE), Attitude Towards Entrepreneurship (ATE), Perceived Behavioral Control (PBC), and Leadership Skills (LS).

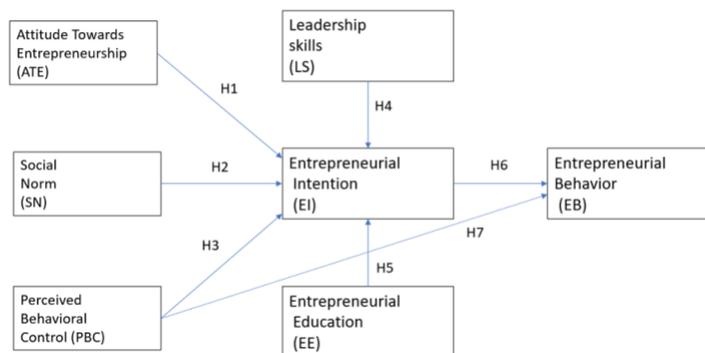


Figure 1: Research Variables

THE RESEARCH ANALYSIS

The quantitative method of the research uses the questionnaire on the undergraduate students of public universities who received training in entrepreneurship (Innov-Egypt) and are considered as the target population of the current research. Technical Characteristics of Population & Sample Size of the research as shown in below table:

Table 2: Technical Characteristics of Population & Sample Size of the Research

| | |
|--|---|
| Population | 5567 University Students who received and succeeded in the entrepreneurship training program – Innov Egypt from public universities across Egypt in the year 2021 |
| Geographical cities | 26 Governorates |
| No of regional units | 7 * according to Egypt’s General Organization for Physical Planning |
| Public Universities | 24 Universities |
| Stratified Sample size | 492 |
| Response rates for similar online survey on public universities students | 84% (Aboshady, et al., 2015) ,83% (Bello, et al., 2017) |

A questionnaire was conducted among students in public universities in all regional units across Egypt who received entrepreneurial training using a stratified sampling technique whereby 672 questionnaires were retrieved. A structural equation model analysis with the Smart PLS software to test the 7 hypotheses



derived from the research model.

The results revealed that all coefficients in the model are positively significant and all hypotheses are supported except leadership skills. It also addressed the link between entrepreneurial behavior and entrepreneurial intentions.

For the assessment of the reflective and formative measurement model, the following measures were used internal consistency reliability, convergent validity, and discriminant validity as follows: composite reliability (CR) was adopted to assess the internal consistency reliability, while the indicator's outer loadings and reflective variable's average variance extracted (AVE) were used for assessing the convergent validity (Hair et al., 2017).

Table3: Results of Measurement Model Assessment

| Latent Variable | Indicator | Loading | CR | AVE | Cronbach Alfa | VIS |
|--|-----------|---------|-------|-------|---------------|-------|
| Attitude Towards Entrepreneurship | ATE1 | 0.675 | 0.927 | 0.646 | 0.907 | 1.614 |
| | ATE2 | 0.824 | | | | 2.443 |
| | ATE3 | 0.841 | | | | 2.652 |
| | ATE4 | 0.901 | | | | 4.326 |
| | ATE5 | 0.875 | | | | 3.620 |
| | ATE6 | 0.762 | | | | 2.234 |
| Entrepreneurial Behavior | EB1 | 0.699 | 0.882 | 0.905 | 0.614 | 1.634 |
| | EB2 | 0.616 | | | | 1.521 |
| | EB3 | 0.763 | | | | 2.187 |
| | EB4 | 0.761 | | | | 2.321 |
| | EB5 | 0.765 | | | | 2.396 |
| | EB6 | 0.746 | | | | 2.451 |
| | EB7 | 0.722 | | | | 2.303 |
| | EB8 | 0.671 | | | | 1.673 |
| Entrepreneurial Intention | EI1 | 0.812 | 0.868 | 0.905 | 0.657 | 1.978 |
| | EI2 | 0.728 | | | | 1.572 |
| | EI3 | 0.857 | | | | 2.565 |
| | EI4 | 0.866 | | | | 2.699 |
| | EI6 | 0.782 | | | | 1.745 |
| Social Norms | SN1 | 0.858 | 0.896 | 0.936 | 0.829 | 2.206 |
| | SN2 | 0.911 | | | | 3.569 |
| | SN3 | 0.907 | | | | 3.256 |
| Perceived Public Control | PBC1 | 0.864 | 0.861 | 0.9 | 0.645 | 2.761 |
| | PBC2 | 0.855 | | | | 2.360 |
| | PBC3 | 0.702 | | | | 1.473 |
| | PBC4 | 0.784 | | | | 2.080 |
| | PBC5 | 0.801 | | | | 1.917 |
| Entrepreneurial Education | EE1 | 0.683 | 0.881 | 0.909 | 0.626 | 1.727 |
| | EE2 | 0.768 | | | | 1.963 |
| | EE3 | 0.82 | | | | 2.423 |



| | | |
|-----|-------|-------|
| EE4 | 0.781 | 2.064 |
| EE5 | 0.872 | 3.024 |

Table 4: Results of the Reflective Construct

| Higher order construct | Reflective indicators | Outer Loading | Indicator reliability | AVE | CR | Cronbach Alfa |
|------------------------|-----------------------|--------------------|-----------------------|-------|-------|---------------|
| | | Cut-off Value= 0.4 | Cut-off values=0.16 | | | |
| Leadership Skills | IS | 0.848 | 0.817 | 0.523 | 0.914 | 0.899 |
| | COM | 0.746 | 0.73 | | | |
| | CS | 0.778 | 0.721 | | | |
| | TS | 0.848 | 0.817 | | | |

Source :Results of Smart PLS of Research

Table 5: Fornell-Larker Criterion Results with Dimensions

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Attitude Towards Entrepreneurship | 0.804 | | | | | | | | | | |
| Cognitive Skills | 0.350 | 0.746 | | | | | | | | | |
| Communications Skills | 0.377 | 0.572 | 0.802 | | | | | | | | |
| Entrepreneurial Behavior | 0.371 | 0.148 | 0.259 | 0.717 | | | | | | | |
| Entrepreneurial Education | 0.665 | 0.347 | 0.411 | 0.469 | 0.791 | | | | | | |
| Entrepreneurial Intention | 0.635 | 0.312 | 0.320 | 0.503 | 0.590 | 0.811 | | | | | |
| Interpersonal Skills | 0.531 | 0.479 | 0.492 | 0.297 | 0.556 | 0.470 | 0.723 | | | | |
| Leadership skills | 0.538 | 0.746 | 0.778 | 0.312 | 0.580 | 0.460 | 0.608 | 0.621 | | | |
| Perceived Behavioral Control | 0.501 | 0.160 | 0.274 | 0.597 | 0.586 | 0.536 | 0.418 | 0.414 | 0.803 | | |
| Social Norms | 0.440 | 0.207 | 0.281 | 0.454 | 0.479 | 0.485 | 0.380 | 0.393 | 0.589 | 0.910 | |
| Task Specific Skills | 0.434 | 0.477 | 0.585 | 0.279 | 0.509 | 0.344 | 0.624 | 0.848 | 0.417 | 0.362 | 0.816 |

Source :Results of Smart PLS of Research



Table 6: Fornell-Larker criterion results without dimensions

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Attitude Towards Entrepreneurship | 0.804 | | | | | | |
| Entrepreneurial Behavior | 0.371 | 0.717 | | | | | |
| Entrepreneurial Education | 0.665 | 0.469 | 0.791 | | | | |
| Entrepreneurial Intention | 0.635 | 0.503 | 0.590 | 0.811 | | | |
| Leadership Skills | 0.538 | 0.312 | 0.580 | 0.460 | 0.621 | | |
| Perceived Behavioral Control | 0.501 | 0.597 | 0.586 | 0.536 | 0.414 | 0.803 | |
| Social Norms | 0.440 | 0.454 | 0.479 | 0.485 | 0.393 | 0.589 | 0.910 |

Source :Results of Smart PLS of Research

Table 7: Results of Heterotrait-Monotrait (HTMT) Ratio of Correlation

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Attitude Towards Entrepreneurship | | | | | | | | | |
| Cognitive Skills | 0.434 | | | | | | | | |
| Communications Skills | 0.467 | 0.785 | | | | | | | |
| Entrepreneurial Behavior | 0.381 | 0.186 | 0.309 | | | | | | |
| Entrepreneurial Education | 0.717 | 0.434 | 0.517 | 0.519 | | | | | |
| Entrepreneurial Intention | 0.705 | 0.394 | 0.404 | 0.546 | 0.654 | | | | |
| Interpersonal Skills | 0.611 | 0.622 | 0.635 | 0.334 | 0.642 | 0.555 | | | |
| Perceived Behavioral Control | 0.562 | 0.208 | 0.349 | 0.669 | 0.676 | 0.617 | 0.496 | | |
| Social Norms | 0.484 | 0.258 | 0.350 | 0.500 | 0.534 | 0.551 | 0.443 | 0.669 | |
| Task Specific Skills | 0.501 | 0.611 | 0.754 | 0.312 | 0.597 | 0.405 | 0.751 | 0.493 | 0.419 |



Table 8: Lateral Collinearity (Predictor-Criterion Collinearity) Assessment

| | EB | EI | LS | PBC | SN | ATE | EE |
|--|-------|-------|----|-----|----|-----|----|
| Attitude Towards Entrepreneurship | | 1.98 | | | | | |
| Entrepreneurial Behavior | | | | | | | |
| Entrepreneurial Education | | 2.347 | | | | | |
| Entrepreneurial Intention | 1.403 | | | | | | |
| Leadership Skills | | 1.632 | | | | | |
| Perceived Behavioral Control | 1.403 | 1.902 | | | | | |
| Social Norms | | 1.638 | | | | | |

Table 9: Research Hypotheses Testing (Direct Effect)

| | Path | Confidence Interval | | | | | | Remarks |
|----|-----------|---------------------|--------|----------|-------|--------|-------|----------|
| | | Coefficient | T-test | P Values | F2 | 5 % | 95 % | |
| H1 | ATE -> EI | 0.046 | 7.766 | 0.000 | 0.131 | 0.280 | 0.431 | accepted |
| H2 | SN -> EI | 0.036 | 3.724 | 0.000 | 0.022 | 0.073 | 0.194 | accepted |
| H3 | PBC -> EI | 0.041 | 3.875 | 0.000 | 0.027 | 0.095 | 0.230 | accepted |
| H4 | LS -> EI | 0.044 | 1.206 | 0.114 | 0.003 | -0.019 | 0.127 | rejected |
| H5 | EE -> EI | 0.048 | 3.419 | 0.000 | 0.023 | 0.082 | 0.239 | accepted |
| H6 | EI -> EB | 0.036 | 7.137 | 0.000 | 0.079 | 0.196 | 0.316 | accepted |

Source :Results of Smart PLS of Research

Table 10: Hypotheses Testing on Mediation

| | Path | Confidence Interval | | | | | Remarks |
|----|-----------------|---------------------|--------|----------|-------|--------|----------|
| | | Coefficient | T-test | P Values | 2.5.% | 97.5.% | |
| H7 | PBC -> EI -> EB | 0.012 | 3.382 | 0.001 | 0.02 | 0.068 | accepted |

Source

Source:Results of Smart PLS of Research

THE RESEARCH DISCUSSION AND CONCLUSION

Entrepreneurial behavior has a considerable focus across a large body of research literature due to the high relevance of the topic for research to economic development. It is based mostly on the proposition that psychological intention is a good predictor of subsequent action. The TPB has been used in the context of entrepreneurship research to identify antecedent constructs for intentions, particularly in the



context of understanding the career choices of young people. Understanding motivation and promoting entrepreneurial behavior among the young generation like university graduating students is very vital to academicians, policymakers, and the nation as a whole. It affects plans related to management choices of new innovation hubs, funds for startups, new entrepreneurial training programs, curriculums of universities, NGOs programs for enhancing entrepreneurship, shaping laws and regulations, and new activities encouraging innovation.

Therefore, this research seeks to examine factors influencing the behavior of students to be entrepreneurs in the future based on the theory of planned behavior as well as examine the role of entrepreneurial education (EE) and leadership skills (LS) in facilitating and explaining entrepreneurial behavior (EB) among undergraduate students in Egypt. Chapter five goes more into the depth of the statistical results by investigating, integrating, and reaching determinations. In addition to the recommendations and implications for entrepreneurial behavior (EB). Suggestions for areas of future research wrap up the chapter.

Entrepreneurship is assumed to be as a strategic international approach to facilitating economic participation among youth. On an individual level, entrepreneurship gives the opportunity to young people the independence and autonomy to pursue their aspirations of establishing startups. In this context investigating the factors that motivate youth entrepreneurial intention amongst students will remain critical to understanding youth drivers and encourage it to grow in a positive way towards entrepreneurship.

This research proposes that leadership skill is not impacting entrepreneurial intentions, using data drawn from a sample of Egyptian undergraduate students of public universities. Thus, Higher education institutions, particularly in a less developed economic context, may seek to raise entrepreneurial intentions amongst student populations aiming at providing practical self-efficacy raising entrepreneurship experience rather than leadership skills in general.

Lastly, the results of this research show the entrepreneurial behavior of university students could be stimulated by providing entrepreneurial consulting and financial support services, continuously fostering an entrepreneurial atmosphere and culture in the university, and promoting government policies that support entrepreneurial activities, all of which could help translate the entrepreneurial intention of university students into entrepreneurial behavior and action.

In sum, our findings enrich the research on the influencing factors of entrepreneurial behavior, provide a theoretical basis for formulating policies to encourage university students' entrepreneurial intention, and help to explore effective ways to enhance entrepreneurial intention and behavior. The expansion of government-led initiatives to stimulate growth and create an environment conducive to entrepreneurship and innovation can be attributed to the startup sector's emergence as a significant contributor.

From this standpoint, this research recommends entrepreneurship ecosystem embrace and build on the increasing interest in Entrepreneurship among young Egyptians by enhancing awareness and capabilities and enabling the business environments including ; (1) encouraging policymakers in governments to coin new laws and regulations that encourage and facilitate the establishment of



startups online with an understanding of the innovative and rapid development of such firms and this will enhance the young entrepreneur's ability to control the environmental barriers thus encourage him/her to open his innovative venture. (2) Encourage innovation in universities and motivate students to try new technologies through collaborations with MNCs. (3) Attract youth to entrepreneurship through positive media coverage, tv-series, and films about young successful entrepreneurs, because it would increase the visibility of successful models and shows how they managed to bridge the difficulties and fulfill their dreams.

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