
How Cognitive Aspects of Potential Entrepreneurs Response to the Political Fluctuations and Economic Crisis in Egypt?

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Abstract

Entrepreneurship has a significant effect on the overall welfare of an economy because it decreases the level of unemployment and helps in fighting poverty, which dominates in the most countries all over the world at this time. Therefore, the contribution of small, and medium enterprises have been recognised by academics and policymakers. However, there are many factors could influence individuals in starting up a new business and one of these significant factors is perceptions. Thus, this study aims to present an understanding of how perceptions could influence Entrepreneurs' Intention (EI) in Egypt by studying the economic and political turmoil in the period between 2008 and 2012. The data which has been used in this study has been obtained from the Global Entrepreneurship Monitor (GEM). To investigate the relationship between the individuals' perception and the entrepreneurship intentions the analysis model follows the logistic regression techniques. The primary results of the empirical analysis are that all types of perceptions under investigation- such as factors of characteristics of individuals' perception, sociocultural perceptions, and economic opportunities- intended to have significant leverage on intentions to start an entrepreneurial venture in this sample. Also, the results support the presumption of the economic and political events in Egypt affect the entrepreneur intentions across the years between 2008 and 2012.

Keywords: Entrepreneurship, cognitive approach, entrepreneurial intention, Egypt.

JEL Classification: L26, D01, O53.

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1. Introduction

Entrepreneurship has a great influence on economic development. The role of entrepreneurship has grabbed the attention of many economists and policymakers who have known that there is a certain effect of entrepreneurship on employment and the Gross Domestic Product (GDP). In addition to them, others have emphasised the importance of the entrepreneur in the process of innovation implementation. Therefore the policy and decision makers in some developed countries and western economies have renewed their interest in coinciding with the amelioration of entrepreneurship averages (Wennekers & Thurik, 1999). Economic growth is an essential figure which important for both in policy-making and economic or sociological research. Especially in Egypt, the attention in economic growth mainly concerned with the high rising rates of unemployment. Thus, the significant contribution of small, and medium enterprises have been recognised by academics and policymakers, because of the obvious addition of the entrepreneurship to the overall welfare of an economy through decreasing unemployment levels and fighting poverty, which dominated in the most countries all over the world at the time.

The objective of this research is to assess the different perception which affects entrepreneurial Intentions (EI) in Egypt. By following the cognitive approach, in this investigation, we try to explain the influence of the external environment on potential and current entrepreneurs' perceptions and motivations. This paper uses surveys that have been conducted by the Global Entrepreneurship Monitor (GEM); surveys of Egypt in 2008, 2010, and 2012. GEM survey considers the individuals' attributes, attitudes, aspirations, perceptions and intentions by asking them questions which related to their behaviours. Moreover, the surveys analyse the determinants and factors that provide a reasonable understanding of an entrepreneurial atmosphere along with the bonds between economic growth and entrepreneurship effectiveness (GEM Egypt National Report 2016).

Egypt suffered for many years from economic troubles and political problems, and instability of the regime. Also, Egypt has gone through many political events in the past few years, which have been followed by many economic changes. That showed many consequences of these developments. As well, there are rapid variations in the economic environment. This research participates in the literature by increasing them to detailed analysis

on Egypt. The discussion is to explore the mechanism, and the reality of two hypotheses. First, whether there is an association between entrepreneurial start-up intentions' probability and other factors or characteristics of individuals' perception, such as the role model of entrepreneurs, risk perception, self-efficacy, and sociocultural perceptions, and economic opportunities. In addition to some of the individual's demographic and socioeconomic characteristics, for instance, age, gender, income level, work status, and the educational attainment. Second, this research tries to understand the fluctuations in the perceptions that could influence entrepreneurs' intention to start up a venture through the economic fluctuations and various political problems in a short period, which may affect in some way or another Egypt's public environmental in the period between 2008 and 2012. So, we will call on these dynamics movement of time effectiveness the "*time effect*".

The research is organised as follows: in the upcoming section, the academic perspective and the theoretical framework are reviewed aside from previous literature on the cognitive aspects of potential entrepreneurship with focusing on the MENA region and Egypt especially. In the Second section a background of Egypt and a brief economic characteristic contains economic profile, and population developments are presented. The third section includes the data and descriptive statistics for the variable in use, and the differences between the main features of potential entrepreneurs and non-entrepreneurs. Finally, the last section provides the methodology and the final results. Also, the findings are presented in the conclusion section.

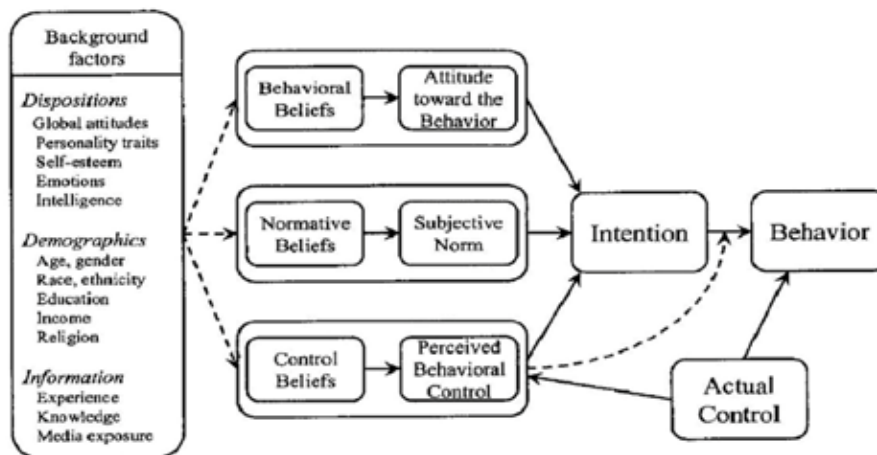
2. Theoretical perspective

The capability to realise the essential purposes of entrepreneurship's intention, also, the way on how the individual behaviour processes through this procedure and to develop interference to handle those procedures, are considered to be important for researchers, policy-makers, and the decision makers to involve them on the study of Economic Sociology and psychology. Two of the most substantial patterns of these fields are the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and the Theory of Planned Behaviour (Ajzen & Fishbein, 1980, 2005; Ajzen, 1991). The Theory of Reasoned Action declares that behaviour as a function of

behavioural intentions and the intentions as well are a function of attitudes and subjective norms. While the Theory of Planned Behaviour has the same ingredients as the Theory of Reasoned Action, in addition to two other elements which are the perceived behavioural control to predict the individual behavioural intentions and behaviour. However, these two theories have recently been integrated into one philosophical theory called the Reasoned Action Approach (Albarracfn, 2007).

Figure 1 shows the mechanism and the procedures of the Reasoned Action Approach (RAA). The RAA -which is the main theoretical framework in this research- is a framework to predict and observe the variation of human social behaviour. The approach affirms that how attitudes shaped by the behaviour, perceived norms and perceived behavioural control, which are influenced by the background factors, in turn, affect people's intentions, whereas intentions are the primary predictor for the people behaviours (Fishbein, Ajzen, Albarracin, & Hornik, 2007).

Figure 1: Reasoned Action Approach



Source: Fishbein, Albarracin, & Hornik. (2007).

On the other hand, the Entrepreneurship Cognitive approach is a kind of research that contains both socio-psychology science and the organisational management. The mission of this approach is to focus on the most important characteristics that could distinguish between the entrepreneurs and non-entrepreneurs (Gartner, 1988; 2002). Cognitive patterns have a superior

explanatory function than the characters or the demographic approaches to entrepreneurship because they take into consideration the individual's behaviour as an outcome of person-situation interactions (Santos, Liñán, & Roomi, 2010). The cognitive approach has notably evolved in many types of research also it helps in explaining the nature of entrepreneurship (Mitchell, Busenitz, Lant, McDougall, Morse, & Smith, 2004; Baron, 2004; Krueger & Carsrud, 1993).

This research highlights the cognitive point of view which tries to give a share in the comprehension of one of the parts of the entrepreneurship procedures; moreover, the analysis on this research follows three approaches influence the individual's intention to launch their projects. These approaches are as follows; the first is the individual perceptions and its effect on entrepreneurship, the second is perceptions of economic opportunity in entrepreneurship, and the final approach is the socio-cultural perceptions on entrepreneurship (Fernández, Berbegal, Velasco, & Expósito, 2017). Krueger (2003) emphasises the fact that human beings are affected by mental operations, like attitudes, motivations and perceptions. Baron (2004) explained, "People need information to accomplish the various tasks and to make decisions or solving problems; through these processes, they acquire, store, transform and use such evidence".

Role models of entrepreneurs and self-efficacy perceptions have been established in the literature and research of entrepreneurial cognitive by many researchers (Kolvereid, 1996; Krueger, 2000; Liñán and Chen, 2009). Bandura (1977) emphasises the importance of this perception be vital in social learning because of perceptions enhance the individual's' behaviour over a cognitive process by four sequential steps: attention, retention, reproduction, and motivation. Regarding Fernández et al. (2009), they define the Role Model Theory as "the theory which simplifies the process of learning by copying the action of other persons through observing them doing it". For instance, Arenius & Minniti (2005) and Scherer, Brodzinsky, and Wiebe (1991) initiate this theory in entrepreneurship research, in addition to describing why individuals who're their parents are entrepreneurs, have a higher probability of becoming entrepreneurs. While Bandura (1982) defined the notion of self-efficacy as "the belief in one's capabilities to perform an action and to attain different outcome if the person thinks that he is capable of successfully implementing as an

entrepreneur". Then he would have a more substantial likelihood of being entrepreneurs or at least showing entrepreneurial motivations and intentions (Krueger and Carsrud, 1993). As well risk perceptions have been applied in research because of its importance of the entrepreneur intention. Simon (2000) illustrates that risk perceptions are a substantial factor which could affect the entrepreneurs' intentions. Then, affect their decision, the high-risk perception is assumed to have an adverse impact on EI. Arenius and Minniti (2005) recognise risk perception as a result of the fear of failure.

Entrepreneurial opportunities are considered as a perception of the economic situation (Fernández et al., 2009; 2010). Countries which own a high level of economic development and an excellent economic cycle are expected to have a certain effect on the foundation of a new firm (Thurik, Wennekers, & Uhlaner, 2002). In the case of the less developed countries, many recorded a higher number of start-ups firms than some developed countries. Wennekers, Thurik, & Reynolds (2005) explained such situation by the high level of welfare and the good economic performance lead to stability in the employment, while the unemployment head to a high rate of new ventures.

Thurik et al. (2002) defines the perceptions of economic as the development in the entrepreneurial opportunities and set of circumstances which assumed by people when the macroeconomics have an impact on the overall level of Entrepreneurial Intentions (EI) and the total start-up average. However, Arenius and Minniti (2005) clarify that the individuals tend to show their entrepreneurial intentions and start-up behaviours relying on their mental processing as well as their perceptions of the presence of economic options and opportunities.

Culture is invented with values and norms as well as ideas which combine into a group of people (Jaén, Fernández-Serrano, Santos, & Liñán, 2017). The culture contains types of feeling, reflection, and acting, which are becoming competent in, participated and shared by people settled in the same social environment. Hofstede (2005) defines culture "as the collective programming of the mind which distinguishes the members of a group of people from others". As indicated by Etzioni (1987), and Liñán and Santos (2007) the way of life may influence entrepreneurship, both through social legitimation and through supporting certain positive suppositions related to the firm foundation on people.

2. Literature review

Entrepreneurship is paramount to advocate the development procedure (Schumpeter, 1934; Hébert & Link, 1989; Guzmán, 1994; Wennekers & Thurik, 1999; Fontela, Guzmán, Pérez, & Santos, 2006). Likewise, Audretsch and Thurik (2001) use a cross-sectional data over time to explain why and how the developed countries are going to a significant change when they shift from a regular economy to an economy based on entrepreneurship and innovation. The results suggest that the level of unemployment decreases when countries move to the entrepreneurial economy. Baumol (2002) explains the transition in growth in the free-market economy, from its inception to entrepreneurship. Also, he adds that entrepreneurship had made a constant and major contribution to the accumulation of the capital growth. Also the independent entrepreneurial innovator continues to play a critical role.

Entrepreneurship is arts, which demand particular individual characteristics. Identifying the importance of the aspects of entrepreneurship is one of the primary objectives of social researchers. Fontela et al. (2006) identify the main feature of activities of entrepreneurial depending on decision-making on financial, managerial, and the booster sphere. They try to find that, to what extent innovation and proactiveness are needed for creativity and further thinking. Also, they focus on the qualities which desired for an effective 'booster' function such as innovation, motivation, and proactiveness. The main findings are the linking of entrepreneurial capacities to the limit with regards to the expectation of building up the requirement for entrepreneurs to obtain skills. These are commonly connected with outstanding efforts, which require aesthetics and a poetical imagination (Fontela et al., 2006).

Wennekers and Thurik (1999) aim to connect entrepreneurship to economic growth, by studying the relation between them. To explore this relationship, they used different elements from different fields like the historical perspective of entrepreneurship, industrial economics, the theory of macroeconomic growth, and the management literature on large corporate organisations. They found that entrepreneurship is becoming more important to the economic growth, because of the globalisation. Moreover, the Information and Communications Technology (ICT) transformation

suggests a requirement for the first change, requiring a considerable reallocation of resources.

Krueger & Carsrud (1993) discussed a model by using social psychology and expands its applicability to the entrepreneurship field. They found that the single best predictor of such behaviour is intentions. Moreover, intentions fashioning counts on actions toward the base behaviour which is evidence of beliefs and perceptions, and that is the base of this research. So, the primary goal is to analyse the role of different attitudes in the fashioning of intentions across the start-up venture (Krueger, 2000; and Baron, 1998). Perceptions are built by the cognitive. Therefore, they are a mental epitome of the outer condition of individuals (Fernández, Liñán & Santos, 2009). Other studies attempted to investigate the impact of the exertion, by using a few perceptions and examine the intentions on the individual level, and on the start-up. Krueger (2000) establishes the intentions-based model, which fosters or inhibits how individuals become aware of perceived opportunities. Another study tries to predict employment status choice, by using a sample of 128 business students, and applying it to the planned behaviour theory. The results of this study show that the planned behaviour theory has a strong consistency to employment status choice intentions in Norway (Kolvereid, 1996).

Harrison & Leitch (1996) indicated that the studies of entrepreneurial cognition need to make a particular position, inside the setting of the studies. Another study by Mitchell, Busenitz, Lant, McDougall, Morse, & Smith (2004) who ask about the domain of entrepreneurial cognition research is it distinctive, inclusive, or some combination. By examining this question they find that the cognition of entrepreneurial studies is a kind of a combination: no less than a mosaic but probably not going to be a hybrid or mixture.

Hattab (2011) found that the prevalence rate of The early-stage Entrepreneurial Activity (TEA) for women varies in MENA regions with low fear of failure. Other studies tried to examine the relationship between education and entrepreneurship. Hattab (2014) examines this relationship in Egypt, and she found the relationship between entrepreneurship education and intentions is positive, but there is no relationship between self-efficacy or distinguished feasibility.

McCormick & Wahba (2000) study entrepreneurship between return migrants in Egypt, based on two factors which are, the locations of their businesses and the different businesses characteristics, besides the inequality of the association between the urban and the rural. They found that there is a positive influence, on the likelihood of investing in a project between return migrants. Moreover, returnees from the urban areas are more probably to invest in a non-farm enterprise comparing to the returnees of the rural areas.

3. Background: The economic profile of Egypt

With evidence of increasing numbers of unemployment- especially after the recent revolution on 25th of January 2011- there is an awareness of the negative consequences of the economic situation in Egypt to which may affect the domestic labour market and the extent to which these unoccupied are successfully integrated into the labour force. The question here, is their intentions to be an entrepreneur and could these intentions change by the variation in the political and economic situation?

Since 2008 Egypt's economy has been encountering for an extended period of uncertainty and instability, this has revealed a great measure of the political turmoil in recent years. The protests continued to increase in intensity in 2011, on 25th of January of this year millions of people had demonstrated in many squares in Egypt, this was after Mubarak has been ousted by the Egyptian army (Acemoglu, Hassan, & Tahoun, 2017). The revolution was followed by an emerging period of political instability included ruling of the Egyptian Military Council in 2011 and a part of 2012, then many elections have been made on several levels, followed by dissolution of the parliament in 2012. Then, the street protests again filled against Mohamed Morsi then the army coup in June 2013. Egypt witnessed the fourth president in less than five years in May 2014 (Korotayev & Zinkina, 2011).

Table 1 shows the changes in Egypt's economic characteristics from 2007 to 2015. According to World Bank data, there was a high increase in the population, from 77.6 million in 2008 to 91.5 million in 2011. Unfortunately, this steady growth of population did not follow with growth in GDP. The population growth raised from 1.73 in 2008 to 2.11 in 2011 and exceeded 2.13 in 2015. While the GDP growth was 7.09 in 2007 then decreased to less than 5% in 2009.

Moreover, it declined to 1.82 in 2011, then raised again in 2015 to 4.2. However, in contrast, the GDP per capita growth decline from 5.25 in 2007 then has a dramatically declined in 2011 recorded -0.31 and reached 2% in 2015. According to the Egyptian national indicators, the number of people who live under the poverty line was very high; this number had increased from 21.6 in 2008 to 25.2 in 2010. In addition to that, the number of unemployment increase by 4% between 2007-2015, reached 12.7% in 2012. Also, there was no increase in the education primary enrolment rate relative to the population in the age of primary enrollment, which means that the numbers of educated people will be the same in the next years. Finally, the inflation rate increased by more than 9% from 2007 to 2008 and then decreased to 10% in 2015 which is still a high percentage.

Table 1: Egypt Economic Characteristics (2007- 2015)

<i>Year</i>	2007	2008	2009	2010	2011	2012	2013	2014	2015
<i>Population per Million</i>	77.6	79.0	80.4	82.0	83.7	85.6	87.6	89.5	91.5
<i>Population growth</i>	1.73	1.75	1.84	1.97	2.11	2.21	2.25	2.22	2.13
<i>GDP growth</i>	7.09	7.15	4.69	5.14	1.82	2.19	2.11	2.23	4.20
<i>GDP per capita</i>	168	206	234	266	281	322	326	336	361
<i>GDP per capita growth</i>	1.3	1.6	9.3	8.0	6.7	6.1	4.5	5.7	4.7
<i>GDP per capita growth</i>	5.25	5.29	2.78	3.09	0.31	0.04	0.17	0.01	2.00
<i>Education enrolment rate primary</i>	98.1	..	98.6	99.0	97.8	99.2	..	98.9	..
<i>Poverty ratio</i>	6	21.6	1	25.2	7	9	1	4	..
<i>Inflation Rate</i>	..	9.3	18.3	11.8	11.3	10.1	7.1	9.4	10.1
<i>Unemployment</i>	9.3	8.7	9.4	9.0	12.0	12.7	13.2	13.2	12.8

Source: World Bank data 2017 Indicators.

4. Data and variables

To examine the relationship between entrepreneurial start-up intentions and the characteristics of individuals' perception, Adult Population Survey (APS) of Egypt for the years 2008, 2010, and 2012 is analysed. The data has been obtained from the Global Entrepreneurship Monitor (GEM) website. GEM data have carried the useful role of different personal perceptions in the entrepreneurial process is presented. In addition to that, an annual evaluation of entrepreneurial activity, aspirations and attitudes across countries at different levels of economic development is presented. The variables which have been used in this research are:

I- The *Entrepreneur Intention*(EI) which is the dependent variable that utilised in this investigation. This variable quantity by asking the individuals "whether they intend to start a business within three years?" (No= 0, Yes= 1).

II- Individual perceptions, here there is three items:

- The first variable is the *Role Model*: the individual was asked "whether they knew someone who had started a business in the two years?" (No=0, Yes= 1).
- The second variable, the *Self-efficacy*: individual answered: "if they believed they have the required skills and knowledge to start a business?" (No= 0, Yes=1).
- The final variable is the *Risk perception*: Respondent was asked "if whether fear of failure would prevent them from setting up a business or not?" (No= 0, Yes= 1).

III- Perceptions on economic variable *Entrepreneurial opportunities*: the individual was asked: "if they think there would be good opportunities to start a firm in the area where they live in the six months following the survey" (No=0, Yes=1).

IV- Fourth variables groups are the *Socio-cultural perceptions*: there are three items also;

- The first variable *Desirable career choice*: variable has been measured by using the questions "most people consider starting a new business a desirable career choice" (No= 0, Yes=1).

- The second variable *Status and respect*: measured by the question “those successful at starting a new business have a high level of both status and respect” (No= 0, Yes= 1).
- The third variable here is the *Public Media*: measures by “do you often stories in the public media about successful new businesses” (No= 0, Yes=1).

V- The last group of variables is the *Control variables*. These variables contain two principal elements of demographic and economic variables; age, education, income level, gender, and finally the work status.

Two different tests are used to discover the strength of the correlation between the variables, the first one is Spearman's test, and the second is the Variance Inflation Factor (VIF). These two tests will help us to overcome the multicollinearity issue and the endogeneity. In table 2, the results from Spearman's test reveal that, for most of the variables there is a weak correlation between the variables, with high statistical significance (table 2). Therefore, the null hypothesis which is a correlation between the paired variables is rejected. The result of VIF indicates that the multicollinearity test is satisfactory when the condition index is below the 20.0 which were suggested by Belsley, Kuh and Welsch (1980). The results of this test support the hypothesis since the highest VIF was 6.22, with condition index equal 2.

Table 2: Spearman's rank correlation coefficients for independent variables (p-value in parenthesis)

<i>Variables</i>	<i>Intention</i>	<i>Role Model</i>	<i>Self- efficacy</i>	<i>Risk perception</i>	<i>entrepreneur Opportunity</i>	<i>Desirable career</i>	<i>respect</i>	<i>Public media</i>
<i>Intention</i>	1.0000							
<i>Role Model</i>	0.1126 (0.000)	1.0000						
<i>entrepreneur Opportunity</i>	0.2419 (0.000)	0.102 (0.000)	1.0000					
<i>Self-efficacy</i>	0.2058 (0.000)	0.1679 (0.000)	0.1903 (0.000)	1.0000				

<i>Variables</i>	<i>Intention</i>	<i>Role Model</i>	<i>Self- efficacy</i>	<i>Risk perception</i>	<i>entrepreneur Opportunity</i>	<i>Desirable career</i>	<i>respect</i>	<i>Public media</i>
<i>Risk perception</i>	-0.1115 (0.000)	-0.0717 (0.000)	-0.1139 (0.000)	-0.1542 (0.000)	1.0000			
<i>Desirable career</i>	0.0325 (0.0274)	-0.0594 (0.0001)	0.0312 (0.0345)	0.0495 (0.0008)	0.0406 (0.0059)	1.0000		
<i>respect</i>	0.0564 (0.0001)	-0.0212 (0.1503)	0.0764 (0.000)	0.0652 (0.000)	-0.0245 (0.096)	0.1536 (0.000)	1.0000	
<i>Public media</i>	0.0195 (0.1861)	0.0175 (0.2344)	0.0701 (0.000)	0.0418 (0.0046)	-0.006 (0.6828)	0.068 (0.000)	0.1058 (0.000)	1.0000

5. Descriptive statistics

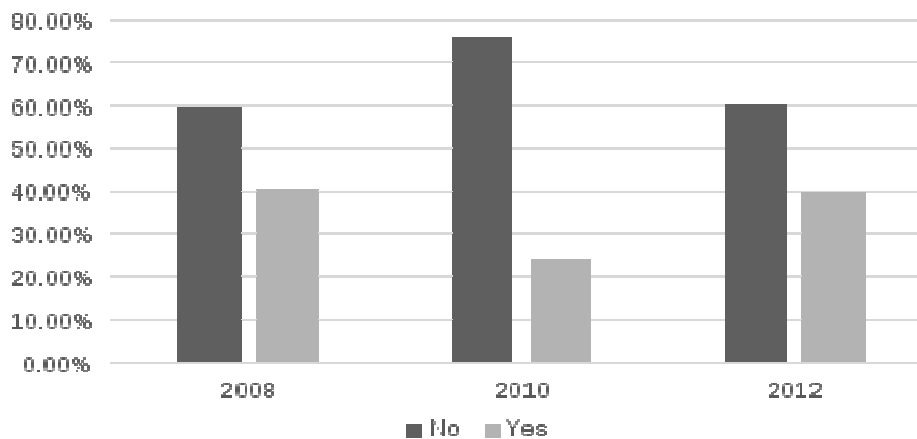
The paper used the Global Entrepreneurship Monitor GEM data because it includes several cognitive items which will help in analysing entrepreneurial intentions at an aggregate level (Reynolds; Bosma; Autio; Hunt; De Bono; Servais, and al. 2005). In Egypt, the entrepreneurial intention was high, in 2008 approximately 41% of the individual in the data have great intentions to start a job. However, its decline in 2010 to be 24%; this can be attributed to political issues. However, the number of individuals who want to start a job increase again in 2012 to reach approximately the same percentage in 2008.

Table (3) shows a descriptive Statistic for those who have the intention to start a new business in 2008, 2010, and 2012 years. In 2008 almost 40% of people had an intention to start a new business. However, this number decreased in 2010 to be 24%, and in 2012 it raised again and recorded 39%. The average of the full sample for the three years was 34%.

Table 3: Simple Statistic of Entrepreneurial intention by Year

<i>Egypt</i>	<i>Entrepreneurial intention</i>					
	<i>NO</i>	<i>%</i>	<i>YES</i>	<i>%</i>	<i>Total</i>	<i>%</i>
2008	1,310	59.36%	897	40.64%	2,207	100%
2010	1,882	75.92%	597	24.08%	2,479	100%
2012	1,390	60.41%	911	39.59%	2,301	100%
Total	4,582	65.58%	2,405	34.42%	6,987	100%

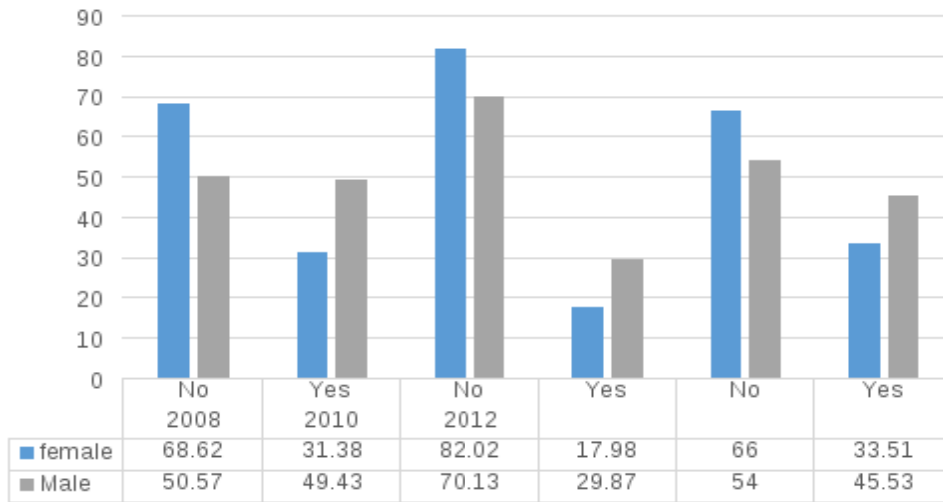
Figure (1) illustrates the percentage of individuals who have the intention to start a new business in the next three years. According to the data the percentage of individuals who answered “No” is 60%, 75%, and 60% in 2008, 2010, and 2012 years, respectively.

Figure 1: Comparison between intentions to start a business by year

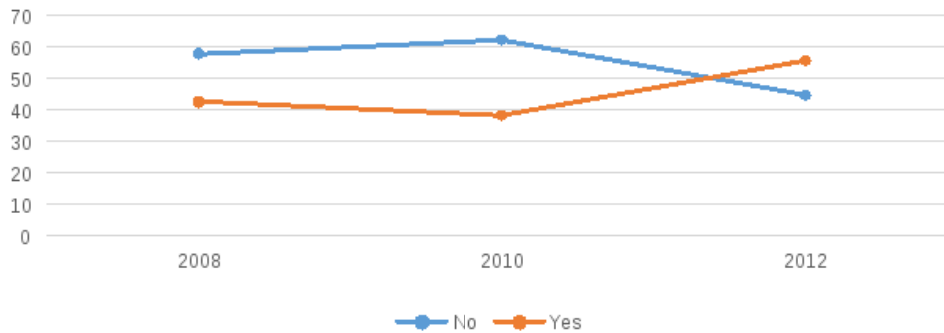
For the individual characteristics Figure (2) shows that there is a variation between males and females when it comes to the intentions of starting a business in the same years. It is notable that females have a higher percentage of rejection than males over the years. Females scored rejection

rate around 70% in 2008, 82% in 2010, and 66% in 2012, while males had recorded a rejection rate of 50% in 2008, 70% in 2010, and 54% in 2012. The distribution of both males and females’ intentions is moving together over the years for rejection and acceptance which means that the “time effect” has an impact on both females and males simultaneously.

Figure 2: Entrepreneurial intention in Egypt by Gender



For the economic perception or the entrepreneur opportunities, Figure (3) shows that in 2008 and 2010 the vast majority of people do not prefer to start a business in the area where they live because there are no opportunities. However, in 2012 their perceptions of the entrepreneur opportunities have raised from 40 % in 2010 to approximately 55 % in 2012.

Figure 3: Perceptions of entrepreneurial opportunities

6. Methodology and empirical statistics

In order to be capable of measuring the impact of entrepreneurial start-up intentions' probability and other factors and characteristics of individuals' perception such as economic opportunities, sociocultural & risk perception, self-efficacy, and role model. In this section, probit regression analyses are used to explain the nature of the relationship between the individuals' perception and the Entrepreneur Intention by two different regression. The first regression has been illustrating in table 4 which provided the likelihood of the Entrepreneur Intention in Egypt in years 2008, 2010, and 2012, with controls added for demographic, social, and individuals' characteristics. Regarding educational attainment, primary education, secondary education, and university graduates. Also, the employment status, income level, and age group categories. While the second regression is a pooled probit regression for the whole sample using the three years as dummy variables, this has been shown in table 5. This table illustrates the marginal effect of factors associated with the probability likelihood of entrepreneurial intention in Egypt. This regression aims to contain the "time effect" and to explain how could the (EI) changes over time. By illustrating its influence of variation of people's background factors and the social norms.

Table 4: Probit regression results showing factors associated with probability likelihood of entrepreneurial intention in Egypt in 2008, 2010, and 2012

	2008	2010	2012
<i>VARIABLES</i>	<i>Entrepreneurship Intention</i>	<i>Entrepreneurship Intention</i>	<i>Entrepreneurship Intention</i>
Main Characteristics			
<i>Gender (Male)</i>	-0.109***	0.024	0.088**
Age Gropes			
group 15 -24 (Ref)			
<i>group 25 -34</i>	-0.019	-0.029	-.022
<i>group 35 -44</i>	-0.087**	-0.076**	-0.087**
<i>group 45 -54</i>	-0.118**	-0.175***	-0.106**
<i>group 55 -65</i>	-0.178***	-0.229***	-0.216***
Employment Status			
<i>Not Working</i>	---		
<i>(1) Part-T / Full-T</i>	-0.028	-0.053*	0.076*
<i>(2) Retired</i>	0.026	0.007	0.045
Education Attainment			
<i>No Education</i>			
<i>(1) Primary</i>	---	-0.094**	0.068
<i>(2) Secondary</i>	0.014	-0.033	0.029
<i>(3) University</i>	0.029	-0.034	0.374**

	2008	2010	2012
<i>VARIABLES</i>	<i>Entrepreneurship Intention</i>	<i>Entrepreneurship Intention</i>	<i>Entrepreneurship Intention</i>
<i>Income Level</i>			
<i>Low</i>			
(1) <i>Medium</i>	0.034	-0.001	0.044
(2) <i>High</i>	0.029	0.068**	0.059
<i>Individual Perception</i>			
<i>Role Model</i>	0.022	0.072***	0.010
<i>Self-efficacy</i>	0.023	0.126***	0.112***
<i>Risk perception</i>	-0.007	-0.013	-0.075***
<i>Economics Perception</i>			
<i>entrep. Opport.</i>	0.179***	0.117***	0.079***
<i>Socio-cultural perceptions</i>			
<i>Desirable career</i>	0.037	0.019	0.102***
<i>respect</i>	0.125***	-0.025	0.121***
<i>Public media</i>	0.054**	0.029	0.057**
<i>Observations</i>	794	1,789	1284
<i>R²</i>	0.146	0.109	0.072
<i>Log Likelihood</i>	-325	-954	-824

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

7. Results of Entrepreneur Intention in years 2008, 2010, and 2012

Table 4 shows that the probability of males' intention to start a new business is 10.9% in 2008 lower comparing to females, while in 2012 the result is not statistically significant which means there are no differences

between both. Thus confirming the validity of the prior assumption that the “time effect” has an impact on both females and males together. In 2012, the probability of the intention to start a new business for males changes to positive and reached 8.8% compared to females.

Across the years, the age has increased significantly with a negative probability for all older age groups by order comparing to the youngest reference group between 15 to 24 years old except the group between 25 to 34 years old. Which make sense on the assumption that the two groups represent one generation (between 18 and 34) in one single period. Also, the results show that work as a part or full time decreased the likelihood to start anew business by 5.3% in 2010, but it increased the likelihood in 2012 by 7.6% than not working people. However, in 2008 there are no differences among the three groups as well between retired people or students comparing to not working people across the three years. The education has an important role on intentions in 2012 the university graduates are more likely to start a business from those who have no education by 37.4, but for 2010 people with the primary school have less probability of 8.6%. The high-income group has a higher probability to start a new venture compared to the low-income group by 6.8% in 2010, while there are no differences among the three groups in the rest years.

Moreover, the cognitive aspects are represented by the main individual perceptions, so the individual role model has a significant positive association in 2010 by 7.2% which means that the individuals have a higher probability of being an entrepreneur if they knew someone who had started a business. The self-efficiency variable had a statistically significant level of probability at 12.6%, and 11.2% for the years 2010, and 2012 respectively. The third variable in this group of the analysis is fear of failure “*Risk perception*” it decreases the probability by 7.2% for 2012.

The second factor in this analysis is Entrepreneur Opportunities it significantly increased the likelihood to start a new business by 17.9% in 2008, but this number decreased to 11.7% in 2010, and more even decreased to 7.9% in 2012, with fears of unstable economic conditions which linked to political events. The last factor is Socio-cultural perceptions which have been presented by three variables. The desirable career variable has a positive proportion in 2012 around 10.2%. The second variable is the respect variable; it signed 12.5% in 2008 and 21.1% in 2012. The last

variable is the public media scored, a definite proportion of 5.4% in 2008 and 5.7% in 2012.

8. Results of time effect

Table 5 presents a pooled probit regression for all years Marginal Effect of Factors Associated with probability likelihood of Entrepreneurial Intention in Egypt. The idea behind this section is to find to what extent the impact of time on entrepreneurship opportunities. In other words, an attempt to explain the differences among people's intentions to start a new venture through years under investigation.

First Model, the baseline model, controls the educational attainment as well as the main characteristics (age groups, gender, employment status, and income level). At higher levels of educational attainment, there is a higher probability of starting a new business. Though, the only statistically significant association between education and entrepreneur intention is noticed among University graduates by 5.6% than no education category. However, the other education groups do not differ than each other. In general, males have a higher probability by 11.6% than females. Moreover, high-income individuals have a better chance to start a business than the low income by 5.7%.

Table 5: Probit regression results showing factors associated with probability likelihood of entrepreneurial intention in Egypt

<i>VARIABLES</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6**</i>
	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>
<i>Main Characteristics</i>						
<i>Gender (Male)</i>	0.116***	0.052***	0.055***	0.045**	0.016	0.012
<i>Age Gropes</i>						
<i>group 15 -24 (Ref)</i>						
<i>group 25 -34</i>	-0.035	-0.043*	-0.026	-0.021	-0.020	-0.019
<i>group 35 -44</i>	-0.098***	-0.114***	-0.098***	-0.090***	-0.086***	-0.086***
<i>group 45 -54</i>	-0.176***	-0.197***	-0.174***	-0.171***	-0.142***	-0.141***
<i>group 55 -65</i>	-0.255***	-0.267***	-0.249***	-0.255***	-0.219***	-0.218***
<i>Employment Status</i>						
<i>Part-T / Full-T(Ref)</i>						
<i>(1) Not Working</i>						
	-0.013	0.006		-0.001	0.009	-0.014
<i>(2) Retired</i>						
	-0.039*	-0.007	0.031	0.040	0.014	0.016
<i>Education Attainment</i>						
<i>No Education (Ref)</i>						
<i>(1) Primary</i>						
	-0.031	-0.009	-0.011	0.013	-0.031	-0.034
<i>(2) Secondary</i>						
	-0.002	-0.011	-0.013	-0.005	0.004	0.002
<i>(3) University</i>						
	0.056**	0.115***	0.127***	0.288***	0.020	0.032
<i>Income Level</i>						
<i>Low (Ref)</i>						
<i>(1) Medium</i>						
	-0.001	-0.021	-0.005	-0.024	0.016	0.016
<i>(2) High</i>						
	0.057***	0.025	0.034*	0.004	0.060***	0.060***

VARIABLES	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6**</i>
	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>	<i>EI</i>
Individual Perception						
<i>Role Model</i>		0.074***	0.053***	0.044***	0.041***	0.041***
<i>Self-efficacy</i>		0.170***	0.141***	0.124***	0.102***	0.103***
<i>Risk perception</i>		-0.059***	-0.045***	-0.055***	-0.034**	-0.033**
Economics Perception						
<i>Entrep. Opportunity</i>			0.211***	0.188***	0.119***	0.119***
Socio-cultural perceptions						
<i>Desirable career respect</i>				0.063***	0.049***	0.047***
<i>Public media</i>				0.052**	0.070***	0.068***
				0.023	0.043***	0.044***
Years effect						
<i>2008 (Ref)</i>						
<i>2010</i>					-0.47***	-0.460***
<i>2012</i>					-0.298***	-0.284***
Observations	5346	4658	4172	3618	3,867	3,867
R²	0.048	0.085	0.122	0.124	0.192	0.195
Log Likelihood	-3306	-2841	-2447	-2154	-2153.	-2146

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

** Model 6 with the interaction term between economic opportunity perceptions and the year dummy

Model 2, with individual perception, role model, self-efficacy, and risk perception are controlled. The model indicates that the role model and self-efficacy have a significant effect and it increases the likelihood of being an entrepreneur by 7.4% and 17% respectively. Risk perception decreases the probability of starting a business by 5.9%. Males have a higher probability than females in starting a new business with 5.2%. While age groups have a negative effect when, they get older their intention to be an entrepreneur decrease in comparison to the youngest age group by 4.3%, 11.4%, 19.7%, and 26.7% respectively for the four age groups as well as the other models of regression. University graduates have a better chance to be an entrepreneur by 11.5% compared to no education category, and there are no differences among income groups.

The economic perception variables added in Model 3; we get almost the same results as in model 2 with some changes. The high level of income becomes more significant in increasing the likelihood of being an entrepreneur by 3.4%. Moreover, University graduates have more likelihood of 12.7%. For the added variable perception of economic opportunity, it has a positive marginal effect of 21.1%. Moreover, for Role Model, Self-efficacy, and Risk perception their probability decreased than Model 2 scored 5.3%, 14.1%, and -4.5%. In Model 4, the socio-culture perceptions, desirable career, respect, and public media are added. By adding those variables, the probability of having a university degree increases the likelihood of being an entrepreneur by 28.8%. For the socio-culture variables, the desirable career and perception of respectful career increases the probability of starting a new business with 6.3% and 5.2% respectively. While there is no difference in this model of the effect of public media.

In Model 5, the years were added as dichotomous variables, to measure the hidden effect of time. So 2010, 2012 have been added to the model, and 2008 was the reference year. The age groups have a negative and significant impact on entrepreneur intentions, while the high-income category became more efficient compared to those with low income by 6%. The economic opportunity became less efficient with marginal effect 11.9%, Socio-cultural perceptions variables respect, and public media became more efficient, their probability increases by 2%, but desirable career decreases by 1.2% but it still has a positive and significant effect on being an entrepreneur by 4.9% compared to Model 4. Moreover, the year's effect is evident, 2010 records a

negative probability of 46% compared to 2008, while 2012 records less probability than 2008 by 28.4%. When we added interaction between years and the economic opportunities in Model 6, we have the same results as in Model 5 with small changes. However, controlling for years only may overestimate their effect, so the interaction term has decreased the effect of 2010 and 2012 by 0.1% compared to Model 5. Also, the interaction raised the goodness of fit for the whole Model by 0.3% and the R^2 reached 19,5 %.

Furthermore, the "time effect" is observed in Model 5 and 6. For instance, the probability of males over females is decreasing when we add more variables, for the first four models gender is significant, while in Model 5 and six appeared not to be significant which means that the time has affected both gender equally. Moreover, University degrees have a strong significant impact on being an entrepreneur without the time effect, but when control for the years' effect this association disappeared. On the other hand, people with high income have a highly significant probability of starting a new business with the time effect comparing to the other models. Finally, for the other variables, there are no significant changes between the six models.

9. Conclusion

This study tries to understand the fluctuations in the perceptions through the economic and political turmoil in Egypt which can influence the potential individuals to start up a new venture, in the period between 2008 and 2012, by using GEM data for 2008, 2010, 2012 years. Our first research question concerned the different perceptions which affect Entrepreneurial Intentions (EI) in Egypt. In addition to demonstrating the impact of the external conditions on potential and current entrepreneurs' perceptions and motivations. By analysing the characteristics of individuals' perception, such as the role model of entrepreneurs, risk perception, self-efficacy, and sociocultural perceptions, and economic opportunities. As well as the individual's demographic like age, gender, income level, work status, and the educational attainment. The main finding from the empirical analysis was that, the three factors which related to perceptions intended to have a significant impact on intentions in starting up a new business. Also, Youth between 18 and 35 have the best fortune to start an entrepreneurial venture. Although all economic conditions, entrepreneurs always have an optimistic

view of the economy. The comparison of the three years is explaining the economic situation that worsened and reached the peak in 2010, which cast a shadow over the findings for the years 2008 and 2010.

The second research question attentive to the fluctuations in perceptions that could influence entrepreneurs' intention to start up a venture through the economic volatility and various political problems in this short period, and the "time effect" of this variation on potential entrepreneurs.

The results indicated that the economic and political events which happened in Egypt from the period 2008 to 2010 had a significant effect on creating a new venture. In addition to that, socio-cultural have a lower influence compared to the others variables of entrepreneurs' intention; this could be due to the environment in creating a new business in Egypt makes the socio-cultural factors, insignificant for the individuals. The "*Time effect*" has a powerful and influential on all variables especially on the demographic characteristics which mostly erased its impact.

This research follows the famous theory of Fishbein & Ajzen (1975) whose invented it in the beginnings of 70th. The Reasoned Action Approach is the combination of two theories which are The Theory of Reasoned Action and the Theory of Planned Behaviour. This approach aims to predict and observe the variation of human social behaviour, as well to assert that how attitudes shaped by the behaviour.

The cognitive approach has notably evolved in many types of research also it helps in explaining the nature of entrepreneurship, The mission behind this approach is to focus on the most important characteristics that could distinguish between the entrepreneurs and non-entrepreneurs. The entrepreneurship cognitive approach is a kind of research that contains both socio-psychology science and the organisational management.

However, the study has some limitation which is that; the sample size decreased when we control for more variables this could restrict the efficacy of the results obtained. As mentioned, the importance of these types of research for policymakers. According to the findings, there are three major recommendations. First, more funding for vocational and secondary education would increase the potential entrepreneurs since the concentration on starting new ventures are almost with the university graduates. Second, the policy-makers should build more training programs in entrepreneurial

and organisational management for youth; this would raise the self-efficiency and the experience for the young entrepreneurs. Finally, public media has a leading role in inspiring people, so public media requires to take advantage of the people's positive and optimistic view of the economy.

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