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Impact of Entrepreneurship Education on Entrepreneurial Intentions of University Students in Egypt

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Abstract

The main objective of the study was to investigate the impact of entrepreneurship education on the entrepreneurial intentions of university students to start a new venture using Linen's model. The methodological approach involved analysis of a paper and pencil close ended questionnaire distributed to undergraduate students in their last year in a private Egyptian university from three faculties. The findings suggest positive relationship between entrepreneurship education and intentions and perceived desirability while no relation existed with perceived feasibility or self-efficacy. Given the significance and importance of entrepreneurship, it is desirable to reform the educational system to encourage creativity and innovativeness of students.

Keywords

entrepreneurship, education, entrepreneurial intentions, perceptions, attitudes

Despite no universally accepted definition of the term, entrepreneurship has been seen as a process, action or an activity to convert an idea into a

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value added product or service. Shane and Venkataraman (2000) defined the term as the discovery, evaluation and exploitation of an opportunity, while Meredith, Nelson and Neck (1996) defined entrepreneurs as people who have the ability to see and evaluate business opportunities; to gather the necessary resources to take advantage of them; and to initiate appropriate action to ensure success. This behaviour would be best predicted by the entrepreneurial intentions (Liñán, Rodríguez-Cohard & Rueda-Cantucho, 2010). Several empirical studies have found out that a person's intention to become an entrepreneur offers the best predictor of his/her actual engagement in entrepreneurship in the future (Hamidi, Wennberg & Berglund, 2008).

Entrepreneurial intentions can be defined as a state of mind directing and guiding the actions of individuals towards the development and implementation of new business concepts (Bird, 1988). The intentions to carry out certain behaviour are shaped and affected by different factors, such as, needs, values, wants, habits and beliefs (Lee & Wong, 2004); a set of cognitive variables (Ajzen, 1991) and situational factors (Liñán & Chen, 2006). Past research indicates that one of the key instruments to increase entrepreneurial attitudes of both potential and nascent entrepreneurs is entrepreneurship education (Liñán et al., 2010) which is strongly related to intention (Noel, 1998) and inculcation of a range of skills and attributes aimed at leveraging the entrepreneurial behaviour among recipients (OECD, 2009). It has an important effect on students' propensity to start-up a firm (see Do Paco, Ferreira, Raposo, Rodrigues & Dinis, 2011) and increases their interest in entrepreneurship as a career choice (Wilson, Kickul & Marlino, 2007).

Recent research has paid increasing attention to entrepreneurship promotion among university graduates (Liñán & Chen, 2006). The majority of this research has focused on developed countries (Nabi & Liñán, 2011). Thus, a main objective of the current study is to add to the body of research through studying the relation between entrepreneurship and education in a developing country, namely, Egypt.

In Egypt, annually hundreds of thousands of school leavers, university graduates and vocational education and training institutes' graduates enter the job market searching for first jobs. And in most of the cases they fail. For many, entrepreneurship can be an alternative career choice, provided that prior intention exists. Over the past five years, more attention was given to spread entrepreneurship among students,

specifically through vocational training and formal education systems. Nevertheless, these initiatives have not been examined closely for evidence of influence. Thus, another main objective of the study is to assess whether entrepreneurship education has an impact on the entrepreneurial intentions of university students in Egypt to start a new venture or not and to what extent it shapes these intentions. The research is built on Liñán's model (2004), which integrates Ajzen's the Planned Behaviour Theory (1991) and Shapero and Sokol's Theory of the Entrepreneurial Event (1982).

Theoretical Framework and Research Hypotheses

Although, there is no universally accepted definition of entrepreneurship, there is an agreement that it is a process entailing recognition of a need, exploiting an opportunity to fulfil the need and building an enterprise around it. This behaviour would be best predicted by the entrepreneurial intentions (Liñán et al., 2010). For some scholars, venture creation is an outcome of intentions (Maina, 2011).

Entrepreneurial intention is a determinant element to perform entrepreneurial behaviour (Pribadi, 2005). It is a state of mind which directs and guides the actions of individuals towards the development and implementation of new business concepts (Bird, 1998). The intention to carry out a given behaviour can be predicted by the person's attitudes towards that behaviour (Maina, 2011; Pribadi, 2005), that is, whether the performance of this behaviour is positively or negatively valued. These attitudes converge with situational factors to drive or hinder the establishment of new businesses (Boyd & Vozikiz, 1994). According to London (1983) situational factors include prior exposure to entrepreneurship, availability of role models and social attitudes towards entrepreneurship; all together are likely to have a positive bearing on individual's decision to venture into business.

According to Maina (2011: 448) 'entrepreneurs discover entrepreneurship opportunities depending on the information they already have'. This information can be obtained from education programmes that aim at building knowledge and skills either 'about' or 'for the purpose of' entrepreneurship, generally, as a part of recognised education programmes at primary, secondary or tertiary level educational institutions

(Corduras et al., 2010). Enterprise education may, therefore, have a positive impact on entrepreneurial intentions by providing entrepreneurial skills and knowledge (Peterman & Kennedy, 2003; Rae, 2006).

A prior research in Anglo-Nations has demonstrated marked differences between students who are intending to be entrepreneurs and those who are not (Levenburg & Schwarz, 2008). Henderson and Robertson (1999) found that 67 per cent of those studying entrepreneurship expressed a desire for self-employment. A key assumption under entrepreneurship education is that entrepreneurial skills can be taught and are not fixed personal characteristics (Oosterbeek, Van Praag & Ijsselstein, 2007), which complies with Drucker's (1985) view of entrepreneurship as a discipline and like any discipline it can be learned, and Rushing's (1990) contention that entrepreneurship education can enhance and develop traits that are associated with entrepreneurship and provide skills needed to start businesses.

Liñán (2004) proposed that the education of an entrepreneur should be based on strengthening the participant's intention of becoming an entrepreneur. He integrated the two theories of Ajzen's the Planned Behaviour Theory (1991) and Shapero and Sokol's Theory of the Entrepreneurial Event (1982) into an entrepreneurial intention model by adding the additional element of entrepreneurial knowledge acquired through education. The Theory of Planned Behaviour (TPB) explains the individual's actions in terms of intentions through establishing a link between attitudes and behaviour. It is based on the premise that much of human behaviour is planned and, therefore, predicted by intention towards that behaviour (Izquierdo & Buelens, 2008), especially in cases where the behaviour is difficult to observe, rare and involves unpredictable times lags (Basu & Virick, 2008). TPB includes three components that predict behavioural intentions (Miller, Bell, Palmer, Gonzalez & Petroleum, 2009): (1) Personal attitude towards outcome of behaviour: The degree to which a person has a favourable or unfavourable evaluation of behaviour (Ajzen, 1991). (2) Perceived social norm (subjective norms), or pressure to perform the behaviour (Ajzen, 1991). (3) Perceived behavioural control—the perception of ease or difficulty of performing certain behaviours (Ajzen, 1991). In more recent work, Ajzen (2002) affirmed that the measures of perceived behavioural control need to incorporate self-efficacy (dealing largely with ease or difficulty of performing the behaviour) and controllability (the extent to which performance is up to the actor).

Shapero and Sokol (1982) stated that firm creation is the result of the interaction among contextual factors, which would act through their influence on the individual's perceptions. The consideration of the entrepreneurial option would take place as a consequence of some external change (appreciating event). The person's answer to that external event will depend on his/her perception of perceived desirability and perceived feasibility. Whereas feasibility is built around perceived competency to carry out a specific behaviour, the desirability relates to how personally rewarding the behaviour/task is perceived to be (Cooper & Lucas, 2008); both are recognised to have a positive relation with entrepreneurial intentions.

The integration of the two theories results in combining personal attitude and perceived social norms under perceived desirability, while perceived feasibility is represented by self-efficacy. Controllability is not a part of this model as evidence showed that self-efficacy is superior to controllability in predicting intentions and behaviour (Rhodes & Courneya, 2003). This is supported by Boyd and Vozikis' (1994) supposition that entrepreneurial intentions are stronger with a growing degree of entrepreneurial self-efficacy due to the presence of entrepreneurial role models in close relatives (see Figure 1).

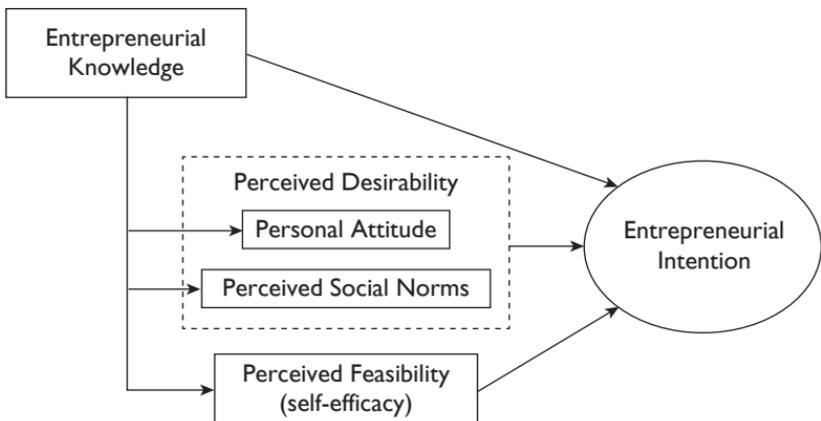


Figure 1. Linen's Entrepreneurial Intention Model

Source: Liñán (2004: 6, Figure 2).

Hypothesis

In the light of literature and Liñán's model, the research aims at investigating the following hypotheses:

- H1a: Students who received entrepreneurship education will be more driven towards starting their own ventures (higher intention) than students who did not receive entrepreneurship education.
- H1b: Exposure to entrepreneurship education will influence students' perceived desirability of entrepreneurship.
- H1c: Exposure to entrepreneurship education will influence students' perceived feasibility of entrepreneurship.
- H2: Students' perceived desirability of entrepreneurship will influence their entrepreneurial intentions.
- H3: Students' perceived feasibility of entrepreneurship will influence their entrepreneurial intentions.

Method

This study assesses the impact of a dedicated entrepreneurship education module offered to a cohort of undergraduate students within an Egyptian university on their entrepreneurial intentions. The module is offered over 14 weeks and covers the definitions and characteristics of entrepreneurs in order to help students identify the entrepreneur in themselves to generate ideas for a business and ultimately produce a business plan to take their idea into the market.

Sample

Participants in the study consisted of students who were, at the time of the survey, in their Honours level at the British University in Egypt from three faculties, Engineering, Business Studies (BS) and Computer Science (CS). Students at this level start contemplating different occupational decisions including starting their own businesses. Moreover, they fall in the age group that is the second most entrepreneurially active group (18–24) in Egypt (Hattab, 2008). The numbers of students in their

last year in the three faculties were: BS students (171), Engineering students (156) and CS students (49).

The rationale behind the choice of the three faculties was to compare between students who were exposed to formal education in entrepreneurship (BS and CS) and who were not (Engineering) to find out whether there was any significant difference in intentions as a result of studying entrepreneurship or not. Another comparison conducted was between CS students before and after their exposure to the formal education of entrepreneurship, early in the semester and at the end of semester to see if their entrepreneurial intentions have been affected by entrepreneurial education or not.

Data Collection Tool

Data were collected via paper and pencil close ended questionnaire which was designed in order to measure those variables that have an impact on entrepreneurial intentions. These items were adapted from past research (for example, Ajzen, 1991; Brid, 1998; Krueger, 1993; Liñán, 2004; Liñán et al., 2010).

The questionnaire was distributed to all students at Honours level (376 students); only 250 sets were returned back, yielding a response rate of 66.5 per cent. However, only 180 sets were found completed; thus, 70 sets were discarded.

In this study, the perceived desirability was identified as the combination of personal attitude, which was defined as the individual's assessment of the value of entrepreneurship and the perceived social norms, which was defined as expectation or pressure exerted by family, friends and society on the students not to create their own enterprises; while perceived feasibility was represented by self-efficacy, which was defined as the individual's confidence that they can successfully engage in entrepreneurial behaviour. All items were belt on 5-point Likert-type scales.

Pre-analysis Tests

Before proceeding with analysing the data obtained through the questionnaire, the research conducted reliability analysis and internal

Table 1. Reliability and Consistency Analysis of Personal Attitudes, Social Norms, Self-efficacy and Intentions Constructs for Egyptian University Students

Construct	Indicator	Corrected Correlation	Item-total	Cronbach's Alpha
Personal Attitude	7a	0.366		0.751
	7d	0.616		
	7e	0.577		
	7i	0.533		
	7l	0.499		
Perceived Social Norm	8a	0.264		0.563
	8b	0.252		
	8c	0.350		
Perceived Behavioural Control (Self-efficacy)	9a	0.390		0.709
	9b	0.560		
	9e	0.368		
	9h	0.392		
	9j	0.438		
	9l	0.439		
Intentions	11a	0.547		0.813
	11c	0.552		
	11d	0.672		
	11i	0.622		
	11k	0.573		
	11l	0.476		

Source: Generated by Author using SPSS.

consistency check (Cronbach's alpha) to exclude the inappropriate items. The following items were retained (see Table 1).

The Cronbach's alpha of the constructs relating to personal attitude, perceived behavioural control and intentions are 0.751, 0.709 and 0.831, respectively, which is according to rule of thumb is good (George & Mallery, 2003). However, for perceived social norms, the Cronbach's alpha value falls in the questionable range (< 6).

Results

Profile of Respondents

A total of 182 respondents completed the questionnaire and were subjected to analysis, of which 54.4 per cent were males, 42.3 per cent were females and 3.3 per cent did not mention their sex. In terms of faculties, 51.1 per cent of respondents were Engineering students, 17.4 per cent were CS students and 31.5 per cent were BS students. With regard to studying the entrepreneurship module, 50 per cent said no, they have not previously taken a class in entrepreneurship as opposed to 49 per cent who said yes. 66.5 per cent said they personally know an entrepreneur, as opposed to 33.5 per cent who said no. In terms of intentions to start to a business, 15.4 per cent said they never thought of creating or founding their own business, 13.7 per cent said they did not have the thought of starting their own business but they intend to join their family business, 34.1 per cent said they have the thought, but they are still not sure if they will pursue this, 22 per cent said they are serious about starting their business and 14.8 per cent said they are determined to found their own business and are clear about it.

Testing Hypotheses

The analyses were conducted in several stages. The first stage is to test H1a, H1b and H1c to investigate the impact of education on intentions, perceived desirability and perceived feasibility of entrepreneurship.

Before proceeding further with testing the hypotheses, normality test was conducted. Since the significance value of the Shapiro-Wilk test is below 0.05 then the data significantly deviate from a normal distribution (see Table 2), hence the Mann-Whitney U-test was used to test the hypothesis.

Table 3 shows the mean rank and sum of ranks for the two groups tested at significance level (α) = 0.05. Initially it can be said that the students who studied entrepreneurship showed higher levels of entrepreneurial intentions and perceived desirability compared to students who never studied entrepreneurship, showing that mean rank is higher for the

Table 2. Test for Normality of the Constructs

	Shapiro-Wilk		
	Statistic	df	Sig.
Entrepreneurial Intentions	0.903	178	0.011
Perceived Desirability	0.562	178	0.000
Perceived Feasibility	0.610	178	0.045
Exposure to Entrepreneurship Education	0.636	178	0.000

Source: Generated by Author using SPSS.

Note: df: degree of freedom.

students who said yes, whereas perceived feasibility was lower among those students.

Results of Table 3 (combined with that of Table 2) were used to accept/reject the hypotheses. H1a will be accepted as the p -value (α) = 0.000 < 0.05 and the sum of ranks for the group who studied entrepreneurship > Wilcoxon W. Hence, it is confirmed that entrepreneurship education has an impact on the entrepreneurial intentions of university undergraduate students. Also H1b is accepted as the p -value (α) = 0.001 < 0.05 and the sum of ranks for the group who studied entrepreneurship > Wilcoxon W; hence, it is confirmed entrepreneurship education has an impact on the desirability of creating a business. H1c is rejected as the p -value (α) = 0.624 > 0.05 and the sum of ranks for the group who studied entrepreneurship < Wilcoxon W; hence, entrepreneurship education does not impact the level of feasibility.

The paired Samples t-Test was conducted to complement the hypotheses testing, where unit of analysis was the CS students before and after being exposed to entrepreneurial education. The assumption is there is no difference before and after exposure to entrepreneurship education. The analysis reveals there is a difference in students' intentions to start a business as well as in perceived desirability before and after exposure to entrepreneurship (see Table 4); thus, null hypothesis is rejected. Regarding the feasibility of creating a business, the p -value = 0.464 > 0.05; hence, the null hypothesis is accepted that difference does not exist.

In the second stage, multiple regression analyses were conducted to test hypotheses 2 and 3. As a start, p -value of the F -test is checked to see

Table 3. Ranks of the Constructs

	Have You Studied Entrepreneurship Before?	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
Perceived Desirability	No	91	78.84	7174.00				
	Yes	91	104.16	9479.00				
	Total	182			2988.000	7174.000	-3.254-	0.001
Intentions	No	91	77.53	7055.00				
	Yes	91	105.47	9598.00				
	Total	182			2869.000	7055.000	-3.591-	0.000
Perceived Feasibility	No	91	93.41	8500.00				
	Yes	91	89.59	8153.00				
	Total	182			3967.000	8153.000	-0.491-	0.624

Source: Generated by Author using SPSS.**Notes:** N: Observations and Z: z-test value.

Table 4. Paired Samples t-Test

Item	M		Std. Deviation		t.	p-value (Sig.)
	Before	After	Before	After		
Intention to create a business	17.1	17.3	4.8	5.2	1.377	0.048
Desirability of creating business	15.6	16.9	2.97	2.91	1.75	0.009
Feasibility of creating business	26.30	25.66	2.7	3.64	0.743	0.464

Source: Generated by Author using SPSS.

Notes: M: Mean and t: t-test value.

Table 5. ANOVA Analysis for the Desirability and Feasibility of Starting a Business

F	R Square ^b	Model	Unstandardised Coefficients		Standardised Coefficients		T	Sig.
			B	Std. Error	Beta			
0.000	0.954	1	Desirability	0.389	0.050	0.577	7.824	0.000
			Feasibility	0.409	0.074	0.407	5.520	0.000

Source: Generated by Author using SPSS.

Notes: F = F-test value, B = Beta and T = t-test value.

if the overall model is significant. With a *p*-value of zero (Table 5), the model is statistically significant. The *R*-squared is 0.954 (Table 5), meaning that approximately 95 per cent of the variability of dependent variable is accounted for by the variables in the model. In this case, the adjusted *R*-squared indicates that about 95 per cent of the variability of intentions is accounted for by the variables in the model (desirability and feasibility).

The *p*-value of desirability and feasibility coefficient is zero (< 0.05), indicating the significance of these variables (Table 5). The *B* value for each of the independent variables is positive, signifying that any increase in each of these variables will have a positive impact on the dependent variables (intentions); therefore, H2 and H3 are accepted, that is, the perceived desirability and feasibility have an impact on intentions to start a business.

At the end, multiple correlation analysis was conducted to measure the strength of the relation between the different variables (see Figure 2).

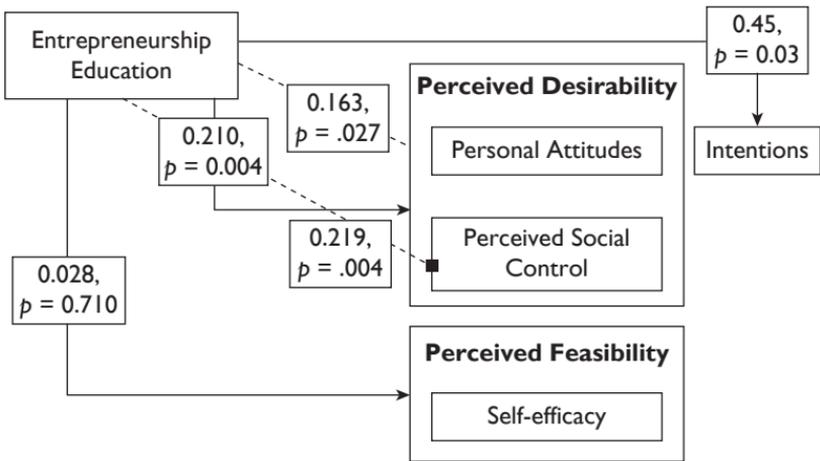


Figure 2. The Relationship between Education, Desirability, Feasibility and Intentions

Source: Author.

Conclusion

Over the last decades, entrepreneurship education has been spreading; it has been introduced in universities at the under/postgraduate programmes, schools and vocational training centres due to the importance of entrepreneurship graduates in contributing to the economic growth and development of their countries.

Many empirical studies have indicated that entrepreneurship can be taught or at least encouraged by entrepreneurship/business education (Wang & Verzat, 2011). Moreover, most of this research has been conducted in economies at advanced stages of development, with very limited focus on developing countries. This article is one that attempted to study the impact of entrepreneurship education on entrepreneurial intentions of university students in a developing country, namely, Egypt.

The results show that the percentage of students across three faculties of Engineering, Computer Science and Business Studies aspiring to pursue entrepreneurial careers is somewhat high. However, the percentage of students who confirmed their disinterest in entrepreneurship was higher among Engineering students, who were never exposed to

entrepreneurship education. Among the group who studied entrepreneurship, Business Studies students were more inclined towards starting their own businesses compared to Computer Science students. This result is consistent with Richardson's study (1993) that there is a significant difference between perceived contributions of education with different academic majors. It is anticipated that business students would be more disposed towards starting their own business, due to the nature of courses they are exposed to, including marketing, accounting and management courses. These courses provide students with further knowledge and know-how of starting and growing a business. Students of non-business specialisations lack the exposure to the business world as their courses are more focused on technical aspects.

The comparison between intentions of students before and after being exposed to a dedicated course in entrepreneurship reveals education has significant positive entrepreneurial outcomes: students' intentions towards self-employment increases. Students acquire further knowledge about entrepreneurship; hence, their perception of self-employment alters to deem it a positive career choice. This finding confirms Dickson et al.'s (2008) conclusion that entrepreneurship education is related to becoming an entrepreneur.

It has been proved that education has a positive impact on students' perceived desirability of self-employment. Education was found to increase the degree of favourability of entrepreneurship among Egyptian students, a result that is consistent with Jones et al.'s (2008) conclusion that entrepreneurial education can positively reinforce students' attitudes towards an entrepreneurial career choice in a developing country. However, its impact is less evident on the perceived feasibility; no effect for entrepreneurial education was found on the self-efficacy of students; a result that is not consistent with some of the previous studies. Students' self-efficacy is the confidence that they can successfully engage in entrepreneurial behaviour which stems from their capabilities and skills. This indicates that entrepreneurial education did not contribute to enhancing students' entrepreneurial competences. This implies a deficiency in the design of curriculum that did not tackle the necessary topics to equip them with the necessary skills.

The findings of the current study propose that some actions need to be taken in order to boost the contribution of entrepreneurship education in the process itself. Recently many universities in Egypt have started to

offer a dedicated entrepreneurship course. Nevertheless the experience of introducing these courses is yet to mature, and hence there is a need to consider the contents of the courses and delivery pedagogy in a way to encourage entrepreneurial personality development including risk-taking, need for achievement, strong desire to succeed and alertness.

According to the institutional theory, firms are embedded in country-specific institutional arrangement including systems of education (Lynskey, 2004), and many researchers agree that entrepreneurship can be learnt through reformation and reorganisation of educational system (Ertuna & Gurel, 2011). Self-employment and firms' creation propensity can be leveraged through the education system in Egypt, if redesigned to foster creativity, innovativeness and self-dependence of students.

The main limitation of this study is the sample size and the number of discarded questionnaires, leaving a small sample size to analyse. This restricts the validity of the results obtained. The author recognises that the findings of this study are limited to one institution which is classified as a private university located in the capital, and to final year graduating students in the university. Further research is required to explore whether these findings are generalisable to other states and private universities and students regardless of their level.

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