

Role of Entrepreneurship Education on Student Attitudes

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Abstract

This study aims to analyze the impact of entrepreneurship education on students' attitudes. A deductive approach is used to arrive at conclusive evidence of the role entrepreneurship education plays in generating positive student attitude towards entrepreneurship. The target population of the study is students of the FAST National University Islamabad, Pakistan who are enrolled in the Entrepreneurship Program. Sample size of the study is 100 graduating students who are aspiring entrepreneurs if guided in the right direction. The instrument is adopted from Karhunen, Ledyeva, Gustafsson-Pesonen and Vasilenko (2008), and is measured against a five point likert scale analyzed using the paired sample t-test statistics. The results revealed that the entrepreneurship education significantly affects students' attitude towards entrepreneurial activity. Students' opinions about the perceived intrinsic and extrinsic barriers to entrepreneurship have been significantly reduced as a result of acquiring entrepreneurship education. This study provides practical and theoretical implications of inculcating formal entrepreneurship education to enhance positive attitude towards entrepreneurship.

Keywords: Entrepreneurship, Barriers to entrepreneurship, entrepreneurship education, critical success factors.

Entrepreneurship is an active economic agent with the potential to evolve as the milestone towards economic development. Entrepreneurship driven individuals are creating a vast number of employment opportunities every day contributing to the sustainable socio-economic development. Therefore, the impact of entrepreneurial activity especially its profound prospects in job creation, presents its utmost importance to the policy makers (GEM, 2017, Edelman, Monolova & Brush, 2008, Reynolds, et.al, 2001). Especially in a factor-driven economy like Pakistan, entrepreneurship education and training can prove to be the major economic booster. Despite all its importance and pressing need, the concept of entrepreneurship is yet to be realized in all its significance. Entrepreneurship practices has remained limited in the context of Pakistan (Haque, 2007). According to World Bank's report (2007) and GEM (2017), entrepreneurial development in Pakistan has been slower than the other developing countries in South Asia, such as Bangladesh, India and Sri Lanka.

A study was organized by Stamboulis & Barlas (2014) in Thessaly, Greece. Where the survey was conducted to collect data sample from university students enrolled in the entrepreneurship program offered. The study is used as a base paper to our research on the business graduates lack of interest and participation in entrepreneurial activity. The entrepreneurial activity is on a rise which will be gaining strength in the coming years as the country has a huge influx of intellect in the form

of young, ambitious students who aspire to start an entrepreneurial venture of their own; however, the problem lies in giving them a direction and proper guidance in the form of education. This is a missing link where entrepreneurship education plays its role in changing student education. It will help Pakistani youth in generation, identification, realization and operationalization of creative opportunities. Previous studies and global reports also provide sufficient evidence in support of entrepreneurship education contributing towards entrepreneurial intentions (GEM 2017; GCR, 2016; Kautonen et.al, 2015; Martin et.al, 2013).

Youth was the targeted population of this research as university graduates has traditionally been showing less interest in entrepreneurship (Tontilla, 2001). The aim of this paper is to find out if entrepreneurs can be made through entrepreneurship education. This is an experimental research aimed at measuring changes in student attitudes before and after studying the course of entrepreneurship. It will look into a substantial evidence between entrepreneurship education provided to the students and their motivation to start a business venture. More importantly, this study will significantly provide a comprehensive overview for educational institutions and policymakers to revisit the inculcation of entrepreneurship education.

Literature Review

Creation of new opportunities and execution of those opportunities in uncertain and unknown environment is entrepreneurship (Neck & Greene, 2011). Entrepreneurship is becoming increasingly popular in universities, colleges and business schools (Fayolle, 2013; Vadavadagi & Joshi, 2013). The impact of entrepreneurial know how has been recognized as a critical factor in determining student's attitude towards entrepreneurship (Wang & Wong, 2004; Kautonen et al, 2015). Entrepreneurial intention is affected by both intrinsic individual and extrinsic environmental factors (Jain & Ali, 2013). Broadly classified, the barriers fall into two categories - barriers for entry into the market and barriers for long term survival. They include market entry severe regulation, fear of market failure, lack of market experience, employee related difficulties, lack of adequate entrepreneurship training, aversion to risk, lack of appropriate technical and practical skills, lack of entrepreneurship opportunities, corrupt and unsupportive business environment and shortage of funds and resources. The controversy as to which of the two categories has greater adverse effect still remains unresolved (Raeesi, et al., 2013).

The generic factors of failure of entrepreneurial activity identified after years of research pertain to lack of funding, unfavorable economic environment for start-ups, lack of opportunities and ideas, absence of skilled labor force, the fear of failure and administrative difficulties (Inna Plotnikova, 2014). Fear of failure is the main reason

stated by 31.24% of Pakistan's active labor force as the barrier to entrepreneurship (GEM-Pakistan, 2012). Karuhen, et.al (2008) proposed and tested two main categories of entrepreneurial barriers which are classified as endogenous and exogenous barriers. For the sake of simplicity in this research the former is named as "Intrinsic – in an individual's control" and latter as "Extrinsic – Outside an individual's control" (Moy, et.al, 2003). The brief overview of these barriers and the key success factors is discussed below:

Intrinsic Barriers

Intrinsic barriers are the individual's person-related factors such as skills and characteristics (Moy, et.al, 2003). Intrinsic factors are internally influenced and can be controlled at a person's will.

a) Insecure income

Entrepreneurs do not enjoy the leisure of having minimum fixed income. As much as a blessing it is, it can be at the same time a curse. Entrepreneurship is seen as a time taking process that at the end of the day does not bring in a steady income as reported by Karuhen, et.al (2008) while discussing potential barriers to entrepreneurship. Fear of insecure income is ever present in the mind of the entrepreneur. However, a trend for higher income returns have been observed among proactive entrepreneurs rather than reactive one's (Roed & Skogstrom, 2014). Also they do not have a steady salary to depend on since it's their own business especially when the business is just starting out. They are also not certain if their business will be able to make profit or even break-even (Mehrez, 2014). Vulnerable and insecure income is deemed to be a major concern to all social groups (Report on the World Social Situation – UN – 2003)

b) Fear of Loan

Hussain, Khan, Malik & Faheem, 2012 deduced that financing is a major barrier for entrepreneurial and small firms. To overcome lack of financing entrepreneur has to obtain a loan, which is often accompanied with interest and other formal conditions that limit its availability. Thus, entrepreneurs end up with fear of loans because of all the restrictions that are placed on acquiring a loan. Furthermore the different types of loans can also be overwhelming to a person (Zwilling, 2013). Many people are also reluctant to gain finance through loans because they do not want to be indebted to anyone or scared about inability to repay the loan, as Karuhen, et.al (2008) concluded that financial barriers are most feared especially the fear of being indebted and losing one's personal property.

c) Time Consumption

According to Martin Varsavsky, who is an entrepreneur, new business owners should fear this but they should just learn to manage

their time better. They should reduce any useless time consuming activities and instead focus on more productive activities that will help their business (Varsavaky, 2012). Karuhen, et.al (2008) in a study determined barriers to entrepreneurship and concluded that people see entrepreneurship as a binding activity that consumes most of their time. Indeed, starting an entrepreneurial activity is demanding and time consuming. Delmar & Shane (2003) found that appropriate venture planning proves useful in addressing time consuming bottlenecks. Time is a complete resource and it should be invested carefully.

d) Relationship with Investors

Literature provides sufficient evidence for studies investigating relationship between investor and entrepreneurial ventures (Zott & Huy, 2007; Greene, et.al., 2001; Mason & Harrison, 1999; Timmons & Bygrave, 1997). Investors provide you with the capital financing for a start-up. Investors are the main source of entrepreneurial funding and unavailability of funds is a major barrier to entrepreneurship (Atieno, 2009). Young entrepreneurs often had a difficult time to startup as they are usually at the investors' mercy due to lack of their professional experience (Karuhen, et.al. 2008).

e) Lack of a Good Business Idea

Fundamentally, an idea is generated from an existing body of knowledge (Koestler, 1989). Quality of an idea is therefore an important yet neglected factor while addressing innovation and entrepreneurship (Bjork & Magnusson, 2009; Delmar & Shane, 2003). One needs to carefully study the market and find any gaps in it and look for solutions of business ideas to fill those gaps (Patel, 2014). It is not surprising that idea generation and identification has been recognized to have great impact on entrepreneurial success and associated costs (Reid & de Brentani, 2004; Zhang & Doll, 2001; Koen, et.al, 2001)

f) Lack of Experience

Due to lack of experience entrepreneurs face high degree of uncertainty and become more hesitant towards investing their money, time, and other related resources (Zott & Huy, 2007; Singh, Tucker & House, 1986). Experience is an important aspect when starting a business but it's not the most important aspect. Young entrepreneurs relatively face more barriers to market entry due to their limited operational expertise and resource (Schoof, 2006; Blanchflower & Oswald, 1999).

Extrinsic Barriers

Extrinsic barriers are the factors outside of one's control, involving an entrepreneur's operational environment (Moy, et.al, 2003). These factors constraints entrepreneurial inclination and can be dealt with but cannot be controlled.

a) Registration Process

One of the main factors that involve the starting of a business is the registration process. De Giorgi & Rahman (2013) conducted a study on developing countries and found that registration of businesses is very costly and lengthy. It has been found that regulations have proved to be a key constraint to entrepreneurship (Botero, et.al, 2004). Registering a business can be complex and time taking procedure (Auriol, 2013).

b) Bureaucracy

Organizational theory states that working in a bureaucratic organization subdues entrepreneurship rates. Therefore, Workforce engaged with larger setups have shown a decrease in entrepreneurial tendencies (Sorensen, 2007). Individuals often tend to involve in an informal market for avoiding complex bureaucracies, tax and labor regulations involved in going formal (Gerxhani, 2004). Thus, bureaucracy in organizations discourages entrepreneurship, especially formal entrepreneurship. Previous studies also discovered that bureaucratic barriers hinder market entry (Cala, et.al, 2015; Klapper, et.al, 2006)

c) Tough Competition

SMEs are considered to be the main source of national income in the developing economies. To sustain their position and stay competitive locally as well as globally SMEs must be perfect in their vicinity as well as preserve their changeability in the longer run. (Keskin & Senturk, 2010). Barney (1991) gave the concept of competitive advantage, according to him a company gain competitive advantage over others when it implements that value creation strategy which is neglected by rest of the SMEs in running in the economy in that particular time. Competition is considered to be the most challenging factor characterized for the young entrepreneurs.

d) Hiring Labor

In order to accomplish a successful entrepreneurial venture, hiring labor puts an entrepreneur in a bind. The entrepreneur needs to hire individuals who demonstrates entrepreneurial characteristics and work habits. Appropriate skill set is essential for individuals to enter labor markets and sometimes skill mismatch is the main constraint limiting entrepreneurs (World Economic Forum 2014). Individuals with an entrepreneurial awareness at their disposal should be the ones hired (Hassanali, 2016). The International Labour Organization (Adu-Amankwah, 1999) estimates 61% of the active urban labour force is absorbed in informal markets in Africa and around 50% of the same in Asia.

e) Lack of financial resources

Financial literacy is a capability to be adept at the working mechanisms of money. The is the fundamental issue faced by developing economies, whose residents tends to have excess expenditures when money inflow offers more than their actual need and save when the inflow is not sufficient to fulfil their needs (Atkinson & Messy, 2012; Lusardi, Mitchell & Curto, 2014; Lusardi & Mitchell, 2011a; 2011b; 2011). Dawa & Namatovu (2014) concluded a significant relationship between personal savings and entrepreneurial activity. Hussain, Khan, Malik & Faheem (2012) reported financing as the principal barrier for entrepreneurial and small firms.

f) Corruption & Crime

Corporate corruption is deemed a serious constraint towards formal entrepreneurial activity. Corruption directly affects entrepreneurial activity (Firozjahi, 2012; Aidis, Estrin & Mickiewicz, 2012). Avnimelech, Zelekha and Sharabi (2014) also suggests that corruption significantly decreases the number of entrepreneurial ventures. A study conducted by Zelekha (2013) shows that corruption consequently leads to lack of trust in the corporates and individuals. Likewise corruption, crime also leads to economic uncertainty in the country (Detotto & Pulina, 2009).

g) Finding Customers

Kusar, et.al. (2004) reported that SMEs which are very much enthusiastic about entering the market essentially considers the customer needs first and foremost. Lack of customers in the initial stages of an entrepreneurial venture often dampens entrepreneurial spirit of the entrepreneur (Attard, 2016). Various marketing efforts can be made to attract customers, which includes advertising, networking, and teaming up with other businesses (Sugars, 2011). Lack of social networks is also studies as a barrier to entry by Sandhu, Siddique and Riaz (2011). If networking barriers are properly addressed after acquiring entrepreneurship education that can be helpful in finding customers.

Factors of Entrepreneurial Success

A firm's success is associated with certain critical factors which can be maneuvered by the entrepreneur. The Critical Success Factors are the key elements that affect an enterprise's operations and influence its future performance (Boynton & Zmud, 1984). A detailed review of major success factors is as follows:

a) Network/Contacts

The entrepreneurship is an important aspect that is greatly affected by social skills. Social skills are the personal characteristics of a person to interact with others in an effective manner (Baron & Tang,

2008). Competent entrepreneurs tends to be more socially proficient. This skill allows them to interact effectively and eventually develop networks/contacts. Therefore, such entrepreneurs tend to be more successful than the competition (Baron, 2000).

b) Marketing Mix

Marketing mix is essential to the success of an entrepreneurial venture (Ehmke, Fulton and Lusk, 2016). After innovation, next step is the pricing of the product. Pricing fundamentally depends on the gender, age and literacy level of the target market as these factors are crucial in determining the purchasing power and buying decisions (Supachaturat, et.al, 2015). After pricing it is vital to decide the distribution channels through which a product will be made available in the market. Marketing is an important factor in deciding both the distribution and promotion of a product. Entrepreneurial marketing is defined as proactively seeking the resources and opportunities to attract valuable clients through novelty in mitigating risk and value creation (Bjerke, B., & Hultman, 2004; Morris, Schindehutte, and LaForge, 2002; Bennett, 1988).

c) Strategic Management

Execution and operationalization of idea through strategizing is the most important factor in business initiation (Kurdi, 2013). Therefore, devising a viable strategy and hiring skilled management to implement the strategy is inevitable. Managerial skills are an important factor to accompany the entrepreneurial experience in order to realize a successful business venture (Papulova & Mokros, 2007; Wright, Hmieleski, Siegel & Ensley, 2007). Management skills for new ventures differ from those of an existing business. The five factors that determine successful management of a fresh start-up includes strategic orientation, commitment to opportunity, commitment of resources, control of resources and management structure (Hisrich, Peters and Shepherd, 2008).

d) Financing

Financial contracts affect the workforce employed on innovation in entrepreneurial firms (Chemmanur & Fulghieri, 2014). National funding is a viable source of financing for new ventures. The best initiative in terms of national funding is the establishment of incubation centers, which strengthens the mutual association between entrepreneurs and information technology (Mahmood, Jianfeng, Jamil, Karmat, Khan & Cai, 2015).

e) Environment

The environment has a very strong impact on entrepreneurship intention and behavior. A conducive business environment helps to bring economic reforms in developing economies. It can attract foreign direct

investments thus boosting up the economy of developing countries. Many studies revealed that the environmental support plays an important role in developing entrepreneurial intentions to start a new business (Edelman, & Yli-Renko, 2010; Zahra, 1996).

f) Research and Development

Innovation is achieved through research and development where entrepreneurs are the scientists of the business world. This trait of being innovative is indispensable part of being an entrepreneur as it helps in building a business which is responsive to market needs possess readiness to fill in market gaps (Shukla, 2011). Research and development allows the transfer of innovative ideas into the business (Chiesa & Picaluga, 2000)

g) Entrepreneurship Education

Entrepreneurship education started from Harvard Business School in 1945 when the first course was conducted (Mwasalwiba, 2010). Ever since then the world has been prioritizing entrepreneurship education in universities and colleges (Fayolle, 2013). In Sweden, Chalmers School of Entrepreneurship (CSE) had educated more than 250 aspirant entrepreneurs by 2001. It has also been providing incubator for entrepreneurs to jumpstart their ventures and it has provided entrepreneurship activity to the aspirants in the form of incubation within the university (Ollila & Middleton, 2011). To study entrepreneurship trends around the world, Global Economic Monitor (GEM) was started in 1999 as a joint project of Babson College (USA) and the London Business School (UK). This project later developed into an independent venture named Global Entrepreneurship Consortium.

Asian markets have also developed their focus towards importance of entrepreneurship and entrepreneurship education (Mahmood, 2015; Hattab, 2014; Martin et.al, 2013). Several initiatives have been taken in Asian countries like China, Indonesia, India, Malaysia, Singapore etc. for the betterment of entrepreneurial environment in their respective countries.

When China realized that their emerging market is dependent on private and state owned enterprises, they realized the need for better management for both privately owned and state owned enterprises. For that matter, China decided to provide entrepreneurship education in the institutions in order to have better management. The success and growth of Chinese economy is also associated with provision of entrepreneurial opportunities and availability of entrepreneurship education (Li, Zhang, & Matlay, 2003).

The Entrepreneurship Development Institute of India (EDII) was created in 1983 whose aim was to create entrepreneurs in youth. EDII organized various training programs and series of educational videos. EDII realized that the current education system of India was not focusing

on entrepreneurship therefore; it introduced programs for youth to train them in the field of entrepreneurship (Dana, 2001).

In Malaysia, Malaysian Entrepreneurship Development Center (MEDEC) was developed for entrepreneurship trainings. Malaysian Ministry of Entrepreneurship Development has been highly focusing on training entrepreneurs by providing courses such as book keeping, business registration, business ethics, etc. (Dana, 2001).

There has been a substantial growth in the realization of the significance of Entrepreneurial education worldwide. As seen above, numerous researchers have been carried out in different countries such as America, the United Kingdom, and many Asian countries which include China and India regarding entrepreneurial education, and this existing literature helps to prove the importance of providing the youth with appropriate entrepreneurial education in order to reap the full benefits of entrepreneurial startups and reduce the impact of the various intrinsic and extrinsic barriers to entrepreneurial activity. However, there is minimal literature found on entrepreneurship education in Pakistan, as far as our research is concerned. This gap in literature regarding this subject either points to the fact that we are not focusing on entrepreneurship education at all or we do not have any research that provides knowledge and data on the recent trends in entrepreneurship and student attitudes toward it. This current research aims to fill this gap in literature and provide a comprehensive study on entrepreneurship education from a Pakistani perspective. The research will examine the impact of entrepreneurial education on the attitudes of university level students towards entrepreneurship and various barriers to entrepreneurship before and after receiving entrepreneurial education.

Furthermore, this paper will strive to test an already established theory on *Entrepreneurship Education* by Yeoryios Stamboulis and Achilleas Barlas and will try to establish a Pakistani context through experimental research. The questionnaire used is based on the modified instrument of Karhunen, Ledyaeva, Gustafsson-Pesonen, Mochnikova, and Vasilenko (2008).

Impact of Entrepreneurship Education on Recipient's Attitudes

Stamboulis & Barlas (2014), Kirkwood (2009), Karuhen et al. (2008), Ioannou (2001) and Gorman, Hanlon & King (1997) have shown a significant positive impact on the student's perception towards entrepreneurship after acquiring in entrepreneurship education. Entrepreneurship education helps improve knowledge and skills of students (Graevenitz, Harhoff & Weber, 2010) so that the potential entrepreneurs are well equipped with the essential competencies to enter the business environment (Stamboulis & Barlas, 2014).

After studying entrepreneurship a shift has been observed in attitudes towards intrinsic barriers, extrinsic barriers and success factors for example The conventional fixed earning employment is rapidly being

replaced by ‘portfolio careers’ like contractual jobs, freelancing and phases of self-employment. Therefore, it is even more important now than ever, to inculcate entrepreneurship orientation among young graduates through entrepreneurship education and training. A longitudinal study also determined that entrepreneurship education generates entrepreneurial intentions (Kautonen et al; 2015). Similarly, it has also been determined that a success of any venture greatly relies on entrepreneurial readiness (Kristiansen & Indarti, 2004; Kristiansen et al, 2003) which is primarily attained through entrepreneurship education. Impact on success factors has also been observed in previous researches for example Chiesa & Piccaluga (2000) studied that primary function of universities is to provide education, but with the help of university incubators, they are participating in the economic upbringing of the nation through providing a practical framework for innovative research ideas and technological advancements. So, they help in transferring the innovative ideas into the business through providing research and development assistance. A detailed study had been conducted to check the role and functioning of incubators, the facilities rendered by them and the success rate of such pre-business models in (Mahmood et al., 2015).

Literature has provided sufficient evidence in favor of the fact that entrepreneurship education does generate entrepreneurial intentions (GEM, 2017; GCR, 2016; Stamboulis & Barlas, 2014; Neck & Greene, 2011; Kelly & Thomas, 2011; Graevenitz, Harhoff & Weber, 2010).

Structure of Experiment

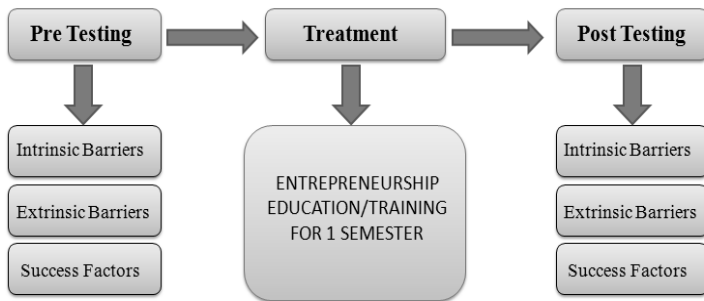


Figure 1. Theoretical Framework

Based on the literature review and research objectives, the following hypothesis are developed for testing:

H1: Significant change occurs in students’ attitudes towards intrinsic barriers in entrepreneurship after thoroughly studying entrepreneurship.

H2: Significant change occurs in students’ attitudes towards extrinsic barriers in entrepreneurship after studying entrepreneurship.

H3: Significant change occurs in students’ attitudes regarding success factors after studying entrepreneurship properly

Research Methodology

This study uses a quasi-experimental research design based on pretest-posttest evaluations of a non-randomized target group (Kumar, 2011; Walliman, 2011; Creswell, 2009; Shadish, Cook & Campbell, 2002; Johnson & Christensen, 2000; Muller, 1985; Cook & Campbell, 1979; Campbell & Stanley, 1966; Campbell & Stanley, 1963).

The study intends to analyze the impact of entrepreneurial education on the student attitude keeping in view other external (systematic) and internal (personal) factors.

The secondary research method included a thorough study of relevant articles on entrepreneurial orientation, education and types of barriers that exist in the environment. Journals, articles, publications and books were consulted for the collection of data. The unit of analysis was entrepreneurship class of university enrolled in the entrepreneurship course. Convenience sampling was used in the research as the author was teaching Entrepreneurship at FAST University Islamabad and therefore had an access to students who had enrolled in the program in the past semester. The sample size used amounted to 100 undergraduate students studying Business Administration (BBA) and Computer Science (BCS) in FAST University Islamabad.

In this study, deductive approach (Neuman, 1997) has been adopted for hypothesis development and hypothesis testing. As discussed by Elmes, Kantowitz and Roediger III (2006) Comparative Analysis technique using “t-test” paired sample statistics has been used for data analysis through Statistical Package for Social Sciences (SPSS) version 20. It is used to examine students’ attitudes towards entrepreneurship initially that is pre-test without administering the treatment and post-test that is after administering the treatment of entrepreneurship education to the students.

The questionnaire used in the research was based on the adapted instrument of Karhunen, Ledyeva, et al. (2008) which had been used at the Helsinki School of Economics-Finland. It contained questions which were divided into 4 groups relating to:

1. Demographic specifications of the respondents
2. Future career expectations of the respondents
3. Respondent’s perceptions of barriers associated with entrepreneurship
4. Perception of factors that affect success of a business

Five-point Likert scale anchored by strongly agree and strongly disagree had been applied to measure the results. The data collection was done through personal delivery of questionnaires to students for quantitative examination.

The questionnaire had been distributed at the beginning of semester and at the end of it. The questionnaires were completed by students themselves during the entrepreneurship classes. The process of data collection took place during the first and the last class of the

module. The sample consisted of 100 students that attended entrepreneurship course among which 56 Students (56%) were male and 44 (44%) female. The students were from two departments; 41 from computer science (41%) and 59 from business administration (59%). With regard to family involvement in business, nearly half (54%) students' families were involved in entrepreneurship activity. Finally, regarding the future prospects of the students before starting of the course, 54 said that they aspired to be employed by a private company, 15 wanted to work in the public sector and 31 aspired to start their own business in future.

Entrepreneurship program at FAST

The entrepreneurship program of FAST-NU has been designed very specifically in order to provide specialized education to the business students keeping in mind their future career development. The courses are strategically designed in order to develop entrepreneurial thinking patterns of students. The first few semesters help familiarize the students with real business environment and are taught basic entrepreneurial knowledge and culture. This learning process is optimized by subjecting students to case studies, opportunities to participate in business plan competitions, as well as competing in an in-house Entrepreneurship Olympiad to prepare them for the challenges of the real world. The later part of program has been designed to allow the students to practice entrepreneurship in a real life simulated and controlled environment to inculcate learning and identify mistakes that can be fatal for the health of the business in real life.

The core entrepreneurship course executes learning of students in two phases. The first phase involves development and presentation of a business idea from beginning till the end. They are required to conduct a complete environmental analysis, analyze customer needs and come up with a product or service to serve that need and present a viable and sustainable business model. They are required to set up a demonstration of their business after financial and marketing analysis. They are required to showcase foundation and organization of the business, financing and economic management, market planning, operations, logistics, product and service development and human resource management

The students develop a complete business plan. In this process they get familiar with financing of start-ups (venture capital, business angels etc.), the use of terms and tools, and the development of the relevant reports for the business, methods to develop business collaborations, Intellectual property rights (IPR) management, and brand management.

The second phase of this course requires the students to organize an annual Youth Entrepreneurship Summit, which is an amalgamation of all entrepreneurial activities directed towards enhancing the existing

knowledge-base and skill-set of the undergraduates and graduates. The Summit is a week-long extravaganza, which tests teams as they compete in various stages of bringing their business idea to life, inclusive of: The Pre-Hype, Hype, Demonstrations, Business Idea Presentations and finally the Mega-Conference where guest speakers from different fields from all over the country are invited to share success stories and encourage industry and academia interaction and guide them to become future entrepreneurs after being inspired by successful people of the industry. Students are required to arrange sponsorships to manage the financial expense. Experienced mentors make sure that skills like marketing, operations, planning, logistics, media and teamwork are administered and taught to the students using various tools. Primary aim of the program is to make students learn through hands-on experience through the conference and real life startup demonstration.

Data Analysis and Results

A paired t-test is used to compare two population means where you have two samples in which observations in one sample can be paired with observations in the other sample. Paired-samples t-test was carried out to compare students' perceptions in intrinsic barriers, extrinsic barriers and success factors of entrepreneurship, because we have Before-and-after observations on the same subjects. All the comparisons were conducted for values before and after taking the entrepreneurship course. We also run Cronbach alpha test for the identification of reliability of survey questionnaire.

Table 1. Means and Cronbach's alpha values before and after attending entrepreneurship course

Dimension	Before		After	
	Mean	Cronbach's Alpha	Mean	Cronbach's Alpha
Intrinsic Barriers	3.66	.735	2.54	.791
Extrinsic Barriers	3.64	.781	2.72	.870
Success Factors	2.07	.893	4.39	.775

In terms of internal consistency of the tested dimensions we used Cronbach alpha technique. We analyzed the reliability of each item in both cases before and after. Results of before entrepreneurial education shows that the value of Cronbach alpha of intrinsic barriers (.73), extrinsic barriers (.78) and success factors is (.89) and results after entrepreneurial education shows that the value of Cronbach alpha of intrinsic barriers (.79), extrinsic barriers (.87) and success factors is (.77). All the variables are reliable because their level of significant is higher than 0.70 (Nunnally, 1978; Tabachnick & Fidell, 2001).

In terms of barriers to entrepreneurship, most of the students have scored lower perception rates after attending the course, in both intrinsic and extrinsic barriers. However, the mean perception scores of success factors of entrepreneurship have increased from 2.07 to 4.39. We can deduce that as students got more awareness of challenges and risks associated with entrepreneurship they also believed to be more prepared to take them on.

Regarding future plans after graduation before and after taking entrepreneurship course, students have changed their mind towards starting their own business at the end of the course are specific, 53 students answered that they would want to start their business at the end of the course which was previously 31 (70% increase). Students have however, shown negative interest towards public sector as well as private sector jobs. This probably shows higher self-confidence in students to start their own business after studying entrepreneurship course.

Table 2. Paired samples statistics. Barriers to entrepreneurship (intrinsic)

Item	Before		After		ΔM	T	Df	P
	M	SD	M	SD				
Insecure Income	3.91	1.03	2.8	0.95	1.11	7.98	99	.000
Fear of Loan	3.69	1.06	2.96	1.01	0.73	4.79	99	.000
Time-consuming	3.42	0.98	2.62	0.91	0.8	5.49	99	.000
Tough competition	3.49	1.23	2.89	1.09	0.6	3.95	99	.000
Losing one's property	3.65	1.05	2.7	0.98	0.95	6.64	99	.000
Current life situation	3.74	0.98	2.48	1.03	1.26	8.47	99	.000
Loss of free time	3.75	1.07	2.37	0.94	1.38	9.72	99	.000
Reliance on investors	3.41	1.07	2.64	0.94	0.77	5.68	99	.000
No social safety net	3.78	0.96	2.66	0.91	1.12	7.68	99	.000
Lack of business idea	3.65	1.15	2.6	1.11	1.05	6.24	99	.000
Adverse effect on relations	4.01	5.06	2.44	0.90	1.57	3.02	99	.003
Difficulty in commercializing	3.54	0.96	2.33	0.88	1.21	8.86	99	.000
Excessively irregular working hours	3.65	1.06	2.18	1.00	1.47	10.3	99	.000
Lack of personal skills and competence	3.57	1.09	2.42	1.01	1.15	8.51	99	.000
Lack of experience	3.73	1.08	2.59	1.03	1.14	7.48	99	.000
Fear of debt	3.78	1.05	2.55	0.91	1.23	8.89	99	.000

General lack of appreciation of EP	3.69	1.06	2.37	0.94	1.32	8.98	99	.000
Incompetence to personal skills	3.55	1.03	2.55	0.94	2.52	6.71	99	.000
Entrepreneurship does not suit my character	3.57	1.15	2.12	0.96	1.45	11.0	99	.000

Tables 2 illustrates that a significant change has been observed in all items constituting intrinsic barriers: the most significant change has occurred in the scores of ‘Entrepreneurship does not suit my character’ before (M = 3.57, SD = 1.15) and after (M = 2.12, SD = 0.96) attending the program; $t(99) = 11.04$ with a 1.45 degree of change seen in the before and after semester response, $p < .000$. Moreover there has been a notable change in the score of ‘Excessively irregular working hours’; $t(99) = 10.37$, $p < .000$; before (M = 3.65, SD = 1.06), after (M = 2.18, SD = 1.00) with a difference of 1.47 in the mean values. General lack of appreciation of EP before (M = 3.69, SD = 1.06) and after (M = 2.37, SD = 0.94) attending the program; $t(99) = 11.04$, $p < .000$. ‘Adverse effect on social relations’ before (M = 4.01, SD = 1.15) and after (M = 2.24, SD = 0.90) attending the program; $t(99) = 3.02$, $p < .000$. Loss of free time’ before (M = 3.75, SD = 1.07) and after (M = 2.37, SD = 0.94) attending the program; $t(99) = 9.72$, $p < .000$. Overall values show that there is a positive change in the attitudes of students towards intrinsic barriers and after studying entrepreneurship course students learnt to overcome the intrinsic barriers. We can infer that there has been a shift in opinion of students after studying entrepreneurship course and an increase in self confidence has been observed.

Table 3. *Paired Samples Statistics. Barriers for entrepreneurship (extrinsic)*

Item	Before		After		ΔM	t	df	P
	M	SD	M	SD				
Tough competition	3.81	1.12	3.2	1.02	0.61	3.87	99	.000
Procedure of registration of the company	3.44	1.10	2.66	0.91	0.78	5.58	99	.000
Bureaucracy	3.47	1.21	2.85	1.14	0.62	3.58	99	.001
Difficulties in getting labor	3.51	1.07	2.45	0.83	1.06	8.05	99	.000
Frequently changing/unclear legislation	3.44	1.11	2.58	1.01	0.86	5.43	99	.000
Lack of own financial resources	3.76	1.08	2.78	1.02	0.98	6.27	99	.000
Difficulties in finding	3.71	1.08	2.59	1.02	1.12	7.25	99	.000

customers									
Difficulties in getting external financing	3.94	1.06	2.8	1.08	1.14	7.12	99	.000	
Corruption	3.94	1.14	2.92	0.99	1.02	6.66	99	.000	
Crime	3.65	1.11	2.81	0.98	0.84	5.31	99	.000	
Taxation	3.59	1.02	2.63	1.00	0.96	6.12	99	.000	
Local infrastructure	3.42	0.99	2.45	1.03	0.97	7.18	99	.000	

Table 3 shows the effect of extrinsic barriers of entrepreneur on entrepreneurship intentions while starting new venture: significant change occurred in ‘Difficulties in getting labor’; $t(99) = 8.05, p < .000$, before ($M = 3.51$ $SD = 1.07$) and after attending the course ($M = 2.45$ $SD = 0.83$) and a 1.06 degree of change has been observed in the opinion of the recipients. A prominent change has been noticed in ‘Difficulties in finding customers’; $t(99) = 7.25, p < .000$, before ($M = 3.71$ $SD = 1.08$) and after attending the course ($M = 2.59$ $SD = 1.02$) with a 1.12 degree of change depicting a noteworthy shift in opinion about this being a barrier after studying entrepreneurship course also “Difficulties in getting external financing” $t(99) = 7.12, p < .000$, before ($M = 3.94$ $SD = 1.06$) and after attending the course ($M = 2.8$ $SD = 1.08$). “Lack of own financial resources” $t(99) = 6.27, p < .000$, before ($M = 3.76$ $SD = 1.08$) and after attending the course ($M = 2.78$ $SD = 1.02$). This probably shows that students before taking the course were unaware of the external barriers and were afraid to take the plunge. However, after taking the course of entrepreneurship they figured out ways to cope up with these factors and are more inclined now to start their own venture.

Table 4. Paired Sample Statistics. Entrepreneurship success factors

Item	Before		After		ΔM	t	Df	P
	M	SD	M	SD				
Network/contacts	1.77	0.90	4.72	0.55	-2.95	-26.71	99	.000
Environment	2.03	0.73	4.17	0.84	-2.14	-19.94	99	.000
Product	2.04	1.14	4.56	0.57	-2.52	-19.64	99	.000
Management	1.91	1.08	4.47	0.66	-2.56	-19.39	99	.000
Financing	2.09	1.10	4.47	0.64	-2.38	-18.08	99	.000
Research and development	2.08	1.13	4.45	0.69	-2.37	-17.42	99	.000

Public relations	2.06	1.04	4.4	0.75	-2.34	-17.83	99	.000
Management core team	2.02	1.01	4.48	0.66	-2.46	-19.54	99	.000
Team's devotion	2.07	1.17	4.51	0.67	-2.44	-17.68	99	.000
Marketing-promotion	2.15	1.12	4.4	0.62	-2.25	-17.34	99	.000
Distribution	2.28	1.04	4.2	0.72	-1.92	-14.35	99	.000
Pricing	2.37	1.13	4.17	0.83	-1.8	-11.42	99	.000
National funding	2.35	0.89	3.88	0.88	-1.53	-11.51	99	.000
Team's Experience and abilities	2.18	1.21	4.13	0.86	-1.95	-14.35	99	.000
Strategy	1.84	1.09	4.54	0.63	-2.7	-19.97	99	.000
Idea	1.87	1.18	4.63	0.60	-2.76	-18.59	99	.000
Confidence, clearness and cooperation between team members	2.12	1.22	4.51	0.66	-2.39	-17.17	99	.000

Table 4 shows the results of paired samples T tests for Success Factors of entrepreneurship show noteworthy changes but in the opposite direction. The t values for all the factors have come out to be negative, representing a logical shift from unknown to known. Significant change $t(99) = -26.71, p < .000$ is found in the importance of 'networks/contacts'; before ($M = 1.7, SD = .90$) and after classes ($M = 4.72, SD = .55$) with a 2.95 degree of change that shows a significant shift in opinion about the importance of networks/contacts in the success of a business. We may say that initially, students had very little idea about the importance of networks in conducting business but as the course progressed, they realized the importance of networks and contacts. Similarly considerable changes came out for 'Strategy' $t(99) = 19.97, p < .000$, before ($M = 1.84, SD = 1.09$) and after ($M = 4.54, SD = .63$) with a 2.97 degree of change which is notable and it depicts that strategy is considered to be an important attribute in the success of a business. Statistically significant changes also occurred in 'product' $t = -19.64, p < .000$, before ($M = 1.14, SD = 1.09$) and after ($M = 4.56, SD = .57$), 'Management' $t = -19.39, p < .000$, before ($M = 1.91, SD = 1.08$) and after ($M = 4.47, SD = .66$), 'Idea' $t = -18.549, p < .000$, before ($M = 1.87, SD = 1.18$) and after ($M = 4.63, SD = .60$) and 'Management core team' $t = -19.54, p < .000$, before ($M = 2.02, SD = 1.01$) and after ($M = 4.48, SD = .66$). The degree of change in "National Funding" ($\Delta M = 1.53$) and

“Pricing” ($\Delta M = 1.8$) seems to be lowest which tells that students perceive this factor is less likely to affect the success of any business as compared to the remaining success factors.

Discussion

The findings revealed that entrepreneurship education plays a vital role in determining university students' intention to indulge in an entrepreneurial activity. The findings suggesting positive change in students' perception towards entrepreneurship has been consistent with the previous studies of Stamboulis & Barlas (2014), Kirkwood (2009), Karuhen et al. (2008), and Gorman, Hanlon & King (1997).

Considering this as the first step of an ambitious research program more extensive researches can be conducted and its impact from the remaining geographical regions that were not explored in this study to enhance the effect of entrepreneurship education. Furthermore, the significance of entrepreneurial education on the success of entrepreneurial startups in Pakistan can be studied. Different methods of data collection (for e.g. interviews) can also be used for obtaining in depth answers and can explore more about the beliefs and behaviors of the recipients involved. This qualitative data will also be thoroughly analyzed and can provide us with more diverse results and conclusions. Lastly, this program can be aimed towards quantifying significant changes from studying many entrepreneurship courses over a period of time.

With the help of these researches we can study the significance of entrepreneurship and the degree of change that occurs in the student's attitudes towards starting their own business and on the basis of the results we can inculcate a number of entrepreneurship courses in the curriculum on University level. More and more public and private institutions from all over the country can use this opportunity to make it as a part of their curriculum of business degrees as entrepreneurship education reinforces entrepreneurial intention. This will not only be beneficial for the economy but also to instill a creative mindset among the youth. Furthermore, Entrepreneurship should be made widespread and common on all levels. To create awareness on a national level Entrepreneurship should be penetrated not just at university level but also in colleges as an independent field that the students can pursue on the basis of their choice so the intention of pursuing business by youth will be accepted like all other professions. Moreover, the institutions themselves benefit from the diverse flow of people and the impact they have on the future of the economy.

The gap between industry and academia should also be bridged by allowing companies to invest in training programs for startup entrepreneurs where they are subjected to real life industry situations and

are trained how to deal with it. Companies take these businesses under their wing to expand their customer base and area of expertise as well to stay current in the market. Conferences and workshop should be arranged as it provides them with exposure and inspiration from the business tycoons.

Conclusion

According to the results, the changes in perceptions related to intrinsic barriers imply a likely effect of the module on their personal beliefs. The students' reservations related to their preferences and personal traits ('Entrepreneurship does not suit my character', 'my current life situation' and 'Personal competence is difficult to commercialize') have significantly receded. Similarly in extrinsic barriers for entrepreneurship, there is a notable change in students' perceptions. Their beliefs about difficulties in finding customer, labor and external financing have reduced significantly. This implies that the students have become more aware and updated on how to get things done in the external environment. On the other hand there is a rise in the perceived significance of critical success factors such as 'Networks & contacts', 'Management core team' and 'Marketing and promotion', in line with the real attitudes in our current entrepreneurial community.

To conclude, it may be argued that Entrepreneurship module taught at FAST University has made a significant impact on attitudes of students especially with regards to critical objectives such as students' perception about entrepreneurship as a career, their self-confidence to practice it and their belief about external environmental factors. Moreover, there is strong evidence towards strategic attitude of the students, giving more consideration to competencies and team building and also to the value proposition in terms of the product that they plan to offer.

The primary limiting factor was the lack of support from institutions. Although most of the educational institutions provide basic education to students regarding entrepreneurship, they do not pay attention to development of entrepreneurial foundation in their curriculum. The study will be limited to only one university due to shortage of time and budget. Future research should examine more differences between types of students, their backgrounds and the existing skill sets that they carry with respect to entrepreneurship.

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