

EXAMINING THE IMPACT OF ENTREPRENEURIAL COMPETENCIES AND KNOWLEDGE BASE ON ENTREPRENEURIAL MOTIVATIONS: A QUANTITATIVE STUDY OF STUDENT ENTREPRENEURS IN PAKISTAN

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ABSTRACT

Entrepreneurship is an emerging and vast field and has been remained the focus of many researchers. Entrepreneurship is imperative for the economic growth of any country and it is important to develop the entrepreneurial intentions among the students by educating them about skills and knowledge. The chief goal of this study is to examine the impact of entrepreneurial competencies and knowledge base on entrepreneurial motivation among the University students in Pakistan. This study aims to create a better understanding that whether entrepreneurial education increases the motivation of students to become entrepreneurs or not. The previous literature in the Pakistani context has some contradictions in theory and to clarify these ambiguities and contradictions, this study is made. Quantitative approach has been used by this study by taking sample size of 400 students from four Universities of Islamabad. To collect the data Questionnaires were used. The questionnaire used was adopted from the previous researches. After applying all the tests and analyses, the findings reveal that knowledge base of the students does not enhance the motivation of students to become entrepreneurs while entrepreneurial competencies that include skills and abilities significantly trigger the

motivation and intentions of students to become entrepreneurs.

Furthermore, it was found that the students who have not studied entrepreneurs were more inclined to become entrepreneurs than those who have studied it as a subject. This is because of the reason that students who took entrepreneurship as a subject have learned the process of business generation and are well aware of the hardships and risks involved in entrepreneurship. The findings of the study are aligned with the findings of various researchers but also contradict few of researchers. This study makes implications to the theory and practice and suggests education policy makers to develop psychological and social skills in the students by developing critical thinking in the students and by educating them about entrepreneurial skills instead of teaching them about business development process. The study also provides direction for further research.

Keywords: Knowledge base, entrepreneurial competencies, entrepreneurial education, entrepreneurial motivations, Islamabad, Pakistan.

1.1 Background

Entrepreneurship has been a vital field of research for scholars and economists throughout the world for some significant time. The persistent and intensified research in entrepreneurship is triggered

by numerous factors (Gurol, 2006). Firstly, for the economy of any country, entrepreneurial pursuits help to cope with the problem of unemployment by delivering new job opportunities and giving boost to economic growth and development. Furthermore, these are known as a potential facilitators and incubators for market and product innovation and technological progress (Jack, 1999; Thomas and Mueller, 2000). Thus, Entrepreneurship is as a vehicle to boost up economic growth resulting in social adjustment and employment generation. Therefore, national economic policies widely encourage small venture growth/new venture formation to encourage economic growth and wealth creation. The definition of entrepreneur always remains confusing for researchers (Hull, 1982; Perry, 1990; Horwitz, 1986; Carsrud, 1986) and controversial up to certain limit (Carland, 1988; Gartner, 1989). Two general directions about defining who is entrepreneur are found in entrepreneurship research line, one indicative and the other functional. To the functionalistic approach the concept of entrepreneurship depends on what an entrepreneur aims to do, does or has done, these functions are specified to be distinct, and all who perform these functions are to be considered as entrepreneurs. Each theory in this area depicts some assumptions about intention or behavior. Cognitive oriented intentions explain entrepreneurship as creating businesses or new values in established companies (Bird, 1998). A behavior depicts to some innovation, invention, or in a broader sense doing something better than others, for instance developing a new process for production or open a new market (Schumpeter, 1934). Timmins (2009) described entrepreneurship more recently as a process of reasoning concerned with the opportunity that warrants a dynamic and growth-oriented leadership to add value. Thus, the core of

entrepreneurship is the creating or recognizing or grasping the opportunities that others haven't noted and the ability to seize them. Neck (2011), defined entrepreneurship as the searching of new opportunities in a fluid, complex and uncertain environment.

This research study adopted the definition of Shane (2000) according to which entrepreneurship is the examination of how opportunities are identified, who identify them and with what effects opportunities are discovered to create future goods and services and how they are evaluated, and exploited. This definition refers entrepreneurship as the result of interaction between individuals and opportunities in context of given environment and the action of entrepreneurship (Dutta, 2011).

Entrepreneurship and education

To researchers and writers' entrepreneurship education has a significant role in augmenting entrepreneurial talent and business-related expertise. Therefore, to these authors proliferation of entrepreneurial education results in a well-performing venture support system can fuel up and smoothen up the entrepreneurship (Hansemark, 1998). Thus, it comes as no surprise that in the present times there is a stupendous growth in the field of entrepreneurship education in higher academic institutions around the globe (Hansemark, 1998; Thompson, 1999; Jones, 2004; Koh, 1996). The USA is at the top of list in the field of entrepreneurship education. As Kuratko (2003) illustrated in his study that the number of universities and colleges offering entrepreneurship courses has grown-up from a few in 1970s to extra 1,600 that depict the increasing trend of entrepreneurship education among universities. Elsewhere, though, in UK entrepreneurial development and business has been recorded as one of the four

important strategic goals for British universities and here is sign of an increasing number of Australian universities that are proposing programs for entrepreneurship (Kirby, 2004). Conclusively, the studies highlighting the entrepreneurship and small business education have been promptly stimulated in Universities and Colleges in European, Asian and African countries (Gibb, 2000; Ronstadt, 1987; Hytti, 2004; Koh, 1996). Therefore, the crucial role of education specific to entrepreneurship has been documented as a key factor that helps youth to comprehend and nurture an entrepreneurial attitude (Gorman, 1997; Kourilsky, 1998). Due to the effect of education on the ambitions and attitudes of youth, there is a need to know how to create entrepreneurship intensions in individuals even while they are still studying in school. Some of the empirical studies have inspected the entrepreneurial tendency of students of universities as a foundation of future entrepreneurs. Knowledge of these students about entrepreneurship and attitudes are likely to outline their intentions to start their own new ventures in the future. It appears that interestingly a vast number of entrepreneurial educations has been designed, delivered and accredited across the industrial world in business schools. Most of the research on entrepreneurship has been made in business schools and interesting reading can be found by reviewing these researches (Matlay, 2005). For instance it can be seen that the business graduated who have been benefited from the entrepreneurial education has more likeliness to become entrepreneurs see, for instance, (Brown, 1990). Given that post graduate MBA programs generally admit those students who have some work experience previously so from the previous experience and knowledge about the relevant field can increase the rate of success for these students (Krueger,

1994). This position can be match to those students who have fewer relevant experience, skills and are more likely to terminate coping with such problems as irrelevant or common sense (McCarthy, 1997). Most of the business schools claimed that by delivering the knowledge and skills about entrepreneurship their students go upon business graduation and start their own profitable new ventures (Matlay, 2005).

1.2 Problem Identification

As entrepreneurship is a widely developing field and researchers across the globe have been conducting research on this field. By reviewing the literature of entrepreneurship, contradictions were found in different researches regarding to the role of entrepreneurial education and their results are not aligned. For example, Farhangmehr (2016) conducted his research in Portugal and their findings showed that the students who have studied entrepreneurship as a subject in their course have same motivation to become entrepreneur as the students who have not studied entrepreneurship. While researches made by many e.g. Brown (1990), Krueger (1994) showed that entrepreneurship as a course increase the propensity of business graduates to become entrepreneurs. Study made by Tanveer (2013) based on a single Pakistani university which showed less generalized results and reveals that students who have studied entrepreneurship have less intensions to become entrepreneurs as compared to their counterpart. Their study indicates that these students have gone through the process of developing business ideas and making a complete business plan for one week as the part of their subject. This is the reason that these students are less likely to become entrepreneurs because they have practically felt the hardships to start new ventures. So, there is a need of further research in this field.

Furthermore, Farhangmehr (2016) suggested to conduct research on greater sample size to get the comprehensive results therefore this study will capture various departments of different universities with greater sample size to get indiscriminate findings. In an under developed country like Pakistan, importance of entrepreneurship is being enhancing by many folds. Yet, unfortunately Pakistan's economy is rigorously lacking in such activities. Most of the research on entrepreneurship field has been done in developed countries and in foreign context. Theories are made by the researchers in context of developed countries while the situations prevailing in developing countries are quite different. Diverse cultural and economic contextual variances would also cause different results which might not be in accordance to researches conducted in other countries. So this research will specifically take into account Pakistan based Universities as a unit of analyses.

Situational factors have also been ignored in previous researches e.g. degree level, status of institute. These variables also have explanatory power (Farhangmehr, 2016) so this study will cover these variables as well. Thus, it is hoped that the outcomes of this empirical study will not only fill these gaps but also provide some basic work upon which a more thorough evaluation could be based.

1.3 Problem statement

Keeping in view all the above discussion, it can be easily observed that entrepreneurship is an inevitable phenomenon very commonly used around the globe. Researchers have also been paying attention to this field but still there are various contradictions and limitations in earlier research works. This study would focus on the impact of entrepreneurial competencies and knowledge base on entrepreneurial motivation by making entrepreneurial

education moderating factor. Entrepreneurial education as moderating variable has not been used before to see its impact on entrepreneurial motivations and the variables being used in this study have not used in literature this way. Furthermore, previous study has been made in foreign context and universities based in Pakistan are missing. So this study would focus on students studying in Pakistani Universities wholly.

1.4 Research Question

1. RQ. What is the impact of the entrepreneurship competencies and knowledge base on the motivation of university students to become entrepreneurs?
2. RQ. Does this impact differ between students without entrepreneurship education and those with entrepreneurship education?

1.5 Research objectives

1. To investigate the effect of entrepreneurial competencies and knowledge base on the motivation of students of universities to become entrepreneurs.
2. To determine whether this impact differs between students without entrepreneurship education and those with entrepreneurship education.

1.6 Significance

Past researchers have taken into account many factors causing effect to entrepreneurial motivation and intension. Some factors that have been studied with respect to entrepreneurial motivation includes background factors like education level, family business experience and gender, citizenship, family income and ethnicity (Wang, 2004), locus of control, need for accomplishment and tolerance for uncertainty (Entrialgo, 2000), Entrepreneurship education, Experience, (Tanveer, 2013). Question like "why an individual desire to become an

entrepreneur and what factor motivated his/her intentions to become an entrepreneur” is being considered an essential question in entrepreneurship research. Entrepreneurial education is considered an essential variable which effects entrepreneurial motivation of the individuals. However, results of empirical research on entrepreneurial motivation as well as entrepreneurial education produced diverse outcomes. To extra examine this question from the perception of developing countries, this study focuses on the role of knowledge base and innovative competencies in enhancing entrepreneurial motivation and to measure the impact of entrepreneurial education in evolving the entrepreneurial motivation to become entrepreneur. This type of study will play a valuable role in the addition of empirical evidence to support the literature of entrepreneurship and would also try to clarify the contradictions prevailing in literature about entrepreneurial education and motivation. Furthermore, the study targets to provide valuable suggestions for educational institutions within the field of business and management and would also assist universities and further educational institutions to start appropriate instructive programs to boost entrepreneurship. Clearly, findings obtained from such a study will have few policy implications in persuading university students to start their own businesses. This study is based on an entrepreneurship survey of a bigger sample of undergraduate, graduate and post graduate university students in Pakistan and observes their possible interest in entrepreneurship and the essential factors driving their interest. Though there have been many past studies focusing on entrepreneurial motivation and linked topic, but this is the first wide-ranging study of the motivations of university students for entrepreneurship in Pakistan.

1.7 Scope of the study

This study emphasizes on the entrepreneurial motivations of the university students and discusses different factors effecting entrepreneurial motivation. Scope of this study would be the students of different universities existing in Pakistan. This study aims to identify how knowledge base and entrepreneurial competencies impact the motivation of students to become entrepreneurs and whether entrepreneurial education increase or decrease these motivations. Furthermore, this study targets to discover whether the theories and findings derived from international scholars based on developed countries can apply on developing country like Pakistan or not. The study will rotate around the entrepreneurial motivation of the university students. For this graduate, undergraduate and post graduate students will be targeted in this study.

Entrepreneurship Research in Pakistan

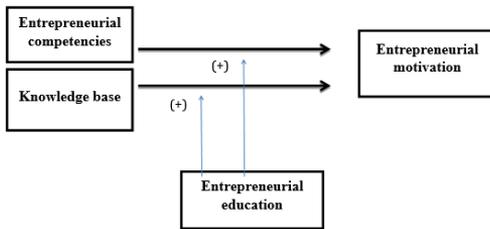
Pakistan various researchers have made entrepreneurs as the part of their study (Osman, 2010; Chemin, 2008). In these studies, main focus has been given to male entrepreneurs and the hurdles faced by them in Pakistan. However, recently there has been some studies being conducted about female and student entrepreneurs of Pakistan. Osman (2010) carried out his research related to remote and rural areas of Khyber Puktun Khawa (KPK) with an objective to examine the entrepreneurial behavior of women entrepreneurs who are enterprise-less. He investigated the problems faced by these women entrepreneurs and examined the reasons of these problems. To him it is important to report that the sole provision of micro credit facility drawn-out to the remote women entrepreneurs of these areas will not be able to bring the anticipated change in their socio -

economic status. He suggested that for the purpose of boosting and inspiring the entrepreneurship expansion in rural parts of the country, business training centers ought to be established as a first step to promote spirit of entrepreneurship amongst the country women entrepreneurs in Pakistan. Chemin (2008) studied government policies for SMEs and small entrepreneurs in Pakistan. His studies proposed that judicial system in Pakistan is so congested, and it could decrease investment inducements for entrepreneurs though reducing access to credit and lessen the confidence in property rights, which affect occupational choice into entrepreneurship. To the author Pakistan judiciary should give training to increase their speed of processing. Furthermore, this reform would cost 0.1 percent of GDP of Pakistan, could cause an increase of Pakistan GDP by 0.5 percent through greater entry rates. Sajjad (2012) also contributed to literature and studied the impact of national culture of a county on entrepreneur intention. His study purely focused on culture and culture related policies prevailing in Pakistan. He proposed that the immersion of culture and its influence on entrepreneurial intentions helps entrepreneur to take their decision. This is education that increases entrepreneurial performance and efficiency. He further suggested that the students should be offered with the entrepreneurship courses and education system in universities and colleges should help to promote the skill and knowledge of students regarding entrepreneurship, and also draw the students attention to find out their interest and likelihood in the field on entrepreneurship, seminar should be conducted on entrepreneurship to allow entrepreneurs share the experience with students and encourage them. Research on the determinants of student entrepreneurial intension was made by (Ali, 2012) in Pakistan and

China. They used (Sokol, 1982) entrepreneurial event (EE) model to study the entrepreneurial intensions of Pakistani and Chinese students. The impact of observed interest and observed possibility were proved true on entrepreneurial intent. The findings of this study shows that in Pakistan work experience has significant impact on observed interest but in China work experience have no impact perceived desirability or possibility of the intention. Furthermore, business background families have indirect impact on practice entrepreneurial intent through perceived desirability and family income has no significant impact on perceived possibility and perceived interest in both nations. Research conducted by Shafique (2013) purely relates to the intentions of graduated and under graduated to become entrepreneurs. He studied various factors including role of universities in promoting entrepreneurship, family background, entrepreneurial education, role of gender and family background. The outcomes of their research specified that there is an insignificant difference in male and female intensions towards entrepreneurship while the other western studies show a significant difference in the male and female intentions to start their own business (Devine, 1994). Some other findings of the study manifested that the students who have studies entrepreneurship as a course are less likely and less enthusiastic to start their own business as compared to the students who have not studies these courses. These students face challenges in their product development projects which are necessary part of course and this is the reason they prefer doing job rather than becoming self-employed. On the other hand, business backed families have a positive impact of intention to become self-employed.

2.3 Theoretical framework

Figure 2.1



2.4 Hypotheses Statements

H1. Knowledge base has a significant and positive impact on entrepreneurial motivation.

H2. Entrepreneurial competencies have a significant and positive impact on entrepreneurial motivation.

H3. There is a significant difference among the responses of male and female respondents

H4. There is a significant difference among the responses of the students with entrepreneurship education and without entrepreneurial education

H5. Entrepreneurial education affects the relationship between Knowledge base and entrepreneurial motivation.

H6. Entrepreneurial education affects the relationship between entrepreneurial competencies and entrepreneurial motivation.

RESEARCH METHODOLOGY

3.1 Research Design

The research approach used for this research was a 'Quantitative approach'. This approach highlights the objective measurements and the mathematical, arithmetical, or statistical examination of data gathered through polls, structured questionnaires, and surveys. The purpose of carrying out quantitative research was to collect quantitative data which can be understood in solid numerical terms and

arithmetical tests in order to agree or refuse with the data.

3.2 Population of the Study

This study targeted the students of four universities located in Islamabad. The study was conducted in department of management sciences and in some other departments of selected universities, both undergraduates and graduate students were the target of the study. Information about students was gathered from clerical staff of departments of these universities and it showed that 900 students are studying in the departments at average. Data was collected with the approval and cooperation of faculty and lecturer.

3.3 Sampling Techniques

There are various sampling techniques used by different researchers. In this study random probability sampling method was used and the students were selected randomly from the targeted departments of Quaid-i-Azam University Islamabad (QAU) and Iqra University Islamabad campus (IUIIC), National university of sciences and technology (NUST), Islamic international university Islamabad (IIUI)

3.4 Sample Size

The procedure of choosing units (e.g., people, institutions) from a population of concern is called sampling. By reviewing the sample it may justly simplify the findings got from the population from which they were chosen (Sekaran, 2000).

Total 400 graduates and under graduate students were selected according to the formula applied from the four universities in Islamabad. Out of which half of the students (100) were selected from each of these four universities. Undergraduate students were half of the total sample, and the other half were postgraduate students, which was in line with the distribution of graduate and undergraduate students at the universities. Some of the respondents were studying management and economics, other hard

sciences and engineering social sciences and humanities and some were studying life and natural, environmental and health sciences.

3.5 Instrument and Measures/ Research Tools

The collection of quantitative data, questionnaire is the most commonly used method. It is also a cheaper way of collecting data and provides numeric results which can be easily interpreted (Sekaran, 2000). In this study, primary data was gathered in order to find a conclusion. Data was collected by using questionnaire from students. Structured questionnaire was used to identify the impact of entrepreneurship competencies and knowledge base on the motivation to become an entrepreneur on larger scale. Entrepreneurship competencies and knowledge base were taken as independent variables while motivation to become entrepreneur was taken as dependent variable. Entrepreneurship education was treated as moderating variable which either increase or decrease the effect of independent variables over dependent variables. The measures used in the questionnaire were based on previous studies and five-point Likert scale was used (ranging from 1 for “strongly disagree” to 5 for “strongly agree”). Questionnaire was adopted from the previous studies. Knowledge base variable was measured according to the studies of (Matlay, 2008). Studies by Man (2002) and Lau (2005) studies were used for the items developing the entrepreneurship competencies scale.

To measure entrepreneurship motivation, we used a scale adapted from Kuratko (1997), Robichaud (2001), and Souitaris (2007). The questionnaire also asked the students whether they had classes in entrepreneurship education or not to differentiate them in to two categories. By using the SPSS package, data collected was also subjected to regression analysis.

3.6 Procedure/ data collection

The data for the study was collected by incorporating a structured questionnaire survey administered at four universities of Islamabad. The questionnaires were got filled by the students of selected departments and these questionnaires were personally given to the students for eliciting their views. Similarly, the data collection was followed by assembling the data in the form of data sheets. This was done by utilizing Statistical Package Social Science (SPSS) and AMOS software. Analyses of Confirmatory factor were used to test the validity of the questionnaire and for reliability of data Chronbac’s Alpha was used. After this Descriptive analysis was used to get success level of our research relating to entrepreneurial motivation of students. The writer has incorporated the technique of Regression analysis to check the relationship of knowledge base and entrepreneurial competence.

4.1 RESULTS

The present research aims at examining the factors affecting the entrepreneurial motivation among the university students in Pakistan.

4.1.1 Descriptive Statics

The frequency distribution and descriptive statistics of the gender is demonstrated in the table

Measures	Source	Scale description
Knowledge base	(Matlay, 2008)	Five-point Likert scale with endpoints as: 1=very low 5=very high
Entrepreneurship Competencies	(Man, 2002) (Lau, 2005)	Five-point Likert scale with endpoints as: 1=strongly agree 5=strongly Disagree
Entrepreneurship Motivation	(Souitaris, 2007) (Kuratko, 1997) (Robichaud, 2001)	Five-point Likert scale with endpoints as: 1=strongly agree 5=strongly Disagree

Table 4.1: Frequency Distribution and Descriptive Statistics with respect to "Gender"

Gender	Number of Responses (N=400)	
	Frequency	Percentage (%)
Male	254	63.5
Female	146	36.5
Total	400	100

Table 4.1 shows that out of total 400 sample size 254 were male which is 63.5% of total sample and number of females were 146 that are 36.5% of total sample which contributed in undertaking research. The reason of fewer females may be because fewer females are enrolled in universities and number of male students is more. Cultural values are also the reason of this differentiation.

Table 4.2: Frequency Distribution and Descriptive Statistics with respect to "Age"

Age	Number of Responses (N=400)	
	Frequency	Percentage (%)
<25	331	82.8
26-35	68	17.0
46-55	1	0.3
Total	400	100

Table 4.2 shows the statistical results of age factor of responses from the students of different universities as respondents. Out of total 400 responses 82.5% of respondents fall in less than 25 years' age category with the highest frequency. 17% fall in 26-35 category and only 0.3% fall in 46-55 category with the least frequency of 1. Most of the responses fall in <25 category because the respondents used in this study are students of mostly graduation and post-graduation degrees and this is the reason their frequency is high.

Table 4.3: Frequency Distribution and Descriptive Statistics with respect to "Experience"

Experience	Number of Responses (N=400)	
	Frequency	Percentage (%)
<5 years	394	98.5
6-10 years	6	1.5
11-15 years	00	00
>20 years	00	00
Total	400	100

Table 4.3 depicts the statistical results of demographic variable Experience. According to which highest frequency falls in the category of <5 that is 98.5% of total 400 respondents. And rest of 6 respondents had 6-10

years' experience out of total 400 responses. The reason of high frequency of <5 years are the students of universities as respondents. Generally, students studying in universities have no experience or less than 5 years' experience.

Table 4.4: Frequency Distribution and Descriptive Statistics with respect to "Educational Level"

Educational Level	Number of Responses (N=140)	
	Frequency	Percentage (%)
Matric	00	00
Inter	00	00
Bachelors	131	32.8
Masters	262	65.5
Others	7	1.8
Total	400	100

Figure 4.4 furnishes the statistical view of variable 'Education level'. According to this 32.8% (131) of the respondent's education level is associated with Bachelors and 65.5% (262) of responses with the highest frequencies belongs Master degree, rest of 7 respondent's education level falls in others that can be higher degree level e.g. students of M.Phil. and doctorate. Reason of association with most of the responses with Master degree is they are the students who are about to get done with their studies and their intention for becoming entrepreneurs or doing job in near future would be higher than the

students of other education levels. That's why this study more targeted to the students studying in Master Degree.

Table 4.5: Frequency Distribution and Descriptive Statistics with respect to "Entrepreneurial education"

Entrepreneurial Education	Number of Responses (N=400)	
	Frequency	Percentage (%)
With Entrepreneurial education	154	38.5
Without Entrepreneurial education	246	61.5
Total	400	100

Figure 4.5 projects the statistical view of the students who have studied entrepreneurship as a subject and the students who have not studied entrepreneurship. The results show 38.5% of all the responses were the students who have studied entrepreneurship as a course and rest 61.6% were the students who have not studied entrepreneurship as a subject in their course. These results shows that there is less trend of entrepreneurial education in Pakistan and the students who have studied entrepreneurship mostly belongs to the departments of managements and social sciences and are business students.

Table 4.6: Frequency Distribution and Descriptive Statistics with respect to "Educational background"

Education background	Number of Responses (N=400)	
	Frequency	Percentage (%)
Life and health sciences	29	7.2
Exact sciences and engineering	61	15.3
Natural and environmental sciences	65	16.3
Social sciences and humanities	154	38.5
Economics and management	91	22.8
Total	400	100

According to figure 4.6, 7.2% (29) of the respondents belong to Life and health sciences, 15.3% (61) respondents belong to exact sciences and engineering, 16.3% (65) of the respondents were studying in Natural and environmental sciences, 38.5% (154) of the respondent students were studying in Social sciences and humanities and 22.8% (91) out of 100% of the students were studying in Economics and management department.

Table 4.7: Frequency Distribution and Descriptive Statistics with respect to "Knowledge base"

Items	Percentage response rate (N=400)						Mean	St. Dev
	SD	D	N	A	SA			
I have knowledge of business strategy	32	59	6	183	120	3.7500	1.25157	
I have knowledge of risk.	36	64	9	189	102	3.6425	1.26637	
I have knowledge about marketing	20	84	3	206	87	3.6400	1.17850	
I have knowledge about business planning	30	65	3	210	92	3.6725	1.20785	
I have knowledge about human recourse	30	56	4	204	106	3.7500	1.20643	
I have knowledge of business idea development	29	63	3	217	88	3.6800	1.18791	
I have knowledge of finance	45	72	0	193	90	3.5275	1.31856	

The analysis of the collected data concluded that how many respondents strongly disagree, disagree neutral, agree or strongly agree with the items of Knowledge base. In the above given table, it is found that 222 out of total 400 respondents strongly disagree with the items of knowledge base. The frequencies also indicate that most of the respondents have knowledge about marketing, business planning and business idea development while, sixth item got the highest votes for agree that are 217 which shows that most of the respondents have knowledge about business development. Although 28 out of 400 respondents voted for neutral and these might be the respondents who are not business students and don't have knowledge about business studies. Most of the respondents voted for agree and it shows that maximum of the respondents have basic knowledge about finance marketing and business ideas. Additionally, the mean values as specified in the table, shows that whether the responses got are negative or positive. Mean values estimated in this case indicate that most of the respondents have positively responded which shows that the formulated items are the necessary of the study. Few of these mean values

are 3.7500, 3.6425 and 3.6400 respectively.

Table 4.8: Frequency Distribution and Descriptive Statistics with respect to "Entrepreneurial motivation"

Items	SD	D	N	A	SA	Mean	St Dev
Enables my personal growth	7	42	3	254	101	3.977500	0.918751
Enables my personal fulfillment	11	34	7	231	117	4.022500	0.948284
Allows me to face challenges	8	43	0	230	119	4.022500	0.953555
Is exciting	11	37	5	209	133	4.027500	1.007114
Enables me to get monetary compensation based on merit	23	48	3	215	122	3.940000	1.095171
Allows me to acquire economic wealth	10	32	4	228	110	3.950000	0.994975
Makes it possible to increase opportunities for profit	14	41	2	214	138	4.075000	0.990873
Allows me to get a comfortable life	14	42	0	197	148	4.060000	1.046009
Helps me to increase personal income	12	52	10	213	123	3.982500	1.012302
Enables me to get public recognition	10	48	4	193	141	4.007500	2.291266
Allows me to be free	15	54	0	217	128	4.115000	2.313195
Allows me to afford independence	16	34	8	217	110	3.997500	1.211846
Allows me to be my own boss	32	40	1	172	161	3.990000	1.077963
Allows me to have the power to make decisions	17	37	4	192	147	4.030000	0.949578
Allows me to have authority	6	33	5	188	164	4.167500	1.063356
Allows me to choose my own tasks	16	40	11	171	169	4.110000	3.061319
Allows me to participate in the whole decision-making process	11	64	7	196	145	4.272500	1.26637

The analysis of the collected data concluded that how many respondents strongly disagree, disagree neutral, agree or strongly agree with the items of the Entrepreneurial motivation. In the above given table, it is found that 233 out of total 400 respondents strongly disagree with entrepreneurial motivation with the maximum vote of 32 to the 12th item that entrepreneurship doesn't allow them to become their own boss. While 76 out of 400 respondents voted for neutral. Most of the respondents voted agree for first item of the construct with highest percentage of 64% respondents agree that entrepreneurship enables their

personal growth. This shows that maximum of the respondents agree that they have entrepreneurial motivations in them. Additionally, the mean values as specified in the table, shows that whether the responses got are negative or positive. Men values estimated in this case indicate that most of the respondents have positively responded which shows that the tabulated items are the necessary of the study. Few of these mean values are 3.977500, 4.022500 and 4.022500 respectively.

Table 4.9: Frequency Distribution and Descriptive Statistics with respect to “Entrepreneurial Competencies”

Items	SD						Mean	St. Dev
		D	N	A	SA			
Identify goods or services customers want	15	54	00	210	121	3.920000	1.084685	
Perceive unmet consumer needs	22	48	10	207	113	3.852500	1.124235	
Actively look for products or services that provide real benefit to customers	14	69	2	212	103	3.802500	1.109762	
Seize high-quality business opportunities	26	58	5	181	130	3.827500	1.215086	
Develop long-term trusting relationships with others	21	66	00	197	116	3.802500	1.177693	
Negotiate with others	23	53	2	202	120	3.857500	1.155652	
Interact with others	24	43	3	292	139	3.950000	1.147079	
Maintain a personal network of work contacts	12	4	2	111	127	3.980000	1.040339	
Understand what others mean by their words and actions	15	51	5	201	128	3.940000	1.085978	
Communicate with others effectively	12	58	3	201	126	3.927500	1.081744	
Prioritize work in alignment with business goals	20	55	6	194	125	3.872500	1.146530	
Align current actions with strategic goals	19	52	3	181	145	3.952500	1.148277	
Look at old problems in new ways	26	8	00	181	131	3.842500	1.204708	
Refuse to let the venture fail whenever appropriate	17	65	7	200	111	3.807500	1.137400	

The analysis of the collected data established that how many respondents strongly disagree, disagree neutral, agree or strongly agree with the items of Knowledge base. In the above given table, it is found that total 184 respondents strongly disagree with the items of

knowledge base. The frequencies also indicate that most of the respondents have entrepreneurial competencies while, seventh item got the highest votes for agree that are 292 which shows that most of the respondents agree that entrepreneurial competencies are about interacting others. Although, least of the respondents voted for neutral and which are 48. Most of the respondents voted for agree and it shows that maximum of the respondents have Entrepreneurial competencies and they now what these competencies are. Additionally, the mean values as specified in the table, shows that whether the responses got are negative or positive. Men values estimated in this case indicate that most of the respondents have positively responded which shows that the formulated items are the necessary of the study. Few of these mean values are 3.920000, 3.852500 and 3.802500 respectively.

Table 4.10: Level of Entrepreneurial motivation and Independent Variables between Male and Female Respondents (N = 400)

Group Statistics
Group Statistics

Variables	Gender	N	Mean	Std. Deviation	F-value	P-value
Knowledge base	Male	254	3.665354	0.936355	0.004	0.945
	Female	146	3.667319	0.934913		
Entrepreneurial motivation	Male	254	4.038444	0.690520	0.402	0.527
	Female	131146	4.053586	0.701709		
Entrepreneurial competencies	Male	254	3.908886	0.786531	3.575	0.059
	Female	146	3.832681	0.881886		

The results found in table 4.10 demonstrate the level of significant between female and male. According to the estimates mean value of Male is 3.665354 while the mean value of female is 3.667319 which is almost equal to the mean of male value. P

value is 0.945 that is >0.05 and F value is 0.004 (<3) shows that there is no significant difference among the responses of male and female about knowledge base. Further the table also explains the variance of significance level of independent variable among male and female respondents according to which there is an insignificant differences among the responses of male and female students for entrepreneurial motivation and entrepreneurial competencies as their p value is respectively 0.527 and 0.059 which are >0.05 . While mean values for these two variables are 4.038444 and 3.908886 for male and 4.053586, 3.832681 for female students. According to the values of the means for male and female students there is a slight difference which dictates an insignificant difference in the responses of male and female students for entrepreneurial competencies and motivation. So H3 is rejected and overall it is found the male and female students had same responses about the items of survey.

Table 4.11: Level of Entrepreneurial motivation and Independent Variables between with entrepreneurial education Respondents (N = 400) Group Statistics

Variables	Entrepreneurial education	N	Mean	Std. Deviation	F-value	P-value
Knowledge base	No	154	2.858071	0.931207	160.103	.000
	Yes	246	4.171893	0.462490		
Entrepreneurial motivation	No	154	3.662338	0.865932	107.295	.000
	Yes	246	4.282879	0.408373		
Entrepreneurial competencies	No	154	3.322820	1.005826	197.108	.000
	Yes	246	4.230546	0.388593		

Above given table also shows the level of significance among the students who have entrepreneurial education and those who do not have. According to the data estimated p value for Knowledge base is 0.000 (<0.05) and f value is 160.103 (>3) which shows a high significance level. Furthermore mean estimate for the students without entrepreneurial education is 2.858071 and for students with entrepreneurial education is 4.171893 which specifies a higher level of significance of students with entrepreneurial education as compared to those who have not studied it. Likewise significance level of responses for entrepreneurial motivation and competencies is also 0.000 <0.05 and f-value is 107.295 and 197.108 respectively that is >3 . Mean of the students with entrepreneurial education with respect to entrepreneurial motivation is greater (4.282879) than the mean value of the students without entrepreneurial education (3.662338). Same is the case with entrepreneurial competencies. So, overall results concluded that there is a significance difference among the students with and without entrepreneurial education and leads to accept H4.

ANOVA

ANOVA test is applied to find out the differences between the established variables with reference to the different demographics of the respondents.

Table 4.12: Measuring of Differences between variables with respect to education level and education background of the Respondents (N = 400)

Table 4.12: Measuring of Differences between variables with respect to education level and education background of the Respondents (N = 400)

Variables	Motivation	N	Mean	F-value	P-value	
Education level	Matric	0	0	3.854	0.022	
	Inter	0	0			
	Bachelors	131	3.991019			
	Maters	262	4.087337			
	Others	7	3.411765			
	Total	400	4.0440			
Educational background	life and health sciences	29	3.6854	17.751	0.000	
	exact sciences and engineering	61	3.6895			
	natural and environmental sciences	65	3.7267			
	social sciences and humanities	154	4.2517			
	economics and management	91	4.2708			
		Total	400			4.0440

The Table 4.12 sums up the results of ANOVA test that was utilized to examine the variances of importance of the entrepreneurial motivation, entrepreneurial competencies and knowledge base between five education levels. The above findings disclose that F & P-values of project success are 3.854 (>3) and 0.02(<0.05) respectively which establish the significant difference between various level of education. For instance, the mean value of bachelor degree is (4.087337) which is highest among masters and other type of educational levels. This reveals that the significance level of education level for bachelors is highest whereas education level is least significant with other types

Likewise, for the life and health sciences, exact sciences and engineering, natural and environmental sciences with their respective least mean values of 3.6854, 3.6895, 3.7267, while social sciences and humanities and economics and management have the highest means of 4.2517 and 4.2708 has the highest level of significance. P and f values are 0.000<0.05 and 17.715>3 which show high level of significance

Table 4.13: Correlation Matrix of Knowledge base, Entrepreneurial

competencies and Entrepreneurial motivation

4.1.2 Correlations

4.1.2 Correlations		Knowledge base	Entrepreneurial Motivation	Entrepreneurial Competencies
Knowledge base	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	400		
Entrepreneurial motivation	Pearson Correlation	.433(**)	1	
	Sig. (2-tailed)	.000		
	N	400	400	
Entrepreneurial competencies	Pearson Correlation	.688(**)	.550(**)	1
	Sig. (2-tailed)	.000	.000	
	N	400	400	400

** Correlation is significant at the 0.01 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

By briefing the values of Pearson's correlation coefficient, the outcomes of the table 4.13 validate a significant correlation between all variables. Results clearly indicates that entrepreneurial motivation is significantly correlated with knowledge base as the value of p<0.05 with a numerical significant value of correlation coefficient of 0.433. Thus, we can say entrepreneurial motivation is not only associated with entrepreneurial competencies but it is also accompanied by knowledge base to drive intension of students towards becoming entrepreneurs.

4.1.3 Regression Analysis

Table 4.14: Regression coefficients, standard errors in parentheses, t-values in brackets and p-values in italic:

Table 4.14: Regression coefficients, standard errors in parentheses, t-values in brackets and p-values in italic:

Dependent Variable	Constant	Knowledge base	Entrepreneurial Competencies	Entrepreneurial education	F-Statistics	
Motivation 1		0.103	0.480		88.444	
		(0.142)	(0.043)			
		[15.425]	[1.782]	[8.334]		
		<i>0.000</i>	<i>0.076</i>	0.000		
Motivation 2		2.703	-0.021	0.454	0.206	65.130
		(0.141)	(0.049)	(0.048)	(0.081)	
		[15.193]	[-0.312]	[7.938]	[3.621]	
		<i>0.000</i>	<i>0.755</i>	0.000	0.000	

To test the hypothesis regression analyses was used. Above given table depicts results of regression for two models. In these models entrepreneurial motivation is an independent variable while entrepreneurial competencies and knowledge base are independent variables. Entrepreneurial education has been used as moderator. First model depicts the impact of independent variables (entrepreneurial competencies and knowledge base) on dependent variable (entrepreneurial motivation). R square in first model is 0.308 which accounts for a 30% change in dependent variable because of independent variable. According to the values calculated the impact of entrepreneurial knowledge on entrepreneurial motivation is ($\beta=0.103$) $p>0.05$ which is 0.076 and shows there is an insignificant relation between knowledge base and entrepreneurial motivation and rejects H1 in other words it could not be found that entrepreneurial motivation and knowledge have a significant relationship. These results are in line with the results of Souitaris et al (2007) but contradicts with the findings of Martin and Laing (1998). On the other hand, p value of entrepreneurial competencies is 0.000 ($p<0.05$) which illustrates a significant and positive relation between entrepreneurial competencies and entrepreneurial knowledge. So, H2 is accepted and the findings are aligned with the findings of Lee et al. (2005). In model 2 entrepreneurial education acts as a moderator between dependent and independent variables. Value of R square is 0.330 which shows fitness of model and depicts a 33% change in dependent variable because of independent variable. According to the

values calculated by regression analyses p value is 0.755 which is greater than 0.05 and $\beta=-0.021$ which shows a negative and insignificant relation and its means entrepreneurial education decrease the impact of knowledge base on entrepreneurial motivation. Moderator is also decreasing the value of regression coefficient from 0.103 to -0.12 which rejects H5 and proves that there is no evidence that the students with entrepreneurial education have more motivation to become entrepreneurs. H6 is also rejected as value of regression coefficient is decreasing from 0.480 to 0.454. Hence entrepreneurial education is weakening the impact of entrepreneurial competencies on motivation and proves that students with entrepreneurial education are less likely to become entrepreneurs. These results are in line with the findings of (Heuer, 2014) but contradict with the results of (Lee S. C., 2005; Peterman, 2003) according to which entrepreneurial education has a positive and significant impact on entrepreneurial motivations.

4.2 FINDINGS

The prime aim of this research study was to examine the effect of knowledge base and entrepreneurial competencies on the motivation of the university students to become entrepreneurs. It was also examined that whether the entrepreneurial education taught as course in universities increase the motivation of the students or not. Study was purely made on the universities of Pakistan. Furthermore, this study prioritizes the variables according to their importance on the basis of replies to questionnaire given by the students. Therefore, the test applied and data analyses made in 3rd and 4th chapters following finding

were found. It was found in regression analyses that the Value of R square is 0.330 which shows fitness of model and depicts a 33% change in dependent variable because of independent variable. The findings for model 1 illustrates that independent variable knowledge base has an insignificant impact on entrepreneurial motivation with p-value of $0.076 > 0.05$. The analyses further depict a significant relation of entrepreneurial competencies with entrepreneurial motivation with p-value of $0.000 < 0.05$. Entrepreneurial education is used as moderator as shown in model 2 which indicates an insignificant relation of entrepreneurial knowledge with entrepreneurial motivation with p-value $0.755 > 0.005$ and further regression analyses are showing that moderator is decreasing the impact of entrepreneurial competencies on entrepreneurial motivation. The findings of t test show that the responses made by male and female are same and there is no significant difference between their responses. As the value of p is 0.945, 0.527, and 0.095 respectively for Knowledge base, entrepreneurial motivation and competencies. Further no clear difference was seen between the male and female respondents. Significant difference between the responses of the students with entrepreneurial education and without entrepreneurial education was found with a significant p-value $0.000 < 0.05$ and difference between the mean values were also found. ANOVA test results furnishes a significant level of variance with in five level of education and educational background as p-value is $0.000 < 0.05$ and F-value is > 3 Correlation analyses depicts a significant correlation impact of all the dependent variables on entrepreneurial motivation with p-

value $0.000 < 0.05$, further it was analyzed that dependent variables contribute to the entrepreneurial motivation with respect to their correlation significance.

4.3 DISCUSSIONS

Several studies have been made earlier to the factors effecting entrepreneurial motivations and intension. The factors incorporated by this study like entrepreneurial competencies and knowledge base are supported by (Farhangmehr, 2016). According to the results found in this study the knowledge originates from the traditional business management field e.g. Finance, marketing, human resource, business idea development, accounting and ethics, business law are not decisive in motivating the students of universities in Pakistan. Inversely, entrepreneurial competencies that majorly includes organizing ability, concepts, relationships, commitment, strategy has a significant relationship with the motivation and increase the intension of students to become entrepreneurs. So in addition to the traditional knowledge students must possess these competencies and skills in order to drive their motivation towards undertaking entrepreneurial actions. The findings from this study also illustrates that entrepreneurial educations do not moderate the impact of entrepreneurial competencies and knowledge base on entrepreneurial motivation which might be because of economic and further contextual dimensions which have been ignored largely by the past studies. Because the exogenous influences that are also worth studying like situational variables and traits affect the intensions (Ajzen, 1991). Another explanation might be that the students

who have studied entrepreneurship more specifically know the hardships, risks and complexity of reality involve in starting ventures as they have undergone a process of new business generation in their course practically and that is why they are reluctant to undertake entrepreneurial activities (Tanveer, 2013). Entrepreneurial education also provides a better understanding of external environment complexities which acts as inhibitors in certain situations and specifically in economic crises. Another explanation can be the insufficiency of entrepreneurship education and methodologies consisting of entrepreneurial models are infatuate that makes it crucial to refocus on pedagogy question (Laukkanen, 2000) and the embracing of new approaches (Neck, 2011). This gap is also identified by Edelman (2008) that what is taught about entrepreneurship and what entrepreneurs actually do is different. Kirby (2004) analyzed different entrepreneurial education patterns and conclude that rarely these courses focus in instilling successful entrepreneurial skills and behaviors in the students. Entrepreneurship curriculum format adopted by USA is the most popular and focuses on "business plan" (Honig, 2004). While institutions in Finland incline to stress the risk related with the self-employed career (Taatila, 2010). This is also the case with the universities in Pakistan. These universities are using entrepreneurship training models which are focusing on the development of the business project but lack the efforts to develop entrepreneurial competencies and skills in students. This approach also demotivates the students because it tells them the risks and hardships involved but doesn't create enough skills and competencies

in these students to cope with these risks.

5.2 RECOMMENDATIONS

This study recommends the universities of Pakistan to make modifications to their education model and policies and include development of necessary skills and competencies in students to develop entrepreneurial motivation in them. As business development activity scares student of hardships and risks involved, instead universities should develop enough skills and competencies in students to cope with these risks and should be taught guts to face and overcome these risks and challenges. It is also recommended that universities should motivate their students to think critically and outside the box instead of just reading textbooks.

5.3 PRACTICAL IMPLICATIONS

This study has its implications of wider practical and theoretical nature. The results of this study contribute to the literature regarding theory. Although results of this study are contradictory to the results found in previous researches but it gives various useful explanations to these results as it highlights the poor and inadequate educational models used in universities of Pakistan. Based on the findings and conclusion, this study makes additions to practice by making useful recommendations to those holding senior management positions in Academia and to the policy makers in higher education sector alike. To develop the motivation in the students with an intent to develop their own ventures, the education policy should include the development of entrepreneurial expertise and practical know-how through tacit knowledge

rather than relying on theoretical knowledge. Universities are also recommended to hire the teachers who have abilities to develop and implement such innovative and creative programs.

5.4 FUTURE RESEARCH

This study is purely conducted in Pakistan by having economic crisis in mind as it might also explain findings of this study. Entrepreneurial motivation with the same context and bigger sample would be relevant to confirm the results of this study.

Another situational variable can also be used which is ignored in this study like length of entrepreneurship education that also could have explanatory power.

This study is a quantitative study but it can also include a qualitative part by interviewing the students about their motivations and views about entrepreneurship. So more generalized and more authentic results can be found to support the results of the present study.