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## An Intention to select Entrepreneurship as a Career Choice- A case of undergraduate students enrolled in Entrepreneurship Programs

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### Abstract

*This paper examines the entrepreneurial orientation amongst the students acquiring entrepreneurial education at center for entrepreneurial development at IBA Karachi. This research contributes to the literature through its theoretical model, which tests entrepreneurial intention of undergraduate students through Smart PLS 3.0. A quantitative research method has been adopted. Entrepreneurial skills & competencies and entrepreneurial knowledge are taken as independent variables. Entrepreneurial career option is dependent variable. Effectuation is taken as a mediating variable. The model has been applied on a sample of 250 undergraduate students, who enrolled in different entrepreneurship programs of Karachi (Example: Science and Technology Entrepreneurship Program (STEP) and International Entrepreneurship Winter School (IEWS) at IBA CED. The results of the study showed that effectuation significantly mediates the association between entrepreneurial skills & competencies and entrepreneurial career option. The study affirms that effectuation is a mediator in the association between entrepreneurial knowledge & awareness and entrepreneurial career option. The implications of this research will be helpful for academicians, research scholars and policy makers, working in the entrepreneurial development sector. The research will contribute to the existing literature through the entrepreneurship model.*

**Key Words:** Entrepreneurial Education, Entrepreneurial Career Option, Effectuation

### Introduction

Globalization and technological advancement has made the global economy uncertain and complicated in nature (Young et al., 2006). Market trends are changing, jobs are changing into tasks and individuals with diversified, complex and creative entrepreneurial knowledge and skills are in constant demand (Neffke & Henning, 2013). These entrepreneurs are encountering unemployment and gender disparity challenges. Matthews, Pendakur, & Young (2009) seconds these arguments mentioning current market has limited employment/job opportunities. McKeown & Lindorff (2011) argued that each year millions of graduates seek opportunities and look for suitable career options. Notably, the global economy is increasingly volatile; thus imposing a need of entrepreneurial mindset development and entrepreneurship selection as a career option. Tanas & Audretsch (2011) argued that entrepreneurship acts as a catalyst for creation of employment opportunities and stabilizing economies.

In the context of above discussion, entrepreneurial education is essential. Academic institutes can play a significant role in delivering entrepreneurial awareness, abilities, skills, and knowledge among the students and help them in excelling in their entrepreneurial careers. Entrepreneurial education unleashes entrepreneurial skills of the students and give them a chance of exploring entrepreneurial opportunities in their surroundings (Karimi et al., 2016). Karimi et al., (2016) argued that academic institutes, colleges and universities must understand the contribution of entrepreneurship in the economic growth and development.

Less is known about entrepreneurial attitudes and intentions acquiring entrepreneurial education in different institutes/universities of Karachi. Today's generation is tomorrow's future leaders and entrepreneurs. They are nation builders.

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## **Institutional Background**

IBA Center for Entrepreneurial Development (CED) is a pioneer institute that teach entrepreneurship in Karachi. This department is teaching entrepreneurship over a time of 10 years and thousands of students passed out from different courses at this center. There are different entrepreneurial courses offered at this center, with some of them include; Science and Technology Entrepreneurship Program (STEP), Mothers Entrepreneurship Program (MEC), Certificate in Entrepreneurship Program (CIE), National Entrepreneurship Program (NEP), UNDP-Sponsored Youth Employment Project, Women Entrepreneurship Program (WEP), International Entrepreneurship Summer School (IESS), International Entrepreneurship Winter School (IEWS), Summer Entrepreneurship Program (SEC), etc. The purpose of these program is to foster entrepreneurship in Pakistan and combat against unemployment, gender discrimination, and related challenges.

Theory of Planned Behavior explains three conceptually independent constructs for measurement of intention including; subjective norms, perceived behavioral control and attitude towards behavior. Ajzen (1991; 1988) argued that as the subjective norms and attitudes become favorable towards the behavior, an increased in perceived behavioral control is visualized and the intention to perform a specific behavior becomes stringer. In similar words, Theory of Planned Behavior demonstrates that individual's entrepreneurial skills, competencies, orientation towards entrepreneurship, and feasibility act as major influencers in their future career selection.

Alternatively, Shapero and Sokol (1982) presented an intention model in the domain of entrepreneurship namely; Entrepreneurship Event Model (EEM). In the context of this model, personal desire perceptions of becoming an entrepreneur, propensity to act and feasibility are core constructs. In this model, entrepreneurial intention is dependent on both; feasibility and desirability.

Previous scholars, have applied these two models together ([Batley & Ómarsson, 2014](#); [Barnes, & de Villiers Scheepers, 2018](#)) and made a comparison. Kruger et al. (2000) revealed that intentions are best predictor of behaviors as entrepreneurship. [Unger et al., \(2011\)](#) argued that situational variables (e.g; entrepreneurial education/ knowledge) and personal variables (entrepreneurial skills/competencies) exert an influence on entrepreneurial career selection. Therefore, intention-based models are strong predictors of entrepreneurial activity.

[Yaseen et al., \(2018\)](#) performed a research on entrepreneurial intention to start an agribusiness in the dairy industry of Pakistan. The author applied the "determinants of entrepreneurial intentions" and "entrepreneurial event model" and surveyed 174 entrepreneurs in dairy industry of Pakistan. [Yaseen et al., \(2018\)](#) reported that entrepreneurial intentions were influenced by perceived readiness, individual's conviction, perceived feasibility, perceived desirability and triggering event. Entrepreneurial education and programs conducted in different universities can serve as a trigger for the students ([Batley & Ómarsson, 2014](#); [Barnes, & de Villiers Scheepers, 2018](#); [Fernandez, T., & Duval-Coetil, 2017](#)). These students gain knowledge through the entrepreneurial courses & workshops offered in their universities. These programs are major influencers for development of an entrepreneurial mindset ([Karimi et al., 2016](#)).

Empirically, the literature available on entrepreneurial intentions lies into two categories ([Karimi et al., 2016](#); [Young et al., 2006](#)). A bulk of research is available on entrepreneurial behaviors & attitudes and their role in selecting an entrepreneurial career ([Karimi et al., 2016](#); [Young et al., 2006](#)). Alternatively, a massive literature discourses on the entrepreneurial mindset (causal and effectual) development ([Batley & Ómarsson, 2014](#); [Barnes, & de Villiers Scheepers, 2018](#); [Fernandez, T., & Duval-Coetil, 2017](#)). However, the role of entrepreneurial knowledge/awareness and entrepreneurial skills & competencies in influencing individuals career selection is still unknown.

[Karimi et al., \(2016\)](#) argued that regardless of the extensive theoretical literature, there is a gap in entrepreneurial intention research. This study is contributing to the existing literature by investigating entrepreneurial intentions amongst students acquiring entrepreneurial education.

## **Association between Entrepreneurial Education and Entrepreneurial Intention**

The purpose of entrepreneurial education (EE) is to espouse contemporary entrepreneurial knowledge, values, skills in an individual ([Mitchelmore, & Rowley, 2010](#); [O'Connor, 2013](#); [Ollila, & Williams Middleton, 2011](#)). Through entrepreneurial knowledge an individual can understand, assess and resolve a wide range of problems. Academic institutes incorporate entrepreneurial education for cultivating entrepreneurial mindsets, skills, competencies, capabilities, and behaviors amongst students.

Academic institutes are adopting entrepreneurial education to equip students with entrepreneurial knowledge & awareness, foster entrepreneurial skills and competencies, cognition, entrepreneurial spirit and enforce them to select entrepreneurship as a career path [Shepherd, Williams, & Patzelt, 2015](#)). The entrepreneurial curriculum motivates the students and enhance their entrepreneurial intentions. Entrepreneurial education and awareness enable to become young entrepreneurs, as job creators rather as job hunters.

[Dao, & Loungani, \(2010\)](#) & [Adebayo, \(2013\)](#) argued that unemployment challenges across the globe and devastating job mindsets have created anxiety amongst graduating students. They face a challenge in selecting viable careers after completion of their bachelor degree. [Efrata, Hadiwidjojo, & Aisjah, \(2016\)](#) examined entrepreneurial intentions amongst Indonesian students. These students were exposed to entrepreneurial education and found that these educational programs dampen entrepreneurial intentions amongst the students. [Puni, Anlesinya, & Korsorku, \(2018\)](#) conducted a research in Sub-Saharan Africa and examined the role of entrepreneurial education in increasing entrepreneurial intentions. [Puni, Anlesinya, & Korsorku, \(2018\)](#) study found statistically significant and positive influence.

Alternatively, [Adelaja et al., \(2016\)](#) study presented contradictory results. The authors applied a pretest and posttest intervention amongst Nigerian students. The result of their study found that entrepreneurial education posits a negative impact on entrepreneurial education in these students. [Mbuva & Schachtebeck, \(2016\)](#) compared the entrepreneurial intentions amongst the students who registered for entrepreneurial education and those who didn't. The results of their study revealed that students acquiring entrepreneurial education belief that their entrepreneurial intentions have increased. These students exhibited greater personality traits towards entrepreneurship.

Surprisingly, Indonesia, is one of the countries who are satisfied with their entrepreneurial education curriculum ([Kusmintarti et al., 2016](#)). Entrepreneurial educational program in this country, assures that students select entrepreneurship as a career option and develop entrepreneurial characteristics amongst themselves. [Kusmintarti et al., \(2016\)](#) examined the mediating role of entrepreneurial characteristics in the relation between entrepreneurial education and entrepreneurial career intention. The study included data from 2016 students, who acquired entrepreneurial knowledge and education at Brawijaya University of Malang and State Polytechnic of Malang. The results of the study affirmed the entrepreneurial intention of the students and development of entrepreneurial characteristics after completion of their course.

## Effectuation & Causation Mindsets and their role in Entrepreneurial Decision Making

Sarasvathy (2001) defined two distinct entrepreneurial mindsets; effectuation and causation. Causation model rationally predicts an uncertain future through a given goal and a focus on an expected return. Here there are unexpected contingencies in a problem space. In contrast, the effectual model of entrepreneurship reveals a creative control in which an entrepreneur focus on the available resources/means and reshape the opportunities while dealing with the problems ([Mitchelmore, & Rowley, 2010](#); [O'Connor, 2013](#); [Ollila, & Williams Middleton, 2011](#)). Entrepreneurs with effectual mindsets take an opportunity and control their unforeseen future through the available means, their affordability range, emphasize on collaborations and exploit exigencies as they move forward.

Additionally, Sarasvathy (2001) argued that causation and effectuation goes hand in hand, and overlapping between the two mindsets can be visualized. Therefore, in actual practice, a myriad of situational factors influences entrepreneurial decision making and intentions, for venture creation ([Engel et al., 2017](#))

## Entrepreneurial Career Option (ECO)

In the entrepreneurial research investigations, career is a point of discourse (Batley & Ómarsson, 2014; Barnes, & de Villiers Scheepers, 2018; [Fernandez, & Duval-Coetil, 2017](#)). Based on the analysis of structural facets of career as selection of jobs, industries, positions, and a switch between them, this research has a focus on the entrepreneurial processes. Majority of the career studies in the context of entrepreneurial literature reveals the role of corporate sector firms in hindering or reinforcing individual's entrepreneurial attitudes and behaviors as organizational products. Contemporary scholars have explained career experiences, orientations, paths, practices and mindsets ([DeTienne, 2010](#); [Shepherd, Williams, & Patzelt, 2015](#); [Beeka, & Rimmington, 2011](#)).

There is a conception that career often skip hierarchal stages which are involved in structuring organizations. However, contemporary, devastating job mindsets, technological advancement, economic turbulence and globalization have originated novel career options that captivates younger

generation. For example; boundary less career, protean career, post-corporate career are few contemporary career models (Mitchelmore, & Rowley, 2010; O'Connor, 2013; Ollila, & Williams Middleton, 2011). In these careers, the individual's working life is far from the organizational boundaries, as it used to be in traditional careers, and thus these careers extent in diversity, simultaneously (Batley & Ómarsson, 2014; Barnes, & de Villiers Scheepers, 2018; Fernandez, & Duval-Coetil, 2017). Additionally, these careers are attributed by occupational and organizational mobility, both psychologically and physically. The uncertainty in one's career is an influencer of diverse career options, and differentiates it from the traditional career paths.

Entrepreneurial career option can be conceptualized as a process that enforces the individual to select entrepreneurship as a career option (Hashim, 2017). Hashim, (2017) argued that ECO is a precise and conscious decision made by an individual and reveal their preferences for selecting entrepreneurship as a career choice. Alternatively, Batley & Ómarsson, (2014) mentioned that individual's personality traits, skills, attitudes, entrepreneurial education, perceived social pressures of becoming an entrepreneur and perceived control over venture creation behavior, leads to this career option. Numerous factors, influence decision making of these entrepreneurs for selecting entrepreneurship as career. These include; educational facets, financial conditions, diverse and contemporary entrepreneurial environment, social pressures, family conditions, personality traits and role models (Fernandez, & Duval-Coetil, 2017).

### Aims of Research

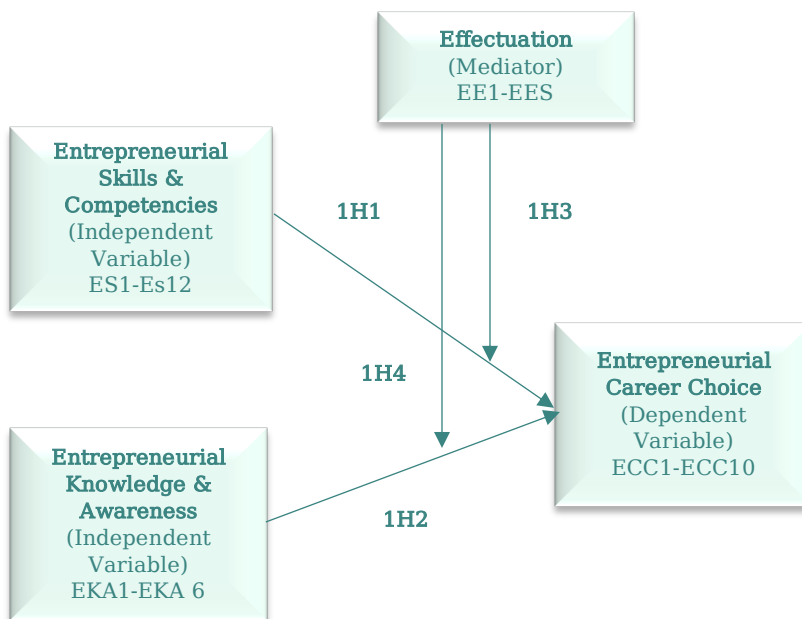
The purpose of this research is to explore entrepreneurial intensions of students who acquired entrepreneurial education at IBA CED.

### Hypothesis

The hypothesis for this research includes the following:

- H1: Entrepreneurial skills & competencies (ES) positively influence entrepreneurial career choice (ECC) amongst graduating students
- H2: Entrepreneurial Education & Awareness (EE) positively influences ECC amongst graduating students
- H3: Effectuation (EFF) mediates the association between ES and ECC
- H4: Effectuation (EFF) mediates the association between EE and ECC

### Conceptual Framework



## Research Methodology

### Entrepreneurial Education Intervention at IBA CED

IBA CED has an indigenous model of entrepreneurship which is a combination of the pre effectuation principles of Khudi (Dr. Allama Iqbal), Effectuation, the family network and thinking beyond oneself. The programs that are offered at CED are for different age groups and target populations. During the course, the participants are engaged in different experiential activities and several interventions are carried out. In the pre-effectuation mindset, the participants are exposed to the pre-effectuation principles of Khudi and Self. Allama Iqbal's poetry and Ashfaq Ahmed's articles is shared. They are engaged in gratitude and humility exercises for understanding the purpose of life and making it meaningful.

The second part of this model is based on effectuation principles as demonstrated by Sarasvathy (2001). These principles are inclusive of; affordable loss, bird in hand, crazy quilt, pilot in the plane, and crazy quilt. The participants are taught effectuation through real life entrepreneurial case studies, guest speaker sessions, Chiniotic/ Memon stories, parsimony, quilt exercises, etc. Another interesting element of the model is to engage their family members in their businesses. For training of this facet, the participants are exposed to different family business case stories, guest sessions, and exercises. The fourth intervention is related to nation building. This facet enforces the participants to think beyond selfishness and engage in social entrepreneurship and work for the betterment of the society.

### Research Design and Approach

The purpose of this research is to explore entrepreneurial intention as a career option amongst the sample of students enrolled in the IBA CED programs; International Entrepreneurship Winter School (IWES) and Science and Technology Entrepreneurship Program (STEP). A positivism philosophy and quantitative research method is applied. Quantitative research design involves the collection of information from massive sample. There is no interview collection in this research method. Quantitative data involves the collection of information through a survey questionnaire. The questions are mostly closed ended.

### Sampling

Non-probability sampling strategy and convenience sampling technique has been applied for the collection of the data. A sample of 250 students has been part of this research. These students have undergone the interventions conducted during entrepreneurial training at IBA CED. These students belong to different areas of Karachi and acquiring undergraduate education at different institutes of Karachi.

### Measures and Constructs

A quantitative research questionnaire has been filled from the students who have undergone the intervention at IBA CED. The first section of the questionnaire is based on their demographics, age, family income levels, and educational backgrounds. The second section has the main constructs of this study. A five – point Likert scale has been applied based on; strongly agree (0), agree (1), neutral (2), disagree (3) and strongly disagree (4) options. The independent variables for this research include; entrepreneurial knowledge & awareness, and entrepreneurial skills & competencies. The dependent variable is entrepreneurial career option.

Effectuation is taken as a mediating variable. A total of six items are adopted for entrepreneurial knowledge & awareness (EK 1-6) construct from from [Wilson, Kickul, & Marlino, \(2007\)](#). The items of entrepreneurial skills & competencies (ES 1-13) are taken from (Felicia et al., 2012; [Loué, & Baronet, 2010](#)). Effectuation items (EF 1-8) are adopted from Sarasvathy (2001). Lastly, Entrepreneurial Career Option (ECO 1- 10) are adopted from [Pihie & Akmaliah, \(2009\)](#); [Kim-Soon, Ahmad, & Ibrahim, \(2014\)](#).

Construct	Items
Effectuation	EE1 An entrepreneur can initiate a business with minimum investment
	EE2 An entrepreneur takes calculated risks
	EE3 An entrepreneurial decision making has been largely driven by how much he could afford to lose
	EE4 Entrepreneurs allow the business to evolve as opportunities have emerged
	EE5 An entrepreneur evaluates the set of resources and means he has at his disposal and thought about different options

Entrepreneurial Knowledge & Awareness	EE6	An entrepreneur experiments with different products and/or business models
	EE7	An entrepreneur uses a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty
	EE8	It is impossible for an entrepreneur to see from the beginning where we wanted to end
	EKA1	An entrepreneur must have clear, realistic and achievable goals and procedures
	EKA2	An entrepreneur may not bother to acquire more knowledge as long there is progress in the business
	EKA3	An entrepreneur has a reasonable degree of initiative, imagination, skills & creativity
	EKA4	An entrepreneur can create his/her own business without any basic entrepreneurship skills or expertise
	EKA5	An entrepreneur searches for opportunities & makes good use of them to promote business and income
	EKA6	An entrepreneur does not have the potential to be successful unless supported by government or individuals
	Entrepreneurial Skills & Competencies	ES1
ES2		You cannot start a business if you do not have good knowledge of the product or service
ES3		I am a hardworking person
ES4		I think that you cannot be a successful entrepreneur if you don't have sound technical knowledge
ES5		I usually defend my views if someone disagrees with me
ES6		I like challenges that really stretch my abilities rather than things I can do easily
ES7		When I am in a group, I like to take the lead
ES8		I want to delegate task effectively, while working in a group
ES9		My things are organized properly
ES10		I believe in short term planning
ES11		I am adventurous and want to explore new things
ES12		I like to create new things and develop something different
Entrepreneurial Career Choice	EC1	How interested are you in setting your own business immediately after your Bachelor's Degree?
	EC2	How likely is it that you will start your own business within five years of completing your Bachelor's Degree?
	EC3	How attractive it would be for you to start a business?
	EC4	How easy would it be for people in general to start a business?
	EC5	How attractive is it for people in general to start a business?
	EC6	In your institute students are actively encouraged to pursue their own ideas
	EC7	The entrepreneurship development and project management paper in the syllabus provide students with the necessary knowledge required to start a business
	EC8	Entrepreneurship can be considered as a career option in today's globalized world
	EC9	Entrepreneurship is a rewarding career
	EC10	Lack of finance is one of the main reasons why many students don't start a business / firm

## Data Analysis Strategy

Primary and secondary method of data collection are utilized in this study. Primary data is collected through the quantitative questionnaire. The secondary data is collected from the authentic journal and websites to understand the constructs under study. Data is analyzed through Smart PLS 3.0.

## Results & Discussion

### Measurement Model Assessment

The questionnaire developed to collect data consisted of items adapted from different generalized

and established sources. It is essential to determine the reliability and validity of the research instrument to ensure that the gathered data is of value and use. Convergent and discriminant validity have been used for establishing validity. Results of confirmatory factor analysis have been depicted in below figure.

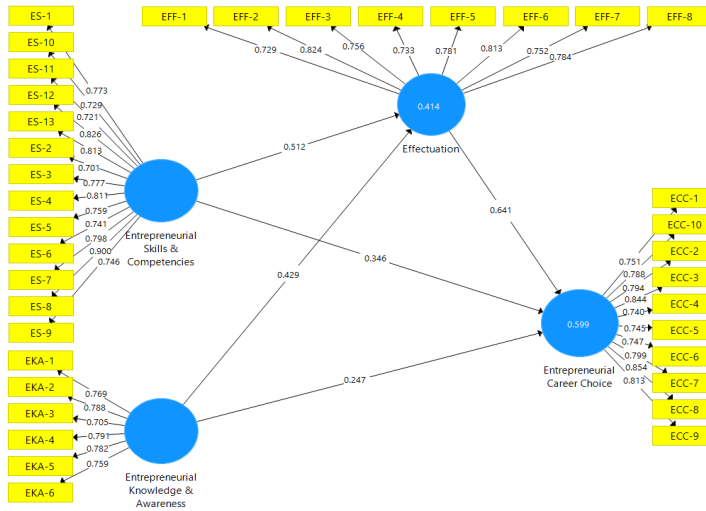


Figure 1: Confirmatory Factor Analysis and Path Analysis

Table 1. Factor Loadings, Cronbach’s Alpha, Composite Reliability and AVE

Variable	Items	Standardized Loadings	Cronbach’s Alpha	Composite Reliability	Average Variance Extracted (AVE)
Entrepreneurial Skills & Competencies	ES1	0.773	0.811	0.888	0.576
	ES2	0.701			
	ES3	0.777			
	ES4	0.811			
	ES5	0.759			
	ES6	0.741			
	ES7	0.798			
	ES8	0.900			
	ES9	0.746			
	ES10	0.729			
	ES11	0.721			
	ES12	0.826			
	Entrepreneurial Knowledge & Awareness	EKA1			
EKA2		0.788			
EKA3		0.705			
EKA4		0.791			
EKA5		0.782			
EKA6		0.759			
Effectuation	EFF1	0.729	0.800	0.870	0.596
	EFF2	0.824			
	EFF3	0.756			
	EFF4	0.733			
	EFF5	0.781			
	EFF6	0.813			
	EFF7	0.752			
	EFF8	0.784			
ECC1	0.751				

	ECC2	0.794			
	ECC3	0.844			
	ECC4	0.740			
Entrepreneurial Career Choice	ECC5	0.745	0.904	0.920	0.562
	ECC6	0.747			
	ECC7	0.799			
	ECC8	0.854			
	ECC9	0.813			
	ECC10	0.788			

The above table summarizes Factor Loadings, Cronbach’s Alpha, Composite Reliability and AVE values for all variables incorporated in this study. Normally, loading value for each item should be greater than 0.70 and some social sciences researchers have suggested 0.60 as well to be suitable loading value (Awang, 2014; [Hair et al., 2014](#)). Results of this study have identified that the factor loading values are up to the standard range. [Nunnally \(1978\)](#) suggested that high internal consistency of the data is indicated when Cronbach Alpha value is greater than 0.70. The values of reliability are indicating strong internal consistency of the items of this study since they are closely related as a group. [Fornell and Larcker \(1981\)](#) suggested that the value of composite reliability should be greater than 0.7 to determine internal consistency and reliability of the scale. The composite reliability values for all variables used in this study are greater than the standard level i.e. 0.7 depicting reliability of the instrument and it can be used in different settings in order to measure same constructs at different point of time. AVE (Average Variance Extracted) is examined for the purpose of determining convergent validity. [Hair, Ringle and Sarstedt, \(2011\)](#) recommended that AVE should explain 50% or more variance accounted for the indicator and its value should be 0.5 or more. The convergent validity of the instrument used in this study is established as the AVE values for all latent variables are greater than 0.5.

### Discriminant Validity

Discriminant validity is executed to endorse that the manifest variable in a construct is related to the specific latent variable and its cross-loading value in the latent variable is greater than that in other constructs ([Chin, 1988](#)). It determines that one construct is different from another construct.

**Table 2.** Discriminant Validity

	ES	EKA	EFF	ECC
ES	0.852			
EKA	0.334	0.748		
EFF	0.069	0.129	0.791	
ECC	0.038	0.166	0.390	0.749

The results of discriminant validity are shown in table 4. According to Hair et al. (2011), one approach of finding out discriminant validity when no item loading should be higher on any other construct than the construct it aims to measure. [Fornell and Larcker \(1981\)](#) also suggested that discriminant validity can be determined through AVE which should be higher than the variance among the construct and other constructs.

### Correlation Analysis

Table-4 shows that all independent variables (Entrepreneurial Skills & Competencies and Entrepreneurial Knowledge & Awareness,), the mediating variable (Effectuation) and the dependent variable (Entrepreneurial Career Choice) are having positive correlation among them at 1% level of significance.

**Table 3.**

Variable	ES	EKA	EFF	ECC
ES	1			
EKA	.679**	1		
EFF	.437**	.464**	1	
ECC	.410**	.374**	.568**	1

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

Pearson correlation value among ES and EKA habitual behavior is .679 and it has significant p value (.000). This specifies a moderately positive correlation among ES and EKA. Pearson correlation value among ES and E/FF is .437 and it has significant p value (.000). This indicates a

positive but slightly moderate correlation among ES and ECC. EFF is also depicting a moderately positive correlation with all independent and dependent variables while having significant p value (.000).

**Table 4.** Direct Effect Path Coefficient

	R <sup>2</sup>	Path Coefficient	T Statistics	P Value	Significant
ES -> EFF ( <i>R</i> <sup>2</sup> = .271)	.414	0.512	17.622	0.000	Yes
EKA -> EFF ( <i>R</i> <sup>2</sup> = .256)		0.429	12.502	0.000	Yes
ES -> ECC ( <i>R</i> <sup>2</sup> = .214)	.599	0.346	8.460	0.000	Yes
EKA -> ECC ( <i>R</i> <sup>2</sup> = .207)		0.247	6.210	0.002	Yes
EFF -> ECC		0.641	21.561	0.000	Yes

The above table shows the impact of independents variables on mediating and dependent variable, and also mediating variable on dependent variable. The results show that each variable has positive and significant impact on each other.

Table 5

**Specific Indirect Effect**

The below table shows that EFF is significant variable between ES, EKA and ECC in our study. EFF is playing positive and significant impact between independents and dependent variables.

**Table 5.**

	Beta Value	T Statistics	P Values	Significant
ES -> EFF -> ECC	0.343	18.901	0.000	Yes
EKA -> EFF -> ECC	0.237	11.276	0.000	Yes

The correlation and regression analysis of the gathered data confirms that all hypotheses have been upheld. The proposed model has a positive association which indicates the significance of this research.

**Conclusion & Recommendations**

This research reveals the impact of entrepreneurial education on the students graduating from universities worldwide, with primary data based on Pakistani universities. The results of the study revealed that entrepreneurial educational programs conducted at IBA center for entrepreneurial development positively influenced the participants attending the programs to opt for entrepreneurial career option. Effectuation is found to be a significant mediator in the relationship between entrepreneurial education & awareness and entrepreneurial career selection. Additionally, it has been found that effectuation mediates the association between entrepreneurial skills & competencies and entrepreneurial career selection.

The study reveals that entrepreneurial education can posit a viable impact on the student entrepreneurial orientation. If these students select their careers as entrepreneurs, once they graduate, they can significantly & positively impact the economy of the country. Therefore, entrepreneurial stakeholders, governmental bodies and academic institutions are advised to add entrepreneurship training as a regular curriculum and develop appropriate policies in this context.

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**Appendix – 1**  
**Quantitative Research Questionnaire**  
**Demographics**

Name (Optional): \_\_\_\_\_ Business Name: \_\_\_\_\_  
 Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Occupation: \_\_\_\_\_  
 Area: \_\_\_\_\_ Family Income: \_\_\_\_\_  
 Semester: \_\_\_\_\_ Institute: \_\_\_\_\_

**Quantitative Questionnaire**

S.NO.	Strongly Agree (0)	Agree (1)	Neutral (2)	Disagree (3)	Strongly Disagree (4)
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**Effectuation**

- An entrepreneur can initiate a business with minimum investment
- An entrepreneur takes calculated risks
- An entrepreneurial decision making has been largely driven by how much he could afford to lose
- Entrepreneurs allow the business to evolve as opportunities have emerged
- An entrepreneur evaluates the set of resources and means he has at his disposal and thought about different options
- An entrepreneur experiments with different products and/or business models
- An entrepreneur uses a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty
- It is impossible for an entrepreneur to see from the beginning where we wanted to end

S.NO.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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**Entrepreneurial Knowledge & Awareness**

- An entrepreneur must have clear, realistic and achievable goals and procedures

An entrepreneur may not bother to acquire more knowledge as long there is progress in the business  
 An entrepreneur has a reasonable degree of initiative, imagination, skills & creativity  
 An entrepreneur can create his/her own business without any basic entrepreneurship skills or expertise  
 An entrepreneur searches for opportunities & makes good use of them to promote business and income  
 An entrepreneur do not have the potential to be successful unless supported by government or individuals

**Entrepreneurial Skills & Competencies**

You cannot be a successful entrepreneur if you don't have sound technical knowledge  
 Lack of technical knowledge prevents students from starting a business  
 You cannot start a business if you do not have good knowledge of the product or service  
 I am a hardworking person  
 I think that you cannot be a successful entrepreneur if you don't have sound technical knowledge  
 I usually defend my views if someone disagrees with me  
 I like challenges that really stretch my abilities rather than things I can do easily  
 When I am in a group, I like to take the lead  
 I want to delegate task effectively, while working in a group

S.NO.	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
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My things are organized properly  
 I belief in short term planning  
 I am adventurous and want to explore new things  
 I like to create new things and develop something different

**Entrepreneurial Career Choice**

How interested are you in setting your own business immediately after your Bachelor's Degree?

How likely is it that you will start your own business within five years of completing your Bachelor's Degree?  
How attractive it would be for you to start a business?  
How easy would it be for people in general to start a business  
How attractive is it for people in general to start a business?  
In your institute students are actively encouraged to pursue their own ideas  
The entrepreneurship development and project management paper in the syllabus provide students with the necessary knowledge required to start a business  
Entrepreneurship can be considered as a career option in today's globalized world  
Entrepreneurship is a rewarding career  
Lack of finance is one of the main reasons why many students don't start a business / firm

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