MEDIATING ROLE OF ATTITUDE, BEHAVIORAL CONTROL, AND STAKEHOLDERS' SUPPORT ON THE RELATIONSHIP BETWEEN ENTREPRENEURIAL SKILLS AND ENTREPRENEURIAL INTENTIONS OF IT EMPLOYEES IN PAKISTAN.

By

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ABSTRACT

Pakistan being a developing country has a high rate of unemployment among young population. This present study examines the effects of entrepreneurial skills on developing entrepreneurial intentions of IT employee of Punjab, Pakistan. The study also examines the mediating role of attitude towards behavior, perceived behavioral control, and stakeholders' support system in the relationship between entrepreneurial skills and entrepreneurial intentions. The probing into the literature of concepts and conceptualizations of the theories permitted a theoretical framework that identified the research issues and the research gap. The data were collected from IT employees working with SECP registered companies in Punjab, Pakistan using a cross-sectional study design. The study used simple random sampling technique to the selected 398 employees working with Information Technology (IT) companies in Punjab, Pakistan. For the initial data screening SPSS 20 was used, and then the Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed to test the present study hypotheses. This study found the significant mediating effects of attitude towards behavior, perceived behavioral control, and stakeholders' support system on the relationship between EPS, LS, MS, PMS, and TS and entrepreneurial intentions of IT employees in Punjab, Pakistan. The findings of this study further reveal that entrepreneurial intentions depend on the degree of EPS, LS, MS, PMS, and TS. The results of this study provide important insights to the policy making institutions, government, and the researchers to further understand the effects of entrepreneurial skills on developing entrepreneurial intentions and mediating role of attitude towards behavior, perceived behavioral control, and stakeholders' support system. The findings of this research extended to the body of knowledge on entrepreneurial skills and entrepreneurial intentions in Pakistani context.

Keywords: entrepreneurial intentions, stakeholders' support system, perceived behavioral control, attitude towards behavior, entrepreneurial skills.

Abstrak

Pakistan sebagai sebuah negara membangun, didapati mempunyai kadar pengangguran yang tinggi dalam kalangan populasi mudanya. Kajian ini menyelidik kesan kemahiran keusahawanan ke atas niat untuk membangunkan keusahawanan pekerja IT di Punjab, Pakistan. Selain itu, kajian ini juga menyelidik peranan perantara sikap terhadap tingkah laku, kawalan tingkah laku anggapan, dan sistem sokongan pihak berkepentingan dalam hubungan antara kemahiran keusahawanan dengan niat keusahawanan. Penelitian literatur tentang konsep dan konseptualisasi teori menghasilkan rangka kerja teori yang mengenal pasti isu-isu dan jurang dalam penyelidikan. Data dikumpulkan daripada kakitangan IT yang bekerja dengan syarikat-syarikat yang berdaftar dengan SECP di Punjab, Pakistan menggunakan reka bentuk kajian keratan rentas. Kajian ini menggunakan teknik persampelan rawak mudah terhadap 398 orang kakitangan terpilih yang bekerja dengan syarikat Teknologi Maklumat (IT) di Punjab, Pakistan. SPSS 20 digunakan untuk membuat saringan awal, kemudian Permodelan Persamaan Kuasa Dua Terkecil Separa Berstruktur (*Partial Least Squares Structural Equation Modelling*) (PLS-SEM) digunakan untuk menguji hipotesis kajian. Kajian menemui kesan pengantaraan sikap yang signifikan terhadap tingkah laku, kawalan tingkah laku anggapan, dan sistem sokongan pihak berkepentingan terhadap hubungan antara EPS, LS, MS, PMS, dan TS dengan niat keusahawanan pekerja IT di Punjab, Pakistan. Hasil kajian ini selanjutnya, mendedahkan bahawa niat keusahawanan bergantung kepada tahap EPS, LS, MS, PMS, dan TS. Dapatan kajian turut memberikan maklumat penting kepada institusi penggubal dasar, kerajaan, dan para penyelidik untuk lebih memahami kesan kemahiran keusahawanan k terhadap niat pembangunan keusahawanan dan peranan pengantara sikap terhadap tingkah laku, kawalan tingkah laku anggapan, dan sistem sokongan pihak berkepentingan. Hasil kajian ini diperluaskan kepada institusi berkaitan tentang kemahiran keusahawanan dan niat keusahawanan dalam konteks negara Pakistan.

Kata kunci: niat keusahawanan, sistem sokongan pihak berkepentingan, kawalan tingkah laku anggapan, sikap terhadap tingkah laku, kemahiran keusahawanan.

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LIST OF ABBREVIATIONS

ATB	Attitude Towards Behavior
AVE	AVE Average Variance Extracted
EU	EU European Union
CR	CR Composite Reliability
EI	Entrepreneurial Intentions
EPS	Entrepreneurial Personal Skills
ES	Entrepreneurial Skills
GEM	Global Entrepreneurship Monitor
MS	Managerial Skills
LS	Leadership Skills
OECD	Organizations for Economic Cooperation and Development
PSEB	Pakistan Software Export Board
P@SHA	Pakistan association of software houses
PBC	Perceived behavioral Control
PMS	Personal Maturity Skills
PLS	Partial Least Squares
SECP	Security & Exchange Commission of Pakistan
SEM	Structural Equation Modelling
SmartPLS	SmartPLS Statistical Package
SMEDA	Small & Medium Enterprises
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for the Social Science
SSS	Stakeholders' support System

TEA	Total Entrepreneurial Activity
TS	Technical Skills

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

1.1.1 Entrepreneurship

Entrepreneurship has become one of the most essential activities of modern economic life (Morelix, Reedy, & Russell, 2015). The need of entrepreneurship has increased in today's competitive environment (Kelley, Singer, & Herrington, 2016). It is consensus among policymakers and academics that entrepreneurship plays a significant role for the development and well-being of society (Amorós, Bosma, & Levie, 2013; Kelley et. al. 2016). Entrepreneurship has been recognized as a driving force and an approach to deal with the volatile business and economic conditions, sustainable advancement, supporting economic growth and development of the economy, creating employment for youth, and social well-being. Therefore, developed and developing nations have been paying lots of attention on entrepreneurship (Amorós et. al., 2013; Fairlie, Morelix, Reedy, & Russell, (2015). The term "entrepreneurship" has been used in a wider sense to denote all the persons either working in multinational companies, public sector, academia, or developing small and medium businesses (Busenitz, Gómez, Spencer, Busenitz, & Spencer, 2014; Amoros et. al., 2013; GEM, 2012; Looney, 2012; Robertson, Collins, Medeira, & Slater, 2003; Wu, 2009; Volkmann, 2009).

Among business sectors, small and medium enterprises (SMEs) have a large share in the economic growth, employment generation, and social well-being in every country (Fairlie et. al., 2015). Some recent studies such as Hussien (2010), Obaji (2014), and Kelley et. al. (2016), reported that the value and popularity of SMEs around the world account 90% of total companies, and provided 80% job opportunities in major economies

worldwide, whereas, 99% of the European businesses belong to small size enterprises and contribute 50% of the Gross Domestic Product (GDP), and two third of private employments. The same with the case of United States of America where 2.5 million individuals were hired in the newly established SMEs (Bureau of Statistics, 2013), while small businesses contributed almost 45% of the GDP in the United States. Figure 1.1 shows the Kauffman Index of entrepreneurial activity during 19 years in the USA.

Source: Ewing Marion Kauffman Foundation (2015)

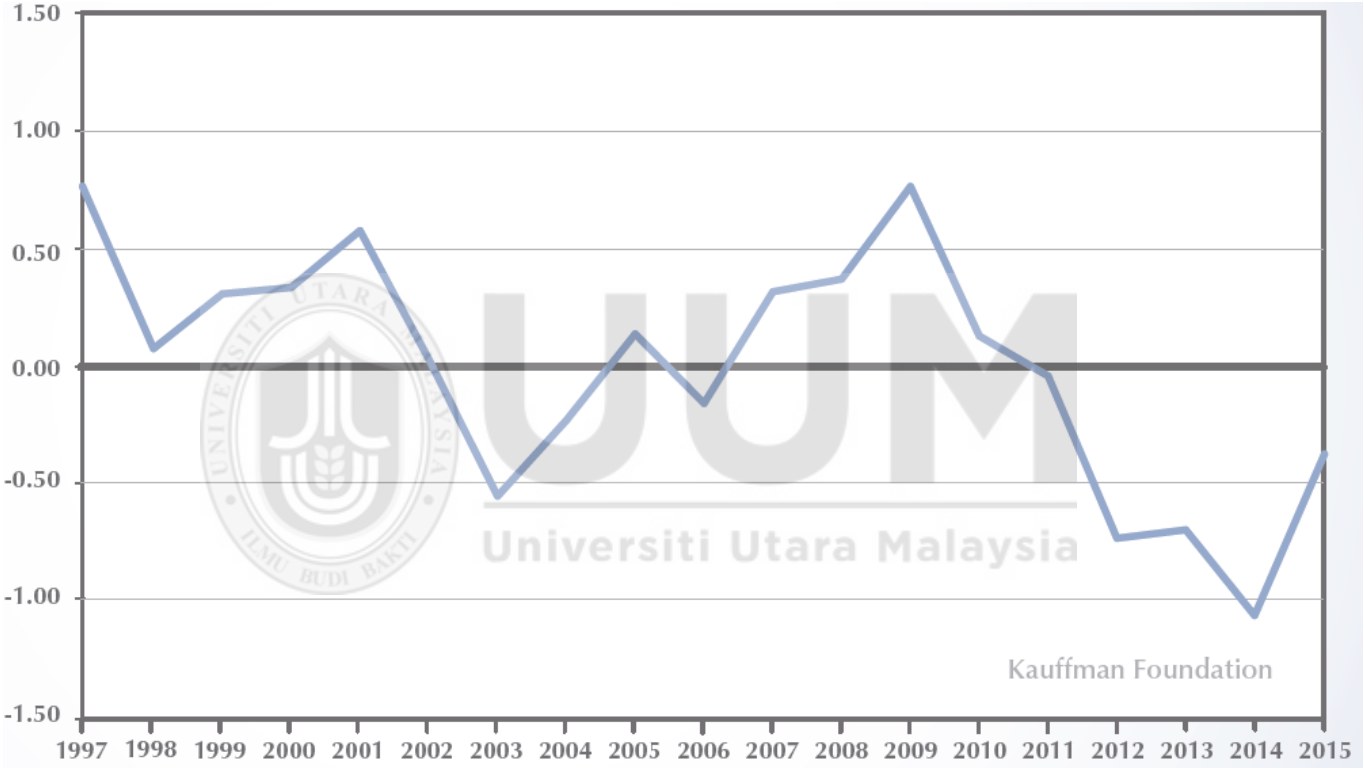
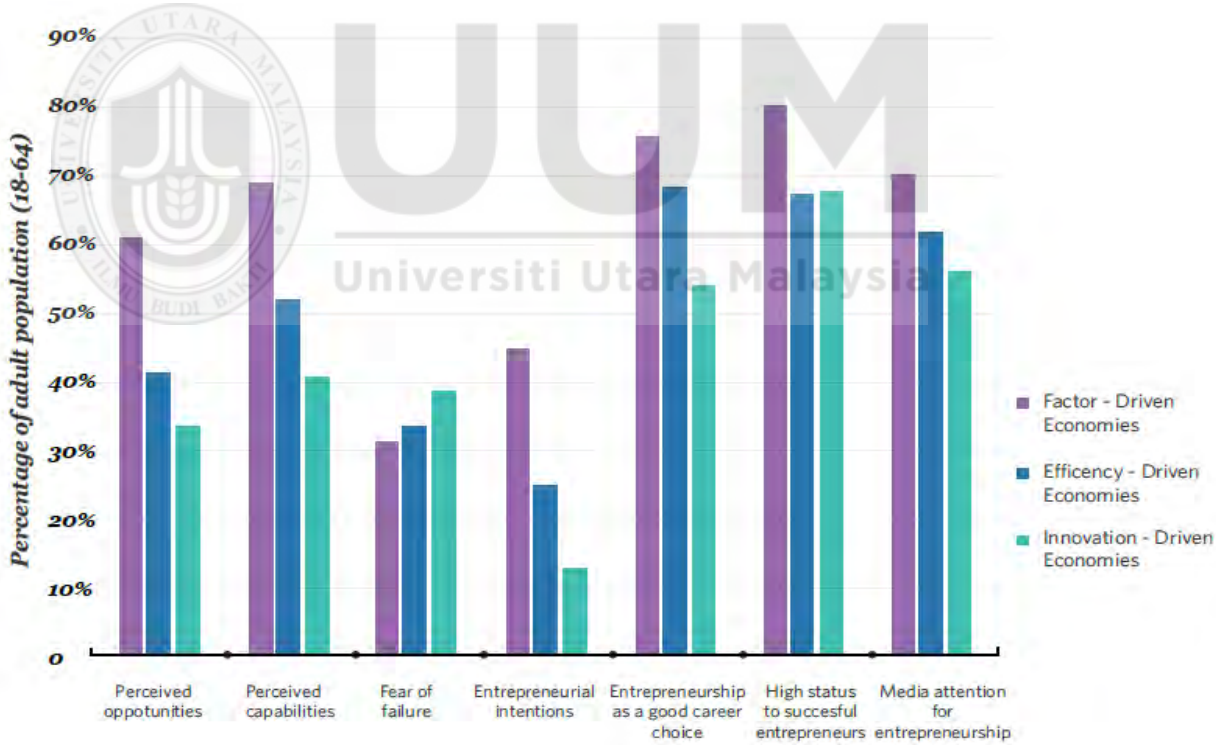


Figure 1.1
Kauffman Index of Startup Activity in United States of America

1.1.2 Entrepreneurial Activities in Pakistan

Global Entrepreneurial Monitor's Report (2014) emphasized that entrepreneurial activities are more likely to flourish in factor-driven economy rather than efficiency and innovation-driven economies (GEM, 2014). The Pakistan is placed among factor driven economies, providing a great opportunity to be harnessed. Similarly, the report highlighted that Sub-Sahara's inhabitants have good faith in their own skills, learning

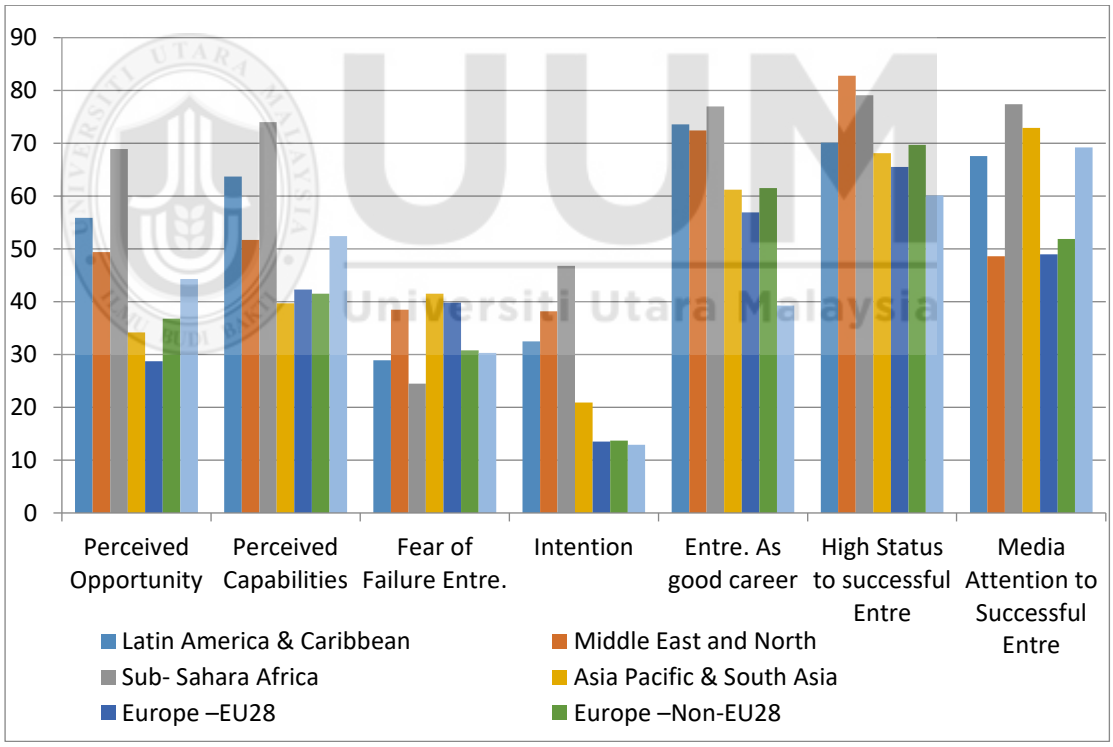
abilities, and prior experience to start new projects as compared to Europeans (GEM, 2013). According to Global Entrepreneurship Monitor (GEM, 2011), a Pakistani segment of population has shown only 23% on entrepreneurship intentions, which is less than even Bangladesh 25% and Algeria 42%. Likewise, it was concluded that factor-driven economies have rated very high on Total early-stage Entrepreneurial Activity (TEA), while efficient and innovative remained at second and third rank respectively (GEM, 2014). Global Entrepreneurship Monitor (GEM, 2011) also provides the evidence that total early stage Entrepreneurial Activity or TEA in Pakistan was 4%, the average TEA for factor driven countries was 8.5% and 9.5% for efficiency driven nations.



Source: GEM (2014).

Figure 1.2
Entrepreneurial Perceptions and Attitude: Averages by Phase of Economic Development

The above mentioned Figure 1.2 shows the entrepreneurial attitude varies by region. It is clearly shown that perceived opportunities and capabilities are twice higher in Sub-Sahara Africa as compared to North America. Similarly, the intentions to take the initiative for a business (intentions) as an entrepreneur is highest among Sub-Sahara's people. On the other hand, fear of failure is highest in Asia Pacific region (GEM, 2014). According to the GEM (2014), entrepreneurial attitude varies by region. Figure 1.3 depicts that perceived opportunities and capabilities are twice higher in Sub-Sahara Africa as compared to North America. Similarly, intention to start a business, as an entrepreneur is highest among Sub-Sahara's citizens. On the other hand, fear of failure is highest in Asia Pacific region (GEM, 2014).

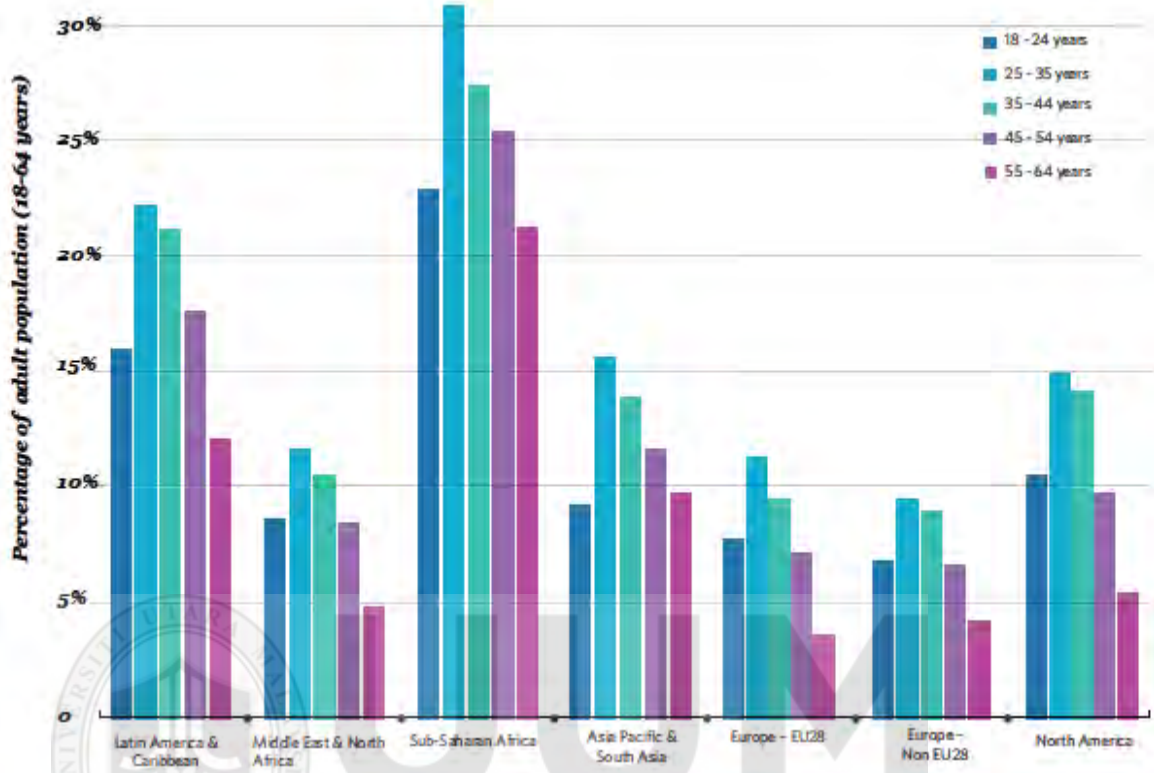


Source: Global Entrepreneurship Monitor (2014)

Figure 1.3
Entrepreneur Attitude and Regions

Figure 1.4 shows the different age group's entrepreneurial intentions by region. The age group between 25-35 has the highest entrepreneurial intentions in all regions of the world. The Sub-Sahara Africa remains highest in all age groups while Asia Pacific

and South Asia region also have higher entrepreneurial intentions among the age group of 25-35 (GEM, 2014).



Source: Global Entrepreneurship Monitor (2014).

Figure 1.4
Age Group and Entrepreneurial Intention

Entrepreneurship, accordance with its modern trends, practice remained very limited in Pakistan (GEM, 2012; Haque, 2007; HEC, 2000). According to World Bank's report (2007) and the GEM (2012), entrepreneurship activity in Pakistan was much lesser than the other developing nations, such as Sri Lanka, Bangladesh, and India and compared to other Asian countries. Pakistan is ranked 138th among 189 countries on the level of ease of doing business (World Bank Group, 2016). According to the

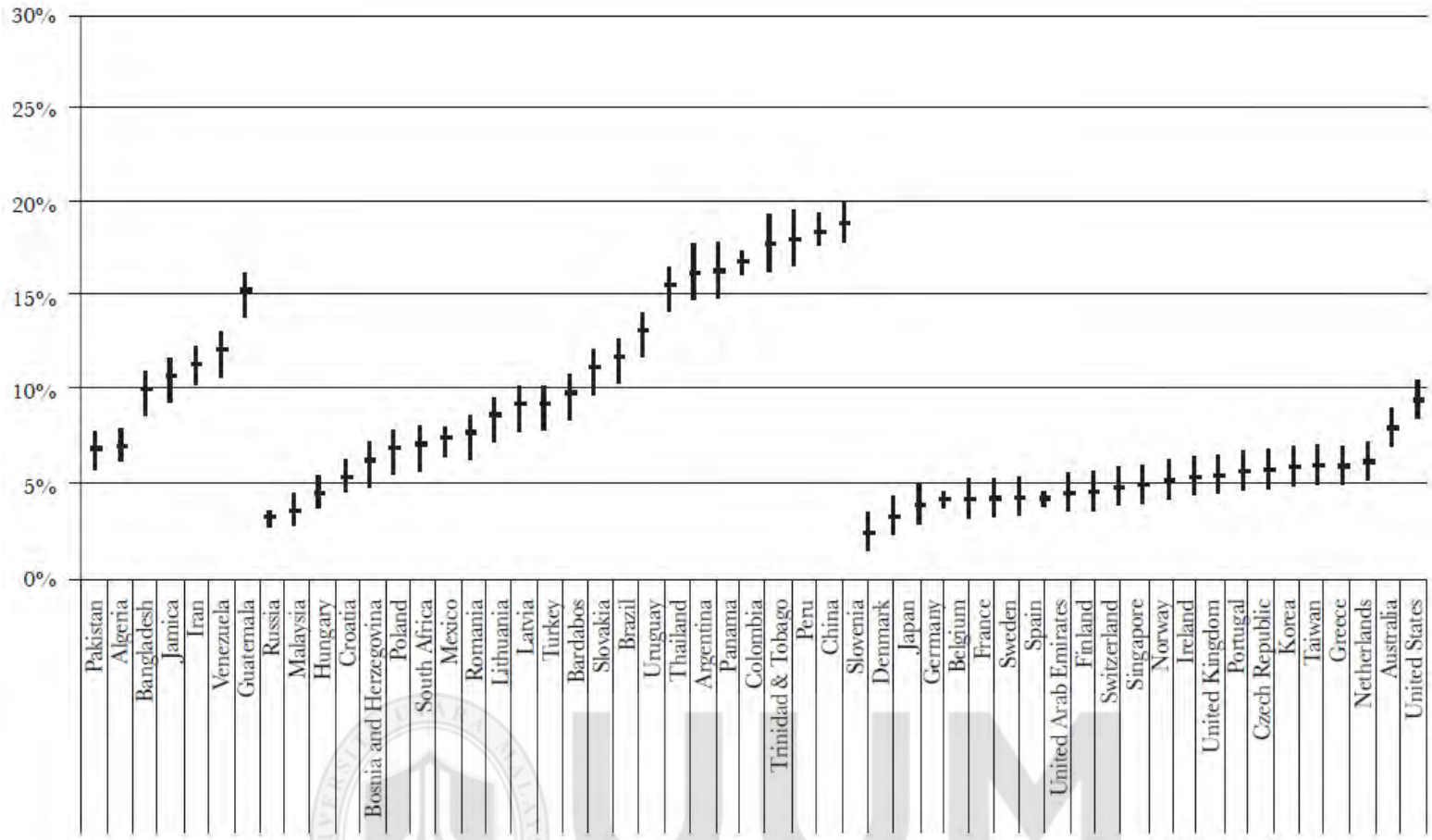
Global Entrepreneurship Monitor Report (2012), the nascent entrepreneurial activity (NEA) is reported at a lower level in Pakistan.

Source: World Bank Group (2016).

Economy	Ease of Doing Business Rank ▲	Filtered Rank	Starting a Business	Dealing with Construction Permits	Getting Electricity	Registering Property	Getting Credit	Protecting Minority Investors	Paying Taxes	Trading Across Borders	Enforcing Contracts	Resolving Insolvency
Bhutan	71	1	3	5	1	1	2	6	1	1	1	8
Nepal	99	2	5	4	4	2	6	4	4	2	4	2
Sri Lanka	107	3	4	3	3	5	3	3	7	3	5	1
Maldives	128	4	2	1	5	6	5	7	5	5	2	4
India	130	5	8	7	2	4	1	1	6	4	7	5
Pakistan	138	6	7	2	7	3	6	2	8	6	3	3
Bangladesh	174	7	6	6	8	8	6	5	2	7	8	6
Afghanistan	177	8	1	8	6	7	3	8	3	8	6	7

Figure 1.5
Ease of Doing Business Ranking

The total entrepreneurial activity (TEA) stands for the total of emerging private enterprises start in a year. The TEA rate of Bangladesh and Iran was reported as highest, while the lowest level of total entrepreneurship activity was witnessed in Pakistan (GEM, 2012). Sarfraz and Qureshi (2011) highlight that Pakistani segment of population has shown only 23% on entrepreneurship intensions which were less than its counterpart nations, while Total early stage Entrepreneurial Activity (TEA) in Pakistan has been just 4% which was below the average of 8.5% for factor driven countries (GEM, 2011).



Source: Global Entrepreneurship Monitor (2011).

Figure 1.6
TEA rates of GEM 2011 participating countries

Global Entrepreneurship & Development Index (GEDI, 2012), the Pakistan's position is at 73 (total number of countries included in the index are 79). Pakistan has been ranked at 138th among 189 countries on the level of ease of doing business by Doing Business' report published in 2016(see Figure 1.7).

Indicator	Pakistan DB2016	Pakistan DB2015	Karachi DB2016	Lahore DB2016	Bangladesh DB2016	China DB2016	Egypt, Arab Rep. DB2016	India DB2016	Best performer globally DB2016
Starting a Business (rank)	122	114	--	--	117	136	73	155	New Zealand (1)
Starting a Business (DTF Score)	80.94	80.92	80.94	80.94	81.72	77.46	88.24	73.59	New Zealand (99.96)
Procedures (number)	10.0	10.0	10.0	10.0	9.0	11.0	7.0	12.9	New Zealand (1.00)*
Time (days)	19.0	19.0	19.0	19.0	19.5	31.4	8.0	29.0	New Zealand (0.50)
Cost (% of income per capita)	9.4	9.6	9.4	9.4	13.9	0.7	8.4	13.5	Slovenia (0.00)
Paid-in min. capital (% of income per capita)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	105 Economies (0.00)*
Dealing with Construction Permits (rank)	61	63	--	--	118	176	113	183	Singapore (1)
Dealing with Construction Permits (DTF Score)	72.62	72.23	73.23	71.49	65.27	48.29	65.97	32.47	Singapore (92.97)
Procedures (number)	10.0	10.0	10.0	10.0	13.4	22.0	20.0	33.6	5 Economies (7.00)*

Source: World Bank Group (2016).

Figure 1.7
Summary of Doing Business Indicators for Pakistan

It has widely been accepted that entrepreneurship contribute immensely in less developed and growing economies by generating of employment socioeconomic development (Wennekers and Thurik, 1999). Therefore, in recent years, the Pakistani government has acknowledged the role of entrepreneurship to promoting economic growth (Planning and Development Commission of Pakistan, 2013). The government of Pakistan has placed special attention to promote entrepreneurship in Pakistan through different seminars and workshops. In Pakistan, small and medium sized organizations contribute 40% of the GDP of Pakistan and these companies provide 80% employment to the total non-agricultural labor force either as sole proprietor or

working as a family business (Small and Medium Enterprise Development Authority, 2010). Nonetheless, Chaudhry (2004) concluded that small entrepreneurship businesses played an important role in poverty reduction and employment generation in the country. It has been observed that small business ventures in Pakistan are facing a severe deficiency of resources, lack of financial support from Government and financial institutions and technological issues are causing slow growth of entrepreneurship in Pakistan (Bhutta, 2000; Sarfraz & Mian, 2011). Berry (1998) also noted a considerably less support from Pakistani Government for small sized entrepreneurship ventures.

Global Entrepreneurship Monitor's report (2011) also highlighted that almost 50% of the total Entrepreneurship activity are situated in 10 districts only, these districts are Karachi, Hyderabad, Quetta, Lahore, Multan, Faisalabad, Sialkot, Gujranwala, Gujrat and Sheikhupura (GEM, 2011). A study carried out by Estrin (2013), concluded that more government intervention, corruption, and weaker property rights reduce one's entrepreneurial intention. Similarly the study by De Clercq (2013), argued that institutional factors only play a moderating role while individual level constructs (Financial, human and social capital) are more important to initiate entrepreneurship. The financial capital is not easily available for small and medium enterprises in Pakistan (De Clercq, 2013). Whereas, 90% of businesses in Pakistan belong to the small and medium size businesses other than the agriculture sector (Small and Medium Enterprises Development Authority Pakistan, 2010). There are 3.2 million registered SMEs in Pakistan (Ministry of Economic Affairs and Statistics Pakistan, 2014) and have a great contribution of job creation and poverty alleviation in the country (Chaudhry, 2004; Haque, 2007; Sarfraz & Mian, 2011).

Besides the countless contributions to the economy, SMEs in Pakistan has been a lack of government support (Ali, Author, Topping, & Wakefield, 2011; Berry, 1998; GEM, 2012; Haque, 2007). The major obstacles mentioned by Chaudhry (2004) and Bhutta (2010) are; the lack of resources, access to financing, tax regulations, absence of structural support for government, education, infrastructure and technological problems.

1.1.3 Information Technology Industry in Pakistan

Among the other industries like manufacturing, food, beverages, crude materials, mineral manufacturing, live and tobacco inedible, fuels and chemicals, transport manufactured, animals fuels, lubricants goods equipment, Pakistan has not usually been considered one of the software export hub and its share of global markets (Shah, 2015). The industry of Information Technology works as an underline support for this vast business infrastructure. The products and services which IT industry offers, ranges from ERPs, human resource management, financial reporting and management, trading, business infrastructure, business intelligence, quality assurance, data warehousing, social media, digital marketing, customer management, e-commerce, web and mobile applications (Ali, 2015).

The total sales of IT industry is only $2.8 billion, while the share of technology and information services and software exported abroad is about $1.6 billion (PSEB, 2015). The share of Pakistan in IT sector is quite small as 0.9% of the 3.2 trillion dollar world market in 2015, and even not comparably with $100 billion per year software exports

of India (Shah, 2015). The Following figure 1.7 represents the comparison of Pakistan's IT industry with world leading economies.

Source: Pakistan Software Houses Association (2015).

Figure 1.8
Country Profile of Pakistan

According to The World Economic Forum, Pakistan was ranked at 111th among 144 countries in the Global Information Technology report of 2014. The global report also highlighted that, in the South Asian region, Pakistan was outperformed by Sri Lanka at 76, India 83, Bhutan 94, Iran 104, whereas Pakistan was ahead of Bangladesh at 119 and Nepal 123. However, Pakistan's National ICT policy (2012) was aimed at creating 5 million new jobs in Pakistan by flourishing IT based businesses in the country. This objective is supposed to achieve by the Information and Communication Technology (ICT) in the course of next decade.

Singapore and India can be placed as benchmark, as they have achieved considerable economic development though intervention of information technology (P@SHA, 2014; Shah, 2015). There are around 1500 registered software houses and IT related firms operating in Pakistan. The total human capital employed in these companies is around 100,000 with the major chuck is operating in Sindh and Punjab provinces, while more than 10000 information technology graduates start their career the in IT industry (PSEP, 2015). Yet Pakistani information technology industry is a favored place and also a niche area for freelancers I.T. programmers, software coders, developers, and website or app designers.

According to the Global Information Technology Report (2014), "Pakistan cannot only rely on ICT infrastructure development to become competitive. Rather, the benefits of ICT can only be fully derived when a country implements a holistic strategy aimed at creating conditions for skills, innovation and entrepreneurship to flourish alongside modern infrastructure". Pakistan's technology industry is growing at a faster pace as evident by the increased number of mobile and 3G users (13.5 million), specifically, which make up the potential target market for information technology related entrepreneurs. The highest information technology graduates are joining IT industry every year. The number of firms wanting to enter the market, the number of incubation center which are emerging, the rising interest of IT students at educational institutions who set up various societies and clubs to bridge the gap between entrepreneurs and engineers to reap the maximum out of the combination, the presence of potential investors who find investment in technology viable and profit-oriented, etc. All the trends portray the significance of technology as an emerging industry in Pakistan. The emerging industry with tremendous growth need more technical

entrepreneurs to innovate and take risks. Furthermore, entrepreneurs related to information technology launch their businesses with a greater risk than the traditional entrepreneurs because of various reasons like entry barriers (PSEP, 2015).

In Pakistan, due to low governmental support, IT entrepreneurs cannot survive with their visions and products reach out (Ali, 2015). It has been mentioned many times that IT entrepreneurs necessitate a formal and structural governmental support (Ali, 2015; Shah, 2015; P@SHA, 2007). Currently the Punjab province is clearly on the leading edge of the IT development sector (Ali, 2015). Whether it is manufacturing, trading, general business, transportation, education or healthcare, the growth in this particular region of Pakistan is certainly on the rise.

1.1.4 Entrepreneurial Process

Entrepreneurial attitude, skills, and behavior are prerequisites for the efficiency, effectiveness, creativity, and better allocation of scarce resources to get maximum benefits, generally at the firm and particularly at economic level (Volkmann, 2009). Unlike managers, entrepreneurs are more concerned about creativity, innovation, and novelty, which might not only benefit their business, society, and environment as well. Therefore, researchers, e.g. (Fairlie et al., 2015; Kelley et. al., 2016; Volkmann, 2009; Vanevenhoven, 2013) suggested that entrepreneurial activities and economic well-being of society are interconnected and interdependent. Institutional and environmental regulations provide opportunities to entrepreneurs to carry out socially acceptable and environmental friendly projects keeping in view the interests of all stakeholders (Volkmann, 2009).

Entrepreneurship is a consequence of cognitive process, which has been widely accepted (Linan, 2008). Numerous studies have been established that the decision to

become entrepreneur is multifaceted (Kuratko, 2016; Kolvereid, 1999; Linan, 2008; Lorz, 2011; Rengiah & Sentosa, 2014). The previous studies further explored that the selection of entrepreneurship as a career based on cognitive process and consists of careful planning, which is favorably (Ajzen, 1991; Kuratko, 2016; Kolvereid, 1999; Linan, 2008; Lorz, 2011; Rengiah & Sentosa, 2014; Shapero & Sokal, 1982). The widely accepted theory about the intentions to start an enterprise is PBC (Theory of Planned Behavior) that explains the cognitive process of entrepreneurship (Kuratko, 2016; Krueger, 1993; Lorz, 2011; Rengiah & Sentosa, 2014). Another theory that recognizes in this domain named as Social Cognitive Theory, which also recognizes as Social Learning Theory by Bandura (1977). SCT deals with individual behavior in terms of the interaction of individual factors, personal actions, and the environment (Bandura, 1986). It does not only study the changes in mental states and predicting a variety of types of human behavior, but also analyze how learning occurs through changes (Bandura, 1986).

Entrepreneurship is a process by which individual enters the society's economic stream, supporting culture formation, population integration, and social mobility (Hisrich et. al., 2009). All this requires certain skills, attitude, and behaviour and to develop these specific qualities one need to take into account the focus on entrepreneurship education (Lorz, 2011). It has also been confirmed that skills can in general be learned and improved by participating in an education program (Driessen, 2005; GEM, 2011; Volkmann, 2009). The entrepreneurship education helps the individuals to improve their entrepreneurial abilities and skills (Oosterbeek, van Praag, & Ijsselstein, 2010; European Commission, 2006). The underlying assumption of entrepreneurship education is that entrepreneurial skills are not only related to

personal characteristics, and can be taught (Van der Sluis, 2006). Therefore, ultimate responsibility lies on educational institutions to prepare and transform individual with the necessary abilities, attitudes, and skills to be an entrepreneur (Lorz, 2011).

Entrepreneurship is an area entails innovation, integrated learning, and openness to risk taking (Hisrich, Langan Fox, & Grant, 2007). Entrepreneurship does not contribute only to the social mobility and the status of individuals in the society, but also quite literally to their liberation from a state of slavery and powerlessness (Chell, 2013; Fleischmann, 2006; Lichtenstein, Strategies, & Cooney, 2012; Oosterbeek, van Praag, & Ijsselstein, 2010). However, all entrepreneurs are business people but not all business peoples are entrepreneurs (Linan, 2013). An entrepreneur is a person who makes something innovative with some value by dedicating the needed time, effort, and commitment, assuming the associated risks and receiving the financial rewards, personal satisfaction and independence (Hisrich, Peters & Shepherd, 2009). Entrepreneurship has been depicted as a robust predictor of employment, quality, competition, and growth and sustainability (Volkmann, 2009).

1.1.5 Entrepreneurial Intentions

The intentions to become self-employed have been confirmed as a robust predictor of behavior (Ajzen, 1991; Krueger, 1993; Kuratko, 2016; Linan, 2008; Lorz, 2011; Rengiah & Sentosa, 2014), and logical "particularly when that behavior is rare, hard to observe, or involves unpredictable time lags" (Souetaris, 2007). Several other researchers also confirm that entrepreneurial intent has the ability to predict future behavior of individuals and recognized as a planned intentional behavior(Ajzen, 1991; Kuratko, 2016; Krueger, 1993; Lorz, 2011; Rengiah & Sentosa, 2014). The entrepreneurial event model (Shapero & Sokal, 1982) and the theory of planned behavior (1991) are the most widely accepted theories represent the process of

entrepreneurial intentions. The overlapping elements of both theories are perceived ventures desirability in Shapero's Entrepreneurial Event Model is similar to the attitude towards behavior in the theory of planned behavior (Lorz, 2011).

The literature in the domain of entrepreneurship has been recognized the entrepreneurship skills' influence on intentions (Kuratko & Hodgetts, 2001; Oosterbeek et., al, 2010; Smith et. al., 2007). Numerous studies have, to date, recognized the significant role of entrepreneurship skills in entrepreneurship process (Gibb, 1993; Kuratko & Hodgetts, 2001; Hisrich, 2008; Oosterbeek et.al., 2010; Timmons, 1994; Zimmerer, 2008). However, the lack of census about what skills or set of skills are essential for developing entrepreneurial intentions exists in the entrepreneurship literature (Chell, 2008; Morales & Marquina, 2013).

Few studied have been conducted on the impacts of entrepreneurship education and its influence on intentions, and most of them underlined the positive or mixed impacts of entrepreneurship education (Chrisman, 1997; Fekri, Shafiabady, Nooranipour, & Ahghar, 2012; Liñán, 2008; Lorz, 2011b; Peterman & Kennedy, 2003; Rengiah & Sentosa, 2014; Zhao, Seibert, & Hills, 2005). In addition, there is also an evidence of a negative relationship of entrepreneurship education (Oosterbeek et. al., 2010; Von, 2010). Besides it, substantial methodological deficiencies have also been found in the studies that reported positive impacts of entrepreneurship education, which limited the validity of their results (Lorz, 2011). Therefore, a corollary of entrepreneurship education is inconsistent (Peterman, 2003). In addition, only a handful studies are available on the outcomes of entrepreneurship education (Fayolle, 2006). Similarly,

the evaluation and examining the impacts of entrepreneurship education are still under-researched (Lorz, 2011).

The previous research in entrepreneurship has been explored the following factors considered as important for developing entrepreneurial intentions;

1. The role of an individual's traits and competencies in the process of entrepreneurship (Chell, 2008; Fekri et. al., 2012; Katz, 2007; Kuratko & Hodgetts, 2001; Hisrich, et. al., 2008; Oosterbeek et.al., 2010; Timmons, 1994; Zimmerer, 2008).
2. the environmental and contextual factors affecting on entrepreneurial decision (Ajzen, 1991; Cusumano, 2013; Fayoll, 2006; Kolvereid, 1999; Kuratko, 2016; Krueger, 1993; Lorz, 2011; Shapero & Sokal, 1982).
3. The impact of entrepreneurship education on developing entrepreneurial intentions (Chrisman, 1997; Fekri, Shafiabady, Nooranipour, & Ahghar, 2012; Liñán, 2008; Lorz, 2011; Rengiah & Sentosa, 2014; Weber, 2010).

1.1.6 Entrepreneurial Skills

In addition, the studies have also been conducted on comparing different countries and on cultural differences (Lee & Peterson, 2000; Mueller & Thomas, 2001; Tiessen, 1997). Apart from the few studies (GEM, 2012 &2014), a very little focus on examining the impacts of entrepreneurial skills has been observed. These neglecting facets are include, but not limited to; the outcomes of entrepreneurship education and training and development programs and their effects on developing entrepreneurial skills; the skills or set of skills import for developing entrepreneurial intentions; and the effects of skills on perceived desirability and feasibility to start a business.

However, there are numerous studies which have been conducted on assessing entrepreneurial intentions in different countries, for example US, UK, Germany, and Malaysia (Blanchflower et al., 2001; Davidsson, 2000; Rangiah and Sentosa, 2014; Reynolds et al., 1994; Scheinberg and MacMillan, 1988; Shane et al., 1991), but very less attention has been paid to Pakistan. Therefore, it seems important to explore entrepreneurship skills and their impacts on developing entrepreneurial intentions, in the context of Pakistan, where low intentions and high fear of failure have already been reported (Sarfraz & Qureshi, 2012). Furthermore, as far as the methodological issues are concerned, preceding studies have primarily been dedicated on examining the entrepreneurial intensions from students rather working personnel, and a few studies have been considered entrepreneurial skills and their impacts on developing entrepreneurial intentions (Linan, 2008; Cooney, 2012).

Finally, frequent studies have been stated that the governmental support towards entrepreneurship is significantly lower than other neighboring countries in Pakistan (GEM, 2012; Sarfraz & Qureshi, 2012). In addition, many factors (structural support, fear of failure, low intentions etc.) have already been reported as negative towards entrepreneurial activities in Pakistan as compared to other developing countries (Ahmad, Zafar, & Sheikh, 2014; Chemin, 2008; GEM, 2012; Sabir, Aidrus, & Bird; 2010 Tanveer, 2012).

1.1.7 Motivation of conducting the Study

The candidate has been working in several Pakistani universities and has been involved in various activities ranging from teaching, academic activities, administration, and internship programs. The universities' mission is to produce young and creative individuals through their programs. As Pakistan has more than

70% of its population, which is under the age of 30 years. The huge number of young population, perhaps, not surprisingly, never been utilized and as a result, higher rate of unemployment prevailing in the country. Despite the governmental efforts, Pakistan faces a challenge of meeting the hopes of unemployable young people who are seeking paid jobs rather than to consider the alternative of self-employment. The interaction with several graduates and working employees realized the candidate about their unrest reluctance to start up their own business. Keeping in view the numerous reasons hindering them to be an entrepreneur, the candidate examined the entrepreneurial intentions of the employees working in the Information Technology industry as highest enrollment and job placement in IT related degree programs in Pakistan. The candidate assessed their entrepreneurial intentions through entrepreneurial skills-set, attitudes, perceived behavioral control, and stakeholders' support systems.

1.2 Problem Statement

A thorough review of the history of entrepreneurship in Pakistan reveals that entrepreneurship had completely been neglected by economic development planners and always considered large scale corporations (Haque, 2007). The economic development policies in Pakistan have been biased and always ignored small size businesses (Haque, 2007; Sarfarz & Qureshi, 2011).

Entrepreneurship, accordance with emerging trends, remain very limited in Pakistan (Fairlie et. al., 2016; GEM, 2012; Haque, 2007; Sarfran & Shahid, 2011). Both actual and latent entrepreneurship levels are extremely low as compared to other developing countries such as India, Bangladesh, and Sri Lanka and also compared to other Asian countries (Fairlie et al., 2016; GEM, 2012; Looney, 2012). The small business

ventures in Pakistan, perhaps, are not surprisingly resulting in a positive and favorable impact of overall socioeconomic growth (Haque; 2007; Looney, 2012; Neithammer, Saeed, Mohamed, and Charafi, 2007). It has already been highlighted that in the

Additionally, the total entrepreneurship activity (TEA) that indicates the working age people involved in starting and running a business, having life of 3.5 years, was also not up to the mark (Sarfraz & Qureshi, 2011). In 2012, the TEA rate in Pakistan was 9.1%, which was also significantly lower for overall 13.2% average of Global Entrepreneurship Monitor' participant nations, which perhaps, not surprisingly lower than from neighboring countries like China 14.8% and India 12.1%. Krueger and Brazeal (1994) claimed that economically disadvantaged communities usually undergo from lower level of self-efficacy. The higher level of perceived feasibility to select the career option as an entrepreneur predicts achievement (Krueger & Brazeal, 1994). In Pakistan, youth are less willing to start their own business due to low level of perceived desirability and feasibility (GEM, 2012; Sarfraz & Qureshi, 2011). As a result, low-level of entrepreneurial activities prevailing in the country (Haque, 2007; Sabir et. al. 2010; Sarfraz & Qureshi, 2011).

The lower level of entrepreneurial intention and the weak contribution to overall growth SMEs in Pakistan can be mainly attributed to many reasons (Ahmad, 2014; Ali ,2011; Chemin, 2008; GEM, 2010; GEM, 2012; Haque, 2007; Looney, 2012; Malik, 2003; Planning and Development Comission of Paksitan, 2011; Tanveer, 2012), such as:

1. Higher level of fear of failure, lack of governmental support, and low level of perceived capability to carry out the business among young people in Pakistan.
2. Lack of innovation and creativity, lack of research and development, corruptions, law and order, government policies and regulations, and energy crisis.
3. The lack of the stakeholders' support system factors (e.g. structural & informal support) to promote the entrepreneurship in the country.

Due to interdisciplinary nature, entrepreneurship has appeared as an emerging issue among academicians, legislators, and practitioners (Kelley et. al., 2016). The significant role of entrepreneurship as a driving force of global development and sustainability (Matlay & Westhead, 2007; Morelix et.al, 2015) have led to more attention on the effects of entrepreneurial activities (Morelix et al., 2015; Volkmann, 2009). Several studies have been examined the various dimensions of entrepreneurial intentions and their effect on developing behavior (Chrisman, 1997; Davidsson, 1995; Fekri, Shafiabady, Nooranipour, & Ahghar, 2012; Liñán, 2008; Lorz, 2011b; Oosterbeek et. al., 2010; Peterman & Kennedy, 2003; Rengiah & Sentosa, 2014; Zhao, Seibert, & Hills, 2005). In addition, the research has been carried out in different countries, which mainly focused on observing cultural differences and values (Lee & Peterson, 2000; Mueller & Thomas, 2001).

The preceding studies on entrepreneurship with special focus on intentions have mainly been explored on two dimensions;

1. The personal traits, competencies, and characteristics and their effects on individual's intentions.
2. And the impacts of environmental factors on the entrepreneurial process (Lina, 2008; Lorz, 2011; Kelley et. al., 2016).

However, there is still a need to explain more precisely about how the individual's entrepreneurial intentions are formed (Chen, 2009; Kuratko, 2016). Besides, some studies have been focused on understanding the motivational antecedents of intentions that based on social values and believe about entrepreneurship (Linan & Santos, 2007; Linan, 2009). Entrepreneurship researchers from different disciplines agree that demographic variables like gender, income, level of education, and personal factors include motivation and perceptions are significant factors impact on an individual's decision to be self-employed (Bosma & Harding, 2007).

Apart from cultural and contextual perspectives, there is a little evidence in research, considering entrepreneurial skills, comparing particular sets of entrepreneurial skills and their impacts on entrepreneurial intentions (Armanurah & Hussin, 2014; Chell, 2013; Fekri, 2012; Lichtenstein, 2001; Liñán, 2008; Cooney, 2012; Morales & Marquina, 2013; Smith & Eichholz, 2007). Gibb (1993) highlighted entrepreneurial process through explaining the human behavior, attributes, and skills. The findings of the study conducted by Gibb (1993), which established that the entrepreneurial behavior could be described by a process, which characterized the identification of traits and competencies related to entrepreneurship, either in the form of skills and attributes (Gibb, 1993).

Some studies reveal that the interaction with successful entrepreneurs and a network of support from family, friends, etc. are important factors in the entrepreneurship process (Gibb, 1987; Bosma, 2008). The support from family and others include in the theory of planned behavior (Ajzen, 1991) labeled as subjective norms. Several studies reported that the subjective norm (support from family and environment) mediates the positive relationship between exogenous factors and entrepreneurial intentions (Ajzen, 1992; Cooper 1993; Linan, 2008; Krueger & Brazeal, 1994; Kennedy et al. 2003; Matthews and Moser 1996; Rengiah & Santosa 2014; Scherer et al. 1991). Accordingly, closer environment expectations related to personal attraction, informal support, and support from government and others (Gelard & Saleh, 2010; Lorz, 2008).

Along with exogenous factors, several studies also mentioned that attitude has significant impact on developing entrepreneurial intention (Busenitz, Gómez, & Spencer, 2000; Chell, 2008, Davidsson, 1995; Kolvereid, 1996; Linan, 2008; Lorz, 2011; Cooney, 2012; Mueller & Thomas, 2001; Noorderhaven, Thurik, Wennekers, & Van Steel, 204; Tiessen, 1997). Kolvereid (1996) exhibited that attitude towards behavior mediates the relationship between factors affecting behavior and entrepreneurial intentions. Similarly, Ajzen and Fishbein (1980) argued that developed competencies and skills have only an indirect impact on particular intentions, by influencing some of the factors that are more closely linked to them (e.g. attitudes). Additionally, Shapero and Sokol (1982) and Souitaris, Zerbinati, and Al

Laham (2007), reinforced this position by clearly stating that individual skills directly impact on attitudes or perceived desirability and indirectly on intentions.

Shapero and Sokal (1982) established that the individual' perceived feasibility about ease or difficulty to perform the specific behavior effect the intentions. This feasibility component mentioned in the theory of planned behavior (Ajzen, 1991) as perceived behavioral control and considered it as an important factor to form the intentions. Similarly, Chen et al. (1998) provides evidence of the relationship between perceived behavioral control (perceived feasibility) and entrepreneurial intentions. Likewise, Zhao and Colleagues (2005) provide empirical evidence that perceived behavioral control mediates the relationships between formal learning, experience and risk propensity and entrepreneurial intentions.

Entrepreneurship activity and its outcomes encompass several unexplored extents that lately have attracted research consideration in other disciplines (Fayolle, 2006; Cooney, 2012; Pittaway & Cope, 2007). Furthermore, in preceding studies, it has been observed that these studies have many methodological deficiencies and ambiguous results (Lorz, 2011). Likewise, the rigorous research on the expected results of entrepreneurship education, skills, and its connection with intentions lacks in the entrepreneurship literature (Lorz, 2011). Consequently, numerous associations and connections between entrepreneurial skills and entrepreneurship activity are still waiting to be addressed. Similarly, there is a lack of empirical evidence on the relationship between entrepreneurial skills and entrepreneurial intentions, particularly in developing countries, like Pakistan. Most of the research conducted on assessing entrepreneurial intentions have concentrated on environmental factors and impact of

entrepreneurship education and conducted in developed countries (Davidsson, 1995; Linan, 2009; Lorz, 2011; Rengiah & Sentosa, 2014; Oosterbeek et. al., 2010).

The emphasis of this study is justified on the following issues. Enterprise and entrepreneurship activities are rising tremendously in the last few decades. There are numerous indicators relating to this progression, such as the advancement of technology, intense competition, economic recession, shifting economies and unemployment. Entrepreneurship activities are seen as a means of revitalizing deteriorates economies and dealing with unemployment problems for developing economies, and as an engine of economic progress, job creation and social adjustment for developed countries (Jack & Anderson 1999; Mueller & Thomas 2000). Globalization has brought about substantial changes in the job market especially in information technology, in which young people as newcomers are particularly vulnerable.

Therefore, in view of the above mentioned gaps and the suggestions for further studies, this study examines the mediating effect of attitude towards behavior (perceived desirability), perceived behavioral control (perceived feasibility), and stakeholders' support system (subjective norm or perceived structural and informal support) on the relationship between entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, technical skills and entrepreneurial intentions among employees working in IT companies in Punjab, Pakistan.

The positive effect of entrepreneurial skills on intentions is the basic intent guiding research efforts in the area. Additionally, the examination of mediating effect of

attitude towards behavior, perceived behavioral control, and stakeholders' support on the relationship with entrepreneurial skills and developing entrepreneurial intentions is also focus of this study. The study is an attempt to answer the core question; what are the effects of entrepreneurial skills on entrepreneurial intentions?

1.3 Research Questions

This study aims to identify and fill the gap in the entrepreneurship literature about the effects of entrepreneurial skills on entrepreneurial intentions among employees working in IT companies in Punjab, Pakistan. The research is guided by the following research questions;

1. Is there any effect of EPS, LS, MS, PMS, and TS on entrepreneurial intentions of IT employees in Punjab, Pakistan?
2. Is there any effect of EPS, LS, MS, PMS, and TS on attitude towards behavior, stakeholders' support, and perceived behavioral control of IT employees in Punjab, Pakistan?
3. Is there any effect of ATB, PBC, and SSS on entrepreneurial intentions of IT employees in Punjab, Pakistan?
4. Is there any mediating effect of attitude towards behavior in the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan?
5. Is there any mediating effect of perceived behavioral control in the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan?

6. Is there any mediating effect of stakeholders' support system in the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan?

The study aims to answer the above questions in the specific context of Pakistan.

1.4 Research Objectives

The main objective of this study is to address the effect of the EPS, LS, MS, PMS, and TS on entrepreneurial intentions among employees working in IT companies in Punjab, Pakistan. The study is guided by the following research objectives;

1. To examine the effects of EPS, LS, MS, PMS, and TS on entrepreneurial intentions of IT employees in Punjab, Pakistan.
2. To examine the effects of EPS, LS, MS, PMS, and TS on attitude towards behavior, stakeholders' support, and perceived behavioral control of IT employees in Punjab, Pakistan.
3. To examine the effect of ATB, PBC, and SSS on entrepreneurial intentions of IT employees in Punjab, Pakistan?
4. To examine the mediating effect of attitude towards behavior on the positive relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.
5. To examine the mediating effect of perceived behavioral control on the positive relationship EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.
6. To examine the mediating effect of stakeholders' support system on the positive relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.

1.5 Significance of the Study

The current study is an attempt to make contributions to the existing body of knowledge theoretically, and practically. From the theoretical perspective, the findings offer empirical evidence of the effects of entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills and technical skills on entrepreneurial intentions, and aimed to enrich the existing body of literature. The mediating effects of attitude towards behavior, perceived behavioral control, and stakeholders' support system on the relationship between entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, technical skills and entrepreneurial intentions also provide another direction to examine entrepreneurship behavior.

Theoretically, the present study contributes by the empirical examination of the relationships between important entrepreneurial skills and entrepreneurial intentions. Many studies recognized the role and importance of these skills in developing intentions. However, several studies assess the levels of the entrepreneurial skills and neglected the combination of entrepreneurial personal skills, leadership skills, personal maturity skills, managerial skills, and technical skills and their direct and effect on developing entrepreneurial intentions along with mediating factors. Thus, a study with empirical evidence is required (Lorz, 2010; Phelan, 2014). Additionally, this study is one of the few studies, which examines the mediating effects of attitude towards behavior, perceived behavioral control, and stakeholders' support system on the relationship between entrepreneurial skills and entrepreneurial intentions. Furthermore, it is among the few studies that conducted to examine effects of entrepreneurial skills and considers IT sector, especially in Pakistan. Moreover, the

present study contributes to the advancement of the body of academic literature relating to entrepreneurial skills and entrepreneurial intentions by testing mediating role of attitudes, perceived control, and stakeholders' support system.

This study helps to develop understanding of the significant importance of skills and guides Pakistani policy makers, educational institutions, policy institutions in identifying and developing entrepreneurial intentions. Furthermore, the present study validates the theory of planned behavior and social cognitive career theory by portraying the key role of entrepreneurial skills in developing entrepreneurial intentions.

1.6 Scope of the Study

The scope of study refers to variable determination for the study, the determination of research design, the determination of population and sample, the determination of research instrument and data gathering, and the determination of statistical testing method. The dependent variable is entrepreneurial intentions as an impact measure of the set of entrepreneurial skills. Entrepreneurial intension is assumed the most appropriate indicator for measuring the direct effects of skills and as a predictor of future behavior. Three mediating variable namely attitude towards behavior, perceived behavioral control, and stakeholders' support system and five independent variables namely technical skills, managerial skills, personal maturity skills, leadership skills, and entrepreneurial personal skills are believed to have effects on the entrepreneurial intentions (dependent variable) of employees working with information technology industry in Punjab, Pakistan.

The area of the study provides new research opportunities, however, it is important to highlight the scope in order to manage this research. First, the geographical location is limited to Pakistan only. This study is more focused on the IT employees those who are working with IT companies in Punjab, Pakistan, as the Punjab province is the largest populated province of Pakistan with 54% population. The present study intended to contribute significantly to the existing literature by presenting a comprehensive approach in analyzing the issue of low entrepreneurial intentions in Pakistan. The approach as well as the findings of the study will be important for academicians and decision makers by providing a better understanding of the factors that might influence the entrepreneurial activities in Pakistan.

The personally administrative survey method using questionnaires was selected for this study and the population comprised of SECP registered IT companies that are operating in the Punjab Province which is regarded as the biggest province of Pakistan. Statistical analysis comprises of descriptive, correlation, exploratory factor analysis and Structural Equation Modeling using PLS-SEM 3.0.

1.7 Organization of the Thesis

This study is organized into five chapters. Chapter 1 outlines the introduction, statement of the problem, research questions, research objectives, scope and significance of the study and definition of terms.

Chapter 2 focuses on reviewing relevant literature on entrepreneurial intentions, attitude towards behavior, perceived behavioral control, entrepreneurial personal skills, technical skills, managerial skills, personal maturity skills, leadership skills, and

stakeholders' support system. Additionally, the underpinning theory and supportive theories are discussed in this chapter.

Chapter 3 describes the research methodology of the study. The research framework and hypotheses development are explained in this chapter. In addition, the chapter describes the operationalization of the variables and measurement instruments, research design research population, sample size, sampling method, as well as the strategies and instruments for the data collection. The chapter discusses the method of data analysis and the statistical package used in the study. Finally, reliability testing of the pilot study is reported.

Chapter 4 illustrates the statistical analysis of the data collected through, which include data examination, screening and preparation. Then, the measurement model as well as the structural model which was assessed with PLS-SEM using the SmartPLS 3.0 software package were analyzed and reported. Subsequently, the results of the hypotheses based on the assessment of the structural model are reported.

Chapter 5 discusses the research findings based on the research objectives and hypotheses of the study. Additionally, the chapter provides the theoretical and practical implications of the findings of this study. The chapter describes the research limitations and suggests future research direction. Finally, the chapter presents the conclusion of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is about the review of the literature, and theories related to this study. This chapter entails the details of all the variables of this study. Through this chapter, the significant critical reviews and theoretical logics on the selected topic are revealed. As this chapter provides the background of the study, the historical review, and it explains the relationships among its variables with the details of each variable. This chapter elaborates that which variable is the dependent one and which variable is the independent one and why, as well as the mediating variable. This chapter includes the studies performed on the entrepreneurial skills and entrepreneurship intentions. This chapter also expounds the underpinning theories along supportive theories. This chapter proceeds in the designated sequence, starting with the entrepreneurship, entrepreneur as an individual, entrepreneurial intentions (as dependent variable), then entrepreneurial skills (independent variable), and follow by attitudes and perceived behavioral control, and stakeholders' support system (as the mediating variables). Subsequently, this chapter moves towards the strong underpinning theories and the supporting theories that are debated as well.

2.2 Entrepreneurship

The word entrepreneurship had been used first time in 1732, when an economist Richard Cantillon called the word of entrepreneurship for individuals with "a willingness to carry out forms of arbitrage involving the financial risk of a new venture" (Minniti & Lévesque, 2008: 603). The basic meaning of this term is 'to

undertake' or 'go between' the condition of a person considered pursuing an opportunity (Hisrish, Peters, & Shepherd, 2005). The contributors in this area are researchers and "economists such as Mill (1870), Say (1857), Knight (1921), Schumpeter (1934), Kirzner (1973, 1997), and Baumol (1990, 2002) are among the most influential contributors to our understanding of entrepreneurial behavior" (Minniti, 2008: 603).

Generally, an entrepreneur is defined as "one who organizes, manages, and assumes the risks of a business or enterprise" (Woolf, 1980: 378). Moreover, the existing literature has enormous definitions, areas, and situations of entrepreneurship (Gartner, 1988; Davidsson, 2003). Likewise, many researchers argued that entrepreneurship cannot be confined with the startup of a new business, but it is founded on a flimsy conceptual framework and having no precise boundary (Shane & Venkataraman, 2000; Bruyat & Julien, 2001; Ireland & Webb, 2007). However, several scholars endeavored to come up with precise concept of entrepreneurship (Lorz, 2011). Apart from the variation of its description, the recognition of entrepreneurship as an academic discipline is relatively new. Entrepreneurship, perhaps, not surprisingly, influenced by psychology, economics, sociology, and strategic management and recognized as a multifaceted phenomenon rooted in many academic disciplines (Gustafsson, 2004; Low & MacMillan, 1988).

The lack of consensus about the term entrepreneurship is the main issue in the development of a common paradigm. Morris (1998) endeavored to identify the definitions of entrepreneurship and found more than 70 definitions during the review of journals and books. Besides the controversy over definitions, entrepreneurship has

been widely accepted field among academics and practice. There are three underlying approaches in the literature on entrepreneurship (Landstrom, 2005, p13).

1. Entrepreneurship as a process
2. Entrepreneurship as a function of the market
3. Entrepreneur as an individual

The decision to become an entrepreneur is the catalyst for entrepreneurship and the entrepreneurial process (Anderson et al., 2013; Foley, 2004; Lorz, 2011b; Mcstay, 2008; Chris Phelan, 2014; Wu, 2009). Keeping in view the importance of individual, social, and psychological aspects in entrepreneurship literature (Chell, 2013; Edward, 2013; Fekri et al., 2012; Fitriati & Hermiati, 2010; Liñán, 2008; Phelan, Chris & Sharpley, 2014; C. Phelan & Sharpley, 2012; Silva, 2004), entrepreneur as an individual and the factors that influence his or her self-employment intention are focused in this study. Therefore, the third approach of entrepreneurship, the entrepreneur as an individual is considered in this thesis and discussed in the following sections.

2.3 Entrepreneur as an Individual

The little attention has been given to the individual entrepreneur until Shaver and Shane (1992) raised the issue in their "Entrepreneurship Theory and Practice" and endeavored to address the individual, social, and psychological processes related to entrepreneurship (Gartner, 1994). As a result of their focus on entrepreneur as an individual, enormous empirical and theoretical studies then started to consider this perspective. This study will consider the entrepreneur as an individual and the factors

(entrepreneurial skills, perceived behavioral control, attitudes towards outcomes) that may influence his or her intentions towards self-employment.

Before going to discuss the factors influence individual's entrepreneurial intentions, there is a need to review the previous research relevant to entrepreneur as an individual. The preceding studies divided individual entrepreneur into three approaches, namely; trait orientation, behavioral perspective, and the cognitive process (Kobia and Sikalieh, 2010; Mcstay, 2008). The following sections will describe these perspectives in detail.

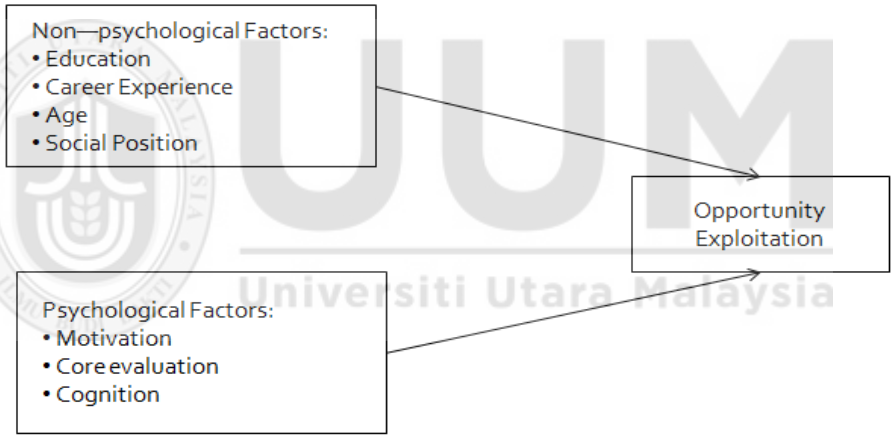


Figure 2-2: the effects of individual attributes on opportunity exploitation

Figure 2.1
The effects of Psychological and Non-Psychological individual attribute on opportunity exploitation (Shane, 2003a, p.62)

Shane's (2003) individual attributes model in figure 2.1 identified a range of psychological factors that influence the likelihood that individuals will exploit the opportunity. However, Shane is keen to highlight that 'psychological characteristics are not sufficient conditions and do not cause people to exploit entrepreneurial opportunities. Rather, they influence the exploitation decision

(p.96). Essentially, these motivations include many of the psychological traits previously discussed, including, individual locus of control, a person's need for independence, desire and drive as general motivators, as well as goal setting and self-efficacy as task-specific motivators (Shane, 2003a, 2003b). The influence of these motivating traits, for Shane (2003), is on the transition from one stage of the entrepreneurial process to another.

2.3.1 Traits Approach

The traits approach borrows from theories of personality based on psychology, and centers the individual as the catalyst for entrepreneurship. The underlying assumption of trait approach is that an entrepreneur can be distinguished from other individuals through his or her certain personality traits. This approach has been widely addressed to recognize a list of personality traits relevant to the entrepreneur (Chris Phelan, 2012; Caliendo & Kritikos, 2012; Gartner, 1989; Kobia & Sikalieh, 2010; Low & MacMillan, 1988). It is also based on an assumption, that some internal construction to personality exists, and traits can be identified and measured and these traits can indicate future behavior (Kolvereid & Isaksen, 2012; Rauch & Frese, 2007). A detailed review of the literature suggests that it is not compulsory for an entrepreneur to possess all of the traits mentioned, and not a single model of personality traits fits. Chell (2000) recommends that it is ambiguous that whether the traits precede behavior or whether they acquire in the process of entrepreneurship. Moreover, Chell (2008) highlighted the most dominant traits of entrepreneurs named as; the need for achievement, risk-taking propensity, and locus of control.

Though, the trait approach contributed in the field of entrepreneurship, but failed to develop a direct relationship between the entrepreneurs' traits and non-

entrepreneurs (Brockhus, 1982; Low & MacMillan, 1988). It is also an agreement among researchers that a specific personality profile does not exist (Chell, 2000). However, some researchers in the support, for example Baum, Locke and Smith (2001) proposed the model of venture growth, they mentioned that traits were important indicator of growth, however not directly, but through the mediating factors (e.g. strategy and motivation etc. Therefore, the research has then moved from identification and investigation of personality traits alone, to the examination of behavior, motivation, and cognition (Shaver & Scott, 1991).

2.3.2 Cognitive Process

According to Schumpeter (1934) and McClelland (1976), entrepreneurs think and behave differently from other individuals. As Mitchell, (2002) claim that entrepreneurs are unique among others because they seek and recognize opportunities and then evaluate the risk versus the reward of new venture creation which distinguished them from others. Several researchers have been considered the cognitive psychology and examined the phenomenon of how an entrepreneur thinks and behave (Baron, 2004; Grégoire, Corbett & McMullen, 2011; Katz & Shepherd, 2003; Mitchell, 2002; Sánchez, Carballo & Gutiérrez, 2011). Mitchell (2002) defined cognitive psychology as "all processes by which sensory input is transformed, reduced, elaborated, stored, recovered, and used." Furthermore, "the knowledge structures that people used to make assessments, judgments or decisions involving opportunity evaluation, venture creation and growth" (Mitchell, 2002, p.97). Cognitive psychology helps to understand the mental process of a person while interacting with his or her environment and other people. Therefore, the cognitive approach considers the mental processes by which entrepreneurs' piece together information to enable them to start and grow a business.

Mitchell (2002) defined the key elements of entrepreneurial cognitions as "to be knowledge structures (based on heuristics or expert scripts), and decision-making (based on an assessment or judgment) set in an entrepreneurial context. In this process entrepreneurs not only use affective judgment (their emotional responses and feelings), they also use cognitive reasoning (their beliefs, thoughts and perceptual skills) to make decisions on whether or not to act." In this same manner, Robinson (1991) conducted their study, considering the attitudes of entrepreneurs and furthering work by Allport (1935) and projected that attitudes and the combination of affective and cognitive factors lead to conative behavioral intentions. The study is focused on intentions-behavioral model and the foundational cognitive theories of Shapero's (1982) model of entrepreneurial event model, Bandura's (1986) cognitive theory, and Ajzen's (1991) theory of planned behavior. The literature on entrepreneurship intention is discussed in the following section.

2.4 Entrepreneurial Intentions

The entrepreneurship is a result of cognitive process that has been widely accepted (Liñán, 2008). Several studies have been highlighted the complex nature of the decision to be self-employed (Liñán, 2008). The Theory of Planned Behavior has been widely used to explain the cognitive process of entrepreneurship (Lorz, 2011a; Rengiah & Sentosa, 2014). Numerous studies explores that the decision to be self-employed and start a business consists of thinking process and comprises careful planning that is favorably intentional (Autio, Keeley, Klofsten, & Hay, 2001; Bird, 1988; Krueger, 1993; Lorz, 2011; Rengiah & Sentosa, 2014; Tkachev

& Kolvereid, 1999). Many researches confirm that intentions as a robust predictor of behavior (Liñán, 2008; Lorz, 2011a), and logical "particularly when that behavior is rare, hard to observe, or involves unpredictable time lags" (Souitaris ,2007: 568). Several studies confirmed that entrepreneurial intent as a strong predictor of future entrepreneurial behavior and seen as a planned intentional behavior (Davidsson, 1995; Fayolle, 2006; Krueger 2000; Lorz, 2011; Rengiah & Sentosa, 2014; Shapero. A & Sokol, 1982).

Intentions refer to "a person`s motivation to make an effort to act upon a conscious plan or decisions" (Conner & Armitage, 1998: 1430). Entrepreneurial intention can be defined as the intentions to start a new business (Douglas & Shepherd, 2002; Kolvereid, 1996), the intention to start a new venture (Krueger & Brazeal, 1994; Zhao ,2005), or the intention of possessing an enterprise (Crant, 1996). This study will consider the entrepreneurial intention as an individual's intention to be an entrepreneur. Many researchers used intentional models to study the entrepreneurial intentions (Bird, 1988; Douglas & Shepherd, 2002; Katz & Gartner, 1988; Kolvereid, 1992; Kolvereid, 2006; Peterman & Kennedy, 2003; Shapero & Sokol, 1982).

The term entrepreneurial intention is referred to intentions to own a business (Crant, 1996), the intent to establish a new business (Krueger & Brazeal, 1994), and to be self-employed (Kolvereid, 2006). Self-employment intentions or start a new business assumed as a first step in the process of new organizational emergence (Lee & Wong, 2004). Preceding studies highlighted that initial occupational aspirations are normally good predictors of future professional

choices (Schoon, 2001; Schmmitt-Rodermund, 2004) and it is also reasonable that students of post-secondary level with an interest in entrepreneurship will be likely to seek self-employment. The study aims to address IT employees' entrepreneurial intentions who are working with SMEs and have been attending the formal entrepreneurship education as well. Numerous studies have been investigated the reasons of becoming self-employed over salaried-employment (Bygrave, 1989; Sexton, 1985). Most of the researchers explained the influence of different factors on entrepreneurial intentions and characterized them into stable personality variables and external environmental influences (Krueger, 2000; Zhao, 2006). According to Krueger (2000), exogenous factors certainly motivating entrepreneurial intentions.

The literature review guides that the entrepreneur has been viewed in many ways, and varying approaches and yet arriving at one concrete definition of the entrepreneur has been a seemingly an impossible task. Carson (1995) advocates the integrated approach to the study of entrepreneurs to overcome this dilemma, proposing the inclusion of cognitions and environmental elements in empirical research studies.

The intention to be self-employed and set up a business is an individual's motivation to carefully plan and act accordingly (Lorz, 2011). The intentions to be self-employed are based on a person's attitude, his or her perceived control to take the decision, and perceived social support or pressure (Liñán, 2008). Thompson (2009) delineates entrepreneurial intention by defining as "self- acknowledged conviction by a person that they intend to set up a new business venture and

consciously plan to do so at some point in the future" (Thompson, 2009: 676). Consequently, entrepreneurial intention is not a dichotomous question of yes or no but it ranges from zero level to very low and a very high intention level to be self-employed (Thompson, 2009). The role of intention defined by Ajzen (1991) as the behavior is more probable the strong intention (Lorz, 2011). Therefore, entrepreneurial intentions play as a mediator role for actual actions to start a new business (Fayolle, 2006). The measurement of intentions towards entrepreneurship with cognitive basis has been developed to assess the phenomenon of entrepreneurship. The entrepreneurial event theory presented by Shapero and Shokol (1982) and the theory of planned behavior by Icek Ajzen (1991) are the most widely accepted theory-driven models. The overlapping elements of both models are; perceived venture desirability in Shapero's Entrepreneur Event Model is alike attitude towards outcomes in Ajzen's model.

The research on entrepreneurial intentions focused on two dimensions; the individual's traits, and characteristics, and the effects of environmental and contextual factors on entrepreneurial process. Nonetheless, there is still a need to explain more precisely about how the individual's entrepreneurial intentions are formed (Liñán, 2008). However, some developments in the role of individual and factors involve in the process of entrepreneurship have been done. Shook (2003) examined the role of individual in entrepreneurship process. Whereas, some studies focus on motivational antecedents of intentions and their bases on social values and believes about entrepreneurship (Liñán & Santos, 2007). Entrepreneurship researchers from different disciplines agree that demographic variables like gender, income, level of education, and personal factors include motivation and

perceptions are significant factors impact on an individual's decision to be self-employed (Bosma & Harding, 2007). Some researches reveal that the interaction with successful entrepreneurs and a networks of support from family, friends etc. are important factors (Gibb, 1987; Bosma, 2008). The influencing factors are, however, conditioned by social values and culture.

Gibb (1993) explained the process of entrepreneurship through highlighting the role of individual's behavior, attributes, and skills. The results of Gibb (1993) study show that a process is required to develop the entrepreneurial behavior that comprises of the identification of traits related to the setup of a business, either in the form of skills and attributes. According to Linan (2008) "there is an obvious connection between skills and perceived behavioral control. Thus, those individuals feeling they have a higher level of certain entrepreneurial skills will more probably feel they can create a firm. Besides, it might be argued that a high self-perception regarding entrepreneurial skills would also be associated with more favorable attitudes and subjective norms. On the other hand, entrepreneurial skills would have its main effect on perceived behavioral control (a concept quite close to self-efficacy), but may also affect attitudes and norms" (p.64). According to Hisrich (2008), the business management skills are necessary to become entrepreneur. Personal skills may also have an effect on entrepreneurial intention (Chen, 1998).

The ability to come up with innovative mindsets and proceed as an effective and resourceful way of creation of new business or as an effective and innovative within organization is recognized in all areas (Foss & Klein, 2012). Entrepreneurial

skills such as managing ambiguity, creativity, ability to solve problems, and sense of taking initiative are considered as key competences. To develop the specific skills one needs to study entrepreneurial education. Entrepreneurship education can be viewed as a form of an academic program, entrepreneurship coaching, and individual or peer training (Katz, 2007). Entrepreneurial education shape, transform, polish, and built one's attitude and behavior, which will be helpful for individual, organization, and society as whole. Therefore, it is vital to incorporate the basic concepts at an initial level of formal and informal education system and gradually increase the quantity and quality of entrepreneurial education to achieve a consistent and thorough development of a well-equipped entrepreneur (Fitriati & Hermiati, 2010). The ultimate responsibility lies on educational institutions to prepare future leaders with the abilities, attitudes, and skills to be entrepreneurial and to perform at the same time in a socially responsible way (Volkmann, 2009). Therefore, educational institutions are offering entrepreneurship education with the main objective of preparing creative, innovative, and self-reliant future entrepreneurs who are more willing to start their own businesses.

Therefore, those who are prepared to be an entrepreneur need to gain necessary skills for entrepreneurial activities in the business world (Pardakhtchi & Shafiezadeh, 2006; Imani, 2009). Entrepreneurial skills are, however, also recognized as an important indicator to response change and uncertainty (Deuchar, 2006, 2007; Gibb, 2002). However, making able to perform as an entrepreneur is a challenge for the educational institutions (Jones & Iredale, 2010).

Several studies have, to date, conducted to examine the impacts of entrepreneurship education on intentions and most of them underlined the positive or mixed impacts of entrepreneurship education (Chrisman, 1997; Fekri, Shafiabady, Nooranipour, & Ahghar, 2012; Liñán, 2008; Lorz, 2011b; Peterman & Kennedy, 2003; Rengiah & Sentosa, 2014; Zhao, Seibert, & Hills, 2005). There is also an evidence (only two studies) of negative impact of entrepreneurship education (Weber, 2010). On the other hand, substantial methodological deficiencies have been found in the studies that reported positive impacts of entrepreneurship education, which limited the validity of their results. Consequently, there has been little rigorous research on the outcomes and effects of entrepreneurship education (Peterman, 2003). There is a lacks of research studies about the outcomes of entrepreneurship education (Fayolle, 2006). The issue of measuring outcomes of entrepreneurship education is under-researched (Pittaway & Cope, 2007).

Generally, intentions are signals of an individual's commitment to carry out a specific behavior and it has been proven that intentions precede behavior (Ajzen & Fishbein, 1980). Meta-analyses research by Kim and Hunter (1993) using a path analysis methodology confirmed that the association between attitudes and behavior can be fully explained by attitude-intention and intention-behavior relationships (Krueger, 2000). Based on the understanding of the belief, attitude, and intention relationship, individuals' beliefs and attitudes regarding self-employment would inform their intention to become self-employed. Additionally, Social Cognitive Theory includes the investigation of human behavior and is discussed in the following section in relation to its applicability to the revised model in this thesis. Entrepreneurial intentions have largely been assessed through the theory of planned behavior which

includes the variables of attitudes towards behavior, subjective norms, and perceived behavioral control. The details of measurement of entrepreneurial intentions will be discussed in the following sections.

2.4.1 Theory of Planned Behavior

The Theory of Planned Behavior (Ajzen, 1991), was derived from the Theory of Reasoned Action (Fishbein & Ajzen, 1975), which states that behavioral intentions are formed by one's attitude toward that behavior and one's subjective norms – (i.e. influence of significant others - e.g. parents, peers, role models). In turn, both attitudes and subjective norm are influenced by evaluations, beliefs, and motivation formed through one's unique individual environments.

2.4.2 Attitudes towards Behavior

Attitude toward the behavior refers to the degree to which an individual has a desirable or an undesirable appraisal of the behavior of concern. Kim and Hunter (1993) conducted meta- analyses of 93 independent behavioral intentions studies concluding by confirming strong empirical support for the attitude-intentions relationship. In their study, behavior s were divided into nineteen different topics; examples include intention to vote (Shepherd, 1987); intention to have a child (Davidson & Jaccard, 1979); intention to donate blood (Zuckerman & Reis, 1978); and intention to cheat or copy another's work (DeVries & Ajzen, 1971). As expected, the relationship between attitude and behavioral intention was stronger than that between behavioral intention and ultimate behavior, due in part to the effect of external factors as noted by Ajzen (1991). As stated previously, this study is concerned with the antecedents to intentions not the intentions-behavior relationship.

2.4.3 Subjective Norms

Subjective norms measure the respondent's perception of what people in his/her network would think if the respondent became an entrepreneur. Thus, subjective

norms refer to the social and cultural pressure to perform a specific behavior. In this respect, the expectations of friends, family, peers, networks, or mentors regarding the desirability of becoming an entrepreneur are of specific importance. Scales usually range from single-item, general scales asking “Would family and friends want you to start your own business?”

2.4.4 Perceived Behavioral Control

Perceived behavioral control measures the respondent’s belief in his capacity to perform the behavior of becoming an entrepreneur. Similar to subjective norms and attitudes toward behavior, researchers will be measured perceived behavioral control with single-item scales (Krueger Jr, 2000) to an 18-item scale measuring self- efficacy (Kolvereid, 2006). Self-efficacy is defined as "people’s belief about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994: 71). This will be utilized the scale from Linan (2009: 612), who uses a 6-item scale, with five items measuring general self-efficacy and one question referring to controllability (c) Organizational commitment.

2.4.4.1 Development of behavior through learning

Emphasis on developing new entrepreneurs is marked by the continued growth of entrepreneurial education programs (Finkle & Deeds, 2001, Katz, 2003, McMullan & Long, 1987, Solomon, 2007). But developing new entrepreneurs through education has been and can be conducted in different ways, with different objectives and associated results (Kickul & Fayolle, 2007). Learning can be seen as the dynamic process, which enables entrepreneurial behavior to be enacted (Rae & Carswell, 2001). However, once again, this simple statement does not provide any simple answers as learning too is designated as a complex phenomenon (Nicolini and Mesnar, 1995).

Many scholars agree that higher entrepreneurial education has to have an experiential learning perspective together with some kind of interactive pedagogy in order to enhance learning, innovative capacity, and developing skills (Barrett & Peterson, 2000, Collins, 2006, Hjorth & Johannisson, 2007, Honig, 2004, Johannisson, 1998, Vinton & Alcock, 2004, Yballe & O'Connor, 2000). Educating through entrepreneurship (Kirby, 2004) is recognized as a pedagogic approach to educating for entrepreneurship, where educators utilize engagement in new venture creation to provide experiential learning.

Experiential learning theory (Kolb, 1984) stated that behavior is developed through learning influenced by environmental factors, building from Lewin's understanding of individual and environment as interdependent when shaping behavior (Lewin, 1951). Thus, experiential learning is very much in line with Social Learning Theory. Furthermore, Kolb and Kolb (2005) argued that experiential learning uses a learning space, in which learning is influenced by environmental factors in nested arrangements of structures, at macro-, meso-, and micro-levels.

Entrepreneurial education involving experiential learning has also been described as action- based and helps to develop skills to be self-employed (Rasmussen & Sorheim, 2006). Action-based approaches, such as entrepreneurial- directed approach (Heinonen & Poikkijoki, 2006), often combine experiential and participative learning with traditional classroom teaching and involving co-learning between teacher and student. The main challenge of such approaches is the decrease in predictability and control of the teaching situation. Gibb (1996) proposes an enterprising teaching approach, which he argues, is essential for connecting conceptual knowledge to a

range of entrepreneurial behaviors. Some of the key elements Gibb proposes are: a focus on process delivery, ownership of learning by participants, learning from mistakes, negotiated learning objectives and session adjustment and flexibility. Gibb claims this approach can facilitate a learning environment, which provides ownership, control, autonomy, and 'learner'-led rewards.

Learning is multi-disciplinary and process-based, employing a wide range of teaching and learning methods such as conventional lectures, seminars, and workshops, focus groups, teaching of peers etc. The focus is on the "internalization" of knowledge and adoption of a definition of real learning as stated by Maples and Webster (1980). Cope and Watts (2000) argue that developing entrepreneurial behavior is achieved through learning by doing, involving experiential learning methodology, utilizing critical learning incidents from an individual perspective. They emphasize the importance of reflection in garnering learning from experience, particularly through critical incidents, as incidents are often not isolated events, and are impacted by the surrounding environment.

Learning approaches, including senior mentors or entrepreneurial role models (Sullivan, 2000) are used to provide social learning through observation, imitation and modeling, where mentors facilitate reflection upon actions while nascent entrepreneurs' actively engage in an emerging (nascent) phase of the entrepreneurial process. To see the use of mentors and role models as analogous to Bandura's general explanation of how behavior is developed through Social Learning Theory (Bandura, 1977) using reciprocal determination (Bandura, 1978). Cope and Watts (2000) build upon Sullivan (2000) and Weinrauch (1984) emphasizing the importance of mentors

or other actors who can actively listen and give advice regarding the on-going entrepreneurial process. Based on the above review of learning concepts, It can be argued that learning by doing combined with mentoring process can facilitate a decision cycle for testing hypotheses, providing feedback through physical engagement as well as through perception and reaction from the surrounding role-set.

2.4.4.3 The mediating influence of attitude towards behavior

The dimensions of attitudes are included in the proposed research model. Attitudes are defined as, "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Fishbein & Ajzen 1975). They are less stable than personality traits and can be changed both across time and situations in virtue of the individual's interactions with the environment (Robinson et al. 1991). In this context, entrepreneurial attitudes were seen to be influenced by educators and practitioners. General attitudes relating to the broad psychological disposition of an individual and domain attitudes referring to the person's more specific attitude towards entrepreneurship had to be distinguished. The application of specific attitudes was seen to increase the accuracy of the measurement within the specified domain, thus improving the predictability of the behavioral intent. The attitudes dimensions in the research model include: attitudes towards money, change and competitiveness. Entrepreneurial intentions were also affected by environmental barriers, support factors and the university environment. Support actions for entrepreneurship were found to be stronger than students‟ entrepreneurial intentions in some.

2.4.4.3 Mediating influence of perceived behavioral control

In accordance with Social Cognitive Career Theory (Lent, Brown & Hackett, 1994, 2000, 2008), entrepreneurial self-efficacy or perceived behavioral control in the theory of planned behavior are expected to mediate the relationships between both person

and distal contextual factors and entrepreneurial intentions, as well as the relationships between both person and distal contextual factors and outcome expectations. Taken together, these effects reflect self-efficacy's multifaceted utility, as it has been described to influence the courses of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with environmental demands, and the level of accomplishments they realize (Bandura, 1997: 3)

Theoretical arguments and empirical research support the idea that perceived behavioral control and outcome expectations directly influence one's goals/intentions; self-efficacy beliefs and outcome expectations each accounted for approximately 27% of the variance in goals/intentions and choice actions (Lent, Brown & Hackett, 1994). Moreover, according to Lent and colleagues (Lent, Brown & Hackett, 1994, 2000), an individual's vocational interests, goals/intentions, and choice actions reflect concurrent self-efficacy beliefs and outcome expectations, thus self-efficacy and outcome expectations are directly associated with intentions.

Individuals make decisions to undertake activities they perceive are within their own capabilities for success (Bandura, 1993). As such, an individual's self-confidence in his/her ability to actually succeed as an entrepreneur should be a key mechanism through which person and contextual factors influence the intention to engage in entrepreneurial behavior.

In support of this prescription, research suggests that the relationship between certain personality constructs and one's intentions is mediated by perceived behavioral control (e.g., Nauta, 2004; Rottinghaus, Lindley, Green, & Borgen, 2002). Further, specific to the entrepreneurship domain, Chen et al. (1998) provide evidence for the relationship between entrepreneurial perceived behavioral control and intentions, and Zhao and colleagues (2005) provide initial evidence that entrepreneurial perceived behavioral control mediates the relationships between formal learning, experience and risk propensity and entrepreneurial intentions. Therefore, given the theoretical arguments for perceived behavioral control's mediating effect (Bandura, 2001)

2.5 Entrepreneurial Skills

According to the Longman's dictionary of contemporary English the skill as "practical knowledge and power; ability to do something (well)". While Wickham (2006) defines skill as "simply knowledge which is demonstrated by action', before going on to add that 'entrepreneurial performance results from a combination of industry knowledge, general management skills and personal motivation" (p.100).

Entrepreneurial skills are simply business skill, which an individual acquires to enable him to function effectively in the turbulent business environment as an entrepreneur of a self-employed (Folahan & Omoriyi, 2006). Agbonifoh (1999) also defined entrepreneurial skills as "skills relating to identifying business opportunities and receiving a sustainable income from these opportunities. The acquisition of entrepreneurial skills means combining personal characteristics, financial resources within one's environment and taking advantage of them for rewarding outcome".

The entrepreneur according to the chambers 21st Century Dictionary (2006) is defined as "someone who engages in business enterprise, often with some personal financial risk. The entrepreneur can be defined as a person who always searches for change, respond to it and exploits it as an opportunity." The nature of entrepreneurship is essentially multidisciplinary (Gartner, 1985). In order to develop and successfully manage a business, entrepreneurs need a range of entrepreneurial skills (C. Phelan & Sharpley, 2012). Entrepreneurs' skill allowed entrepreneurs to perform the functions of enterprise that governs their success (Shefsky, 1996). As Lichtenstein and Lyons (2001) postulate that the entrepreneurs can be most usefully classified by their levels of skill rather than by their characteristics or enterprises. Before going to highlight the previous studies on entrepreneurial skills and their results, following are some definitions of entrepreneurial skills;

According to Hisrich and Peters (2002) "entrepreneurial skill can be defined as "the ability to create something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence". Formal descriptions/definitions characterize entrepreneurial skills as ability to have self-belief, boldness, tenacity, passionate, empathy, readiness to take expert advice, desire for immediate result, visionary, and ability to recognize opportunity (Salgado-banda, 2005). Kilby (1971) states that "the array of possible entrepreneurial skills encompasses the perception of economic opportunity, technical and organizational innovations, gaining commands over scarce resources,

taking responsibilities for internal management and for external advancement of the firm in all aspects (of teaching enterprise)."

2.5.1 Skills and Competences

Competence is an elusive construct which is not defined adequately in entrepreneurship literature (C. Phelan & Sharpley, 2012). Competence is an underlying quality of an individual, which results in effective and/or superior performance in a job (Klemp, 1980). The construct of competence embraces a range of skills, abilities, and other characteristics related to perform a specific task or being proficient and competent (Chell, 2013).

In literature of entrepreneurship, the constructs of skills and competences are often used interchangeably (Phelan & Sharpley, 2012; Chell, 2013). Though, some researchers argue that skills are also fall under the construct of "competencies" (Mischel, 1973). Parry (1998) distinguished between competencies and skills, as "skills tend to be situational and specific, whereas competencies are generic and universal'' (p.62). Kanungo and Misra (1992) differentiated the skills from competences as "skills refer to the ability to engage in an overt behavior whereas competencies relate to the ability to engage in cognitive activity" (p.1321).

Furthermore, Le Deist and Winterton (2005) proposed a typology of competence. They divided the competence into four typology; cognitive competence, functional competence, behavioral and attitudinal competence, and meta-competence. In their typology of competence, cognitive competence represents the knowledge and understanding, whereas skills are considered functional competencies, behavioral and attitudinal competencies relate to social competence, and finally meta

competence associated with acquiring other competencies. Chye and Sim (2005) further clarify that skills are subset of competence.

To be more focused on skills, they are multidisciplinary, and contain cognitive, affective, and behavioral elements (Chell, 2013). Fischer and Bidell (2005) defined skills as "a capacity to act in an organized way in a specific context" (p.5). Chell (2013) claim that skills and competencies are separate construct, and they should also be distinguished from ability and aptitude. However, skills are still an under researched slippery construct (Chell, 2013).

2.5.2 Skills can be built

There was a common belief that entrepreneurship is a trait, which pushes the persons who possess it towards a specific behavior (Huefner & Hunt, 1994; Kassicieh ,1997; Schumpeter, 1991). This belief about entrepreneurship was challenged by Lichtenstein and Lyons (2001), based on that "entrepreneurs are made and not born" (Shefsky, 1996). They argued, "If this is true, nothing can be done to develop entrepreneurs because we are powerless to effect changes in traits. The only feasible response would be to identify and work solely with those individuals who already have them. Another problem with this belief is that no one has ever been able to accurately identify such an entrepreneurial characteristic or a particular behavior in which all successful entrepreneurs engage. All entrepreneurs, however, do perform certain key functions—they identify market opportunities or needs, imagine and develop innovative solutions that address those needs, and build organizations to capture those market opportunities. Because the actions needed to perform these functions successfully will be different in different contexts, all entrepreneurs cannot be said to engage in the same behaviors" (Lichtenstein & Lyons, 2001; p. 7).

They also contended that entrepreneurial skills are necessary for performing all the functions important for entrepreneurial success. Lichtenstein and Lyons (2001) also claimed that entrepreneurial skills could be developed. They established the skill-based framework named as Entrepreneurial Development System (EDS) entails the three basic assumptions;

(1) Ultimate success in entrepreneurship requires the mastery of a set of skills

(2) These skills can be developed

(3) Entrepreneurs do not all come to entrepreneurship at the same skill level

When Lazear (2004, 2005) proposed the Jack-of-all-the-trades (JAT), he also guide that "even if individuals are not endowed with the complete set of skills necessary to start a business, they can acquire those skills" (Lazear, 2001; p. 208). Though, the concept that entrepreneurial skills can be acquired mainly underpins the work of Lichtenstein and Lyons (2001) by development of EDS. They suggest that entrepreneurship comprises a set of skills, which is an output of training and development rather innate endowment.

2.5.3 Establishing an Entrepreneurial Skills-set

Several studies have been considered entrepreneurial skills an important indicator of entrepreneurship (Armanurah Mohamad, Muhammad Hussin, 2014; Chell, 2013; Fitriati & Hermiati, 2010; Kemelgor, 1985; Kuratko & Hodgetts, 1995; Liñán, 2008; Morales & Marquina, 2013; Phelan & Sharpley, 2012; Silva & Silva, 2006; Timmons, 1999). The previous studies on entrepreneurial skills have resulted in an extensive list of skills required by entrepreneurs. All skills referred by enormous studies are perhaps significant for entrepreneurs in different situations.

However, the studies conducted in the domain of entrepreneurship, overlap the skills required by entrepreneurs, and not surprisingly, these overlaps make skill categorization difficult (Chye & Sim, 2005).

Kemelgor (1985) researched on entrepreneurs and identified their skills by collecting the response of 218 individuals, who left their jobs in large organizations to start their own business using self-reporting questionnaire at three and five years intervals. It shows that entrepreneurs those apparently have succeeded in their new ventures were less depended upon their earlier skills (Kemelgor, 1985). The important skills identified were; strategic planning skills, strategic planning skills, technical skills leadership skills, decision making skills, record keeping skills, routine planning skills, coordination skills and delegation skills.

Kuratko and Hodgetts (1995) list the skills significant for entrepreneurs that contain, innovation skills, problem-solving skills, communication skills, control skills, opportunity seeking skills, risk taking skills team building skills, and networking. All the skills listed by Kuratko and Hodgetts (1995) are logically essential in running a business. Moreover, studies conducted in the United States by Hess (1987) and Herbert (1989) were also found the same in addition to management and marketing/sales skills. Consequently, Hisrich and Peters (2001) identified that management and negotiating skills critical for entrepreneurs.

Lazear (2004; 2005) argued that it is not necessary for an entrepreneur to be a specialist in any specific skill, but, instead, is needed to be a jack-of-all-trades (JAT). He contends that, in order to be successful, one must be “sufficiently skilled

in a variety of areas to put together the many ingredients required to create a successful business" (Lazear, 2005, p.676). Additionally, the idea of jack-of-all-trades (JAT) is also maintained by Wagner (2006) and Asteboro and Thompson (2011) who recommend that having a balanced skills mix fuels entrepreneurship.

The underlying assumption of JAT approach to entrepreneurship is that individuals with a wide and balanced skill-set are more likely to become entrepreneurs. Furthermore, Lazear (2004) advises that if a nascent entrepreneur does not possess a complete skill set, then any additional skills can be acquired. Smith, Schallenkamp and Eichholz (2007) conducted a study to develop a skills framework for entrepreneurs. Through exploratory study, they collected the response of a group of entrepreneurs within two years of their first exposure to entrepreneurship technical assistance. The perceptions of entrepreneurs about the importance of the skills and the usefulness of the skills along with their self-assessment of their ability level relative to each skill were measured. The respondents of the study were asked to rank the skills in terms of usefulness and also assess their own ability against each skill considered.

Table2.1
Entrepreneurial Skills Set

Technical Skills	o Operational: the skills necessary to produce the product or service o Supplies/raw materials: skills to obtain them, as necessary o Office or production space: the skills to match needs and availability
Managerial Skills	o Management: planning, organizing, supervising, directing, networking o Marketing/sales: identifying customers, distribution channels, supply chain o Financial: managing financial resources, accounting, budgeting o Administrative: people relations, advisory board relations o Higher-order: learning, problem-solving

Entrepreneurial Skills	o Business concept: business plan, presentation skills o Environmental scanning: recognise market gap, exploit market opportunity o Advisory board and networking: balance independence with seeking assistance
Personal Maturity Skills	o Self-awareness: ability to reflect and be introspective o Accountability: ability to take responsibility for resolving the problem o Emotional coping: emotional ability to cope with a problem o Creativity: ability to produce a creative solution to a problem

Source: Smith and Eichholz (2007)

In contrast, Chell (2008) used textual analysis of a series of entrepreneurial cases. Rather than allowing individual entrepreneurs to be self-evaluated, she employed a list of skills for considering them as practical indicators for assessing the presence of entrepreneurial behavior. For this, she argues that "the individual constructs being assessed are 'complex and multifaceted'' (Chell, 2008; p. 211). Chell (2008) also identified the expert term "alertness" and it as the sign of the ability to identify and recognize an opportunity and considered as an entrepreneurial behavior. Equally, she also highlighted the leadership skill that represents the ability to manage others, while social (networking) and strategic competence that represents the ability to expand and maintain the business.

Furthermore, Lou and Baronet (2012) established a framework for identifying the appropriate entrepreneurial skills-set and competences. They conducted qualitative interviews of entrepreneurs in France, Algeria, and Canada and identified the eight skill and competences include; self-discipline, opportunity

recognition and exploitation, leadership, human resources management, financial management, marketing and commercial activities, marketing and monitoring, vision and intuition. However, Chell (2013) claims that skills and competencies are separate construct, and they should also be distinguished from ability and aptitude. However, the skills are still an under researched slippery construct, but, not least, should be distinguished from ability and aptitude (Chell, 2013).

This study will opt for the skills-set developed by Schallenkamp and Smith (2008), under the Entrepreneurial Development System (EDS) by Lichtenstein and Layons (2001). The main dimensions of entrepreneurial skills will be as same as presented by Schallenkamp and Smith (2008) and leadership skills by Timmons (1994);

1. Managerial Skills
2. Personal Maturity Skills
3. Entrepreneurial Skills
4. Technical Skills
5. Leadership Skills

2.5.3.1 Entrepreneurial Personal Skills

Lyons (2002) described entrepreneurial skills as "the skills needed to develop innovative products and services and to generate solutions to emerging needs in the marketplace" (p. 4). The following dimensions of entrepreneurial skills will be adopted from (Smith & Eichholz, 2007);

Table 2.2

Entrepreneurial Personal Skills

Dimension	**Items**
Business Concept	Business plan, Presentation Skills
Environmental Scanning	Recognize market gap, Exploit market opportunity
Advisory Board and Network	Balance independence with seeking assistance

The business plan has been recognized as an essential of entrepreneurial skills (Smith & Eichholz, 2007). Chaney and Green (2004) focused on the presentation skills, which that are also supportive of preparing the business plan. They stress the importance of verbal and non-verbal presentation skills, along with dress, body language, vocal characteristics, and use of visuals.

As per Albright (2004), the environmental scanning is "the process of identifying emerging issues, situations and potential pitfalls that may affect an organization's future." Thompson (2004) studied the facets of the entrepreneur seeking to identify entrepreneurial potential. He considered the combination of talent, temperament, and technique. Talent and temperament, he suggests, are

innate qualities that can be revealed and nurtured, but not taught, as techniques can be. “Techniques can definitely help improve our talents; but techniques cannot simply create passion and drive” (p. 3). “Environmental scanning is a technique but to use it to recognize and exploit a market opportunity takes passion and drive” (Smith & Eichholz, 2007; p. 22).

As described by Smith and Eichholz (2007), “The individual entrepreneur is the key ingredient in determining the ultimate success or failure of the use of advisory boards and the network of contacts and expertise it represents. The entrepreneur must be able to provide leadership and direction, exhibit a willingness to be open about problems faced, earnestly seek advice and listen to the input provided” (p. 22). Advisory boards work best as think tanks that allow wise and experienced people to process serious business challenges. When the entrepreneur becomes too absorbed and too narrowly focused, an advisory board is more likely to see the larger picture and provide different perspectives which can be very valuable (Morkel & Posner, 2002). Entrepreneurial networks provide one of the best environments both for individual entrepreneur learning and for organization learning opportunities (Deakins & Freel, 1998).

2.5.3.2 Managerial Skills

The managerial skills are “the skills needed to organize the work on a day-to-day basis.” (Lyons, 2002; Smith & Eichholz, 2007). The six dimensions of managerial skills suggested by (Smith & Eichholz, 2007) are following;

Table 2.3
Managerial Skills

Dimension	Items
Management	Planning, organizing, Supervising, directing, Networking

Marketing/sales	Identifying customer, distribution channels, supply chain
Financial	Managing financial resource, accounting, Budgeting
Legal	Organization form, risk management, privacy and security
Administrative	People relations, advisory board relations
Higher-order	Learning, problem-solving

The known skills like management skill, marketing/sales, financial, and legal skills are generally recognized and widely accepted as essential managerial skills in the operation of every enterprise (Lyons, 2002; Smith & Eichholz, 2007; Williams, 2003). The administrative skills relate to using other people in the business and higher-order learning and problem-solving skills highlighted by (Smith & Eichholz, 2007). They found these skills as significant for entrepreneurs.

2.5.3.3 Personal Maturity Skills

Lyons (2002) defined personal maturity skills as "the skills needed to attain self-awareness, emotional maturity, ability and willingness to accept responsibility, and creativity" (p. 4). As per (Smith & Eichholz, 2007), personal maturity skills for the entrepreneur are the "make-or-break" skills of individual entrepreneurial opportunities. "These skills are only recently beginning to receive adequate attention in the entrepreneurial research, and are rarely included in entrepreneurial training programs" (p. 8). The dimensions of personal maturity skills (Smith & Eichholz, 2007) are followed;

Table 2.4
Personal Maturity Skills

Dimension	**Items**
Self-awareness	Ability to reflect and be introspective
Accountability	Ability to take responsibility for resolving a problem
Emotional Coping	Emotional ability to cope with a problem
Creativity	Ability to produce a creative solution to a problem

2.5.3.4 Technical Skills

Lyons (2002) defined the technical skills as "the skills necessary to be successful in one's line of business" (p. 4). The following table has dimensions of technical skills described by Smith & Eichholz (2007).

Table 2.5
Technical Skills

Dimension	Items
Operational	The skill necessary to produce the product or services
Supplies/Raw Materials	The skill to obtain them, as necessary
Technology	The skills to identify and obtain

Lichtenstein and Lyons (1996) exhibited that the more successful entrepreneurs had technical skills beyond just producing the product or service. This is consistent with the findings of writers like Smith and Miner (1983) who categorize entrepreneurs by basic entrepreneurial patterns. On one end of the continuum they identify artisan or craftsman entrepreneurs. These are persons who create a new venture in order to exploit their technical or job experience. They have strong technical expertise, but often lack other essential skills like management experience and communication ability. On the other end of the continuum are opportunistic entrepreneurs. These are individuals who have supplemented their technical ability with additional skills such as communication, legal, economic or strategic knowledge. Smith (1967) postulated that opportunistic entrepreneurs, by virtue of their breadth of education (relative to artisan entrepreneurs), exhibit higher social awareness and involvement and are oriented toward the future.

2.5.3.5 Leadership Skills

The Leadership skills refer to the ability of an individual to work with and through other people, inspiration to do work, and independent thinking (Timmons, 1994).

Table 2.6
Leadership Skills

Leadership Skills	Items
Timmons (1994), Armanurah Mohamad. Muhammad Hussin (2014). Baron and Markman (2003), Will (1998).	• The Ability to perform tasks in a group or teams. • The Ability to coordinate work. • The Ability to do work with and through other people. • The leadership traits. • Consistency and intensity to achieve goals. • Motivation as an employee. • Inspiration to do work. • The ability to adjust in different environmental settings. • Independent thinking. • The ability to adopt new technology and methods to perform new tasks.

2.6 Stakeholder's Support System

The involvement and support of stakeholders are essential to flourish the entrepreneurial activities (Rengiah & Sentosa, 2014). The stakeholders that can support the entrepreneurs include government, family of nascent entrepreneurs, and financial agencies [Hannon, 2006; Jones, 2007; Salmon, 2007).

The entrepreneurship is shaped by political, contextual and economic factors governed by many actors in the public, private and non-governmental areas (Gelard & Saleh, 2011). To survive in that system, entrepreneurs may identify opportunities and face theatres. For example, if there are some attractive opportunities and favourable conditions are there in the market, entrepreneurs

will definitely be encouraged for entrepreneurship (Gelard & Saleh, 2011). The conditions that can effect on the entrepreneurial intent of nascent entrepreneurs are business regulations, tax regulations, and legal system (Stephan, 2010; Dreisler, 2003, Storey, 2008). According to the study conducted by Farnk (2003), the perceived barriers and structural support are the factors that directly influence the entrepreneurial intents.

According to Kozan and Ozsoy (2006), availability of business resources and capabilities enable the nascent entrepreneurs to start a business confidently. Government's support can assist nascent entrepreneurs to perform even at international level (Murphy, 2004). The support consists of public policies and supportive programs to promote entrepreneurial activities through financing of new entrepreneurs (Reynolds, 2003; Stevenson and Lundstro, 2005).

The support to the new SMEs provides countless benefits in returns e.g. economic development, employment, and wealth generation. Government can play a vital role in making more favorable environment for nascent entrepreneurs through financial assistance and support (Kozan, 2006). The governmental support towards entrepreneurship activities involves information services, providing funds, and management development and training (Demick & O'Reilly, 2000). The government support brings the benefits of economic development and growth through the development of small and medium size enterprises, employment generation activities, and wealth creation (Obaji, 2014). Numerous studies have also been concluded the significant role of government support in developing entrepreneurial activities and its contribution

in economic development and growth (Friedman, 2011; Kumar & Liu, 2005; Minniti, 2008; Noor, Shariff, & Peou, 2010; Obaji, 2014; Rante & Warokka, 2013). The government as a formal network can support the nascent entrepreneur through its policies as well as an informal network, which consists of family member, friends and social contacts have an influence on individual to take the decision to be self-employed. As per Birely (1990), "entrepreneurs, at an early stage of enterprise development, rely heavily on the informal network of friends, family members and social contacts from the local neighborhood to gather relevant data." Networks consist of social relations, parents, brothers and sisters, friends, neighbors, customers, and vendors etc. (Gelard & Saleh, 2011).

There are two kinds of networks; formal networks consist of government departments, banks, law firms, insurance firms, and management consultants, and informal network stands for parents, peers, friends, and family members. The both networks support and encourage entrepreneurs to establish an enterprise (Farnk, 2003, Gelard & Saleh, 2011). The government can help the entrepreneurs to establish the business by supportive public policies, structural support and financial initiatives to support the entrepreneurial activities (Gelard & Saleh, 2011; Moghimi & Alambeigi, 2012; Rante & Warokka, 2013). Entrepreneurship is enforced by the government through public policies and programs that consider financing to be one of the principal means of achieving higher rates of entrepreneurial activity.

2.7 Underpinning Theories

2.7.1 Shapero and Shokol's Entrepreneurial Event Theory (1982)

To consider how entrepreneurial intentions are evident in 'entrepreneurial event formation' Shapero and Sokol (1982) looked at life path changes and their impact on the individual's perceptions of desirability and perceptions of feasibility related to new venture formation (See Figure 2.2 below). This theory assumes that critical life changes (displacement) precipitate a change in entrepreneurial intention and subsequent behaviour. Displacement can occur in a negative form (e.g. divorce, loss of a job) or a positive form (financial support, good business partner). The intention to become self-employed and form a new venture (an entrepreneurial event) therefore depends on the individual's perceptions of desirability and feasibility in relation to that activity.

Shapero and Sokol developed an entrepreneurial event model in 1982. The main concern of this model was to consider how entrepreneurial intentions are caused of entrepreneurial event formation. Shapero and Sokol (1982) did not introduced their entrepreneurial event model as an intention model, but it was quickly seen and used as such in the literature (Kermit, 2008). The major objective of this entrepreneurial event model is to explain the processes that lead to an entrepreneurial event, an establishment of a new business (Kollmann & Kuckertz, 2006). The model describes that "inertia guides human behaviour until some event "displaces" that inertia and unblocks previously undesired behaviours" (Shapero & Sokol, 1982). For example, a displacement, such as job loss, might alter the perception of the desirability to become self-employed.

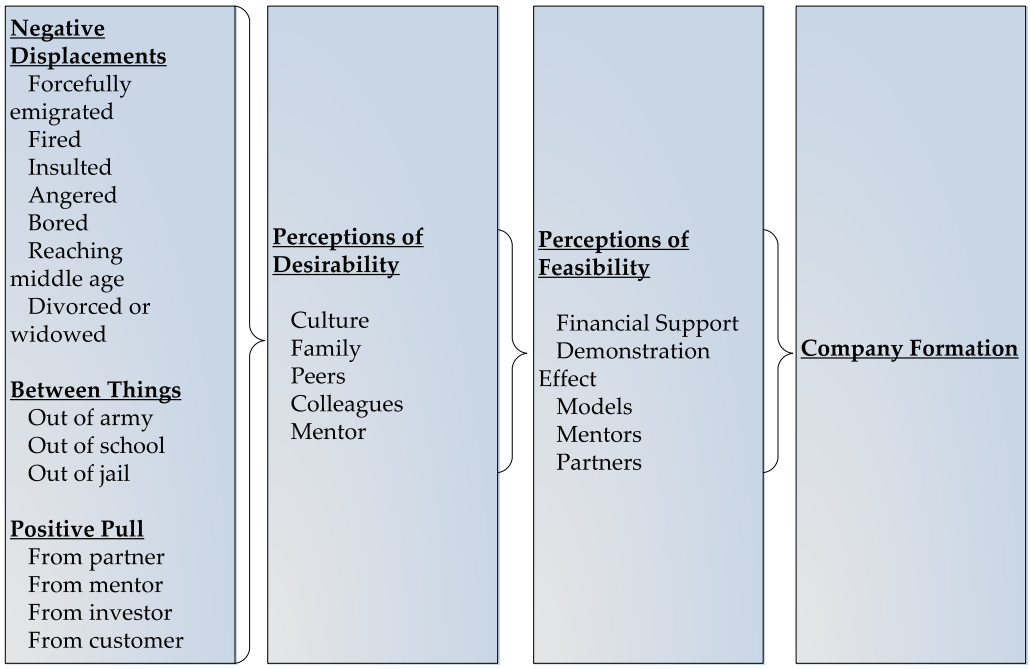


Figure 2.2
Entrepreneurial Event Model (Shapero and Sokal, 1982).

Shapero and Sokol (1982) categorises the life path changes into three categories:

1. Negative Displacement
2. Being Between Things
3. Positive Pull

The first category labelled as negative displacements, e.g. job loss, being insulted, angered, bored from current situation, reaching middle age, getting divorced or becoming widowed. The second category was being between things like graduated from high school or college, university, completing military duty or releasing from jail. This category is more suitable for the students who often have no clear idea of where they should go after graduation. The next category is positive pulls from spouse, teacher or mentor, investor, and customers. The

intention to become self-employed and form a new venture (an entrepreneurial event) therefore depends on the individual's perceptions of desirability and feasibility in relation to that activity.

The three questions summarising the three concepts of the entrepreneurial event model can be expressed as: How desirable is it to perform this behaviour? Are you actually doing what you think you want to do? Do I believe in my own capability to perform this behaviour? Similarly to the theory of planned behaviour, exogenous factors do not directly impact intentions or behaviour but are reflected through person-situation perceptions of desirability and feasibility of a behaviour (Krueger Jr, 2000).

2.7.2 Social Cognitive Theory

Social Cognitive Theory (Bandura, 1986) also known as Social Learning Theory (Bandura, 1977), which reflects the human behaviour as an interaction of environment, personal factors, and behaviour. The social cognitive theory helps to understand the different kinds of human behaviour and provides reasons for modifying the behaviour (Bandura, 1986). It is the study of identifying how learning occurs through changes in mental state (Ormrod, 1999). The Social Cognitive theory also guides the designing of learning activities to help individuals achieve change through their own motivation by providing them with specific knowledge, skills and resources (Anderson, 2000). The social cognitive theory (Bandura, 1986) is focused on the reinforcement and observation, giving more importance to the mental internal processes as well as to the interaction of the subject with others. The only requirement for learning can be that one person observes another individual, or model behaviour to carry out a certain conduct.

According to Bandura, individuals possess an auto-system that allows them to measure the control of their own thoughts, feelings, motivations and actions. This system exercises self-regulation to enable individuals with aptitude to influence their own cognitive processes and actions and in this way to alter their environment. If we applied the concepts I have just discussed to entrepreneurship education programs, we can infer that the student's observation and interaction with previous entrepreneurs can reinforce entrepreneurial behaviour. The observation and imitation of former entrepreneurs will intervene upon the cognitive factors of the students and can help them – students or alumni – to decide if the observed behaviours should be imitated or not.

2.7.3 Social Cognitive Career Theory

A further modification of the Entrepreneurial Intention Model (EIM) is suggested by the research on career development, Social Cognitive Career Theory (SCCT), an extension of Bandura's Social Cognitive Theory (Lent, Brown & Hackett, 1994). Many if not most behaviors used in the general theory of planned behavior literature involve decisions about behaviors that are largely under their own control, can be performed in the near future, and generally do not require a long-term commitment to a major course of action. By contrast, the choice of a career is subject to an array of external limitations and involves a number of years of investing effort, and would on its face seem closer to entrepreneurial processes that TPB.

Social Cognitive Career Theory (SCCT: Lent, 1994, 2000) is an established theory of vocational psychology that has been used extensively to explain

individuals' career-relate decision-making behavior. With its foundation in Bandura's (1989; 2001) Social Cognitive Theory, social cognitive career theory (SCCT) asserts that the psychological process underlying career decisions and behaviors is dictated largely by the interplay of three key constructs: 1) self-efficacy or perceived behavioral control, which is defined as the dynamic set of beliefs about one's capacity to carry out a specific course of action within a given domain, 2) outcome expectations, which are characterized as the expected consequences of a given behavior, and 3) goals, which are specified in terms of one's determination to engage in a specific behavior (Bandura, 1986; Lent, 1994). This goal construct, moreover, encompasses an individual's intention to engage in a specified behavior.

SCCT further acknowledges that both person and environmental/contextual elements influence the career decision-making process, with perceived behavioral control, outcome expectations, and goals/intentions are predicted to mediate the relationships between individual and environmental experiences and outcome behaviors (Lent, 1994;). Conceptualizing entrepreneurship as a career choice, scholars recognize the utility of key SCCT constructs as predictors of individuals' intention to become an entrepreneur. For example, Segal and his colleagues (2002) found that perceived behavioral control and outcome expectations (operationalized in terms of earning potential, financial security, and independence) together explained over half the variance of one's entrepreneurial intention.

Similar to the approach found in the EIM, SCCT postulates that the pursuit of a

career is shaped by perceived behavioral control and self-efficacy, for the capabilities needed to succeed in a career (Brown & Lent, 2006) and by "outcome expectations", a potentially confusing label, which in this work is defined as the value that the individual expects from the career activity (Brown & Lent, 2006). Much like the EIM, their model shows background factors and past performance predicting both self-efficacy and "outcome expectancy", which might are treated here as the Desirability construct in the EIM. While the use of these concepts is consistent with the EIM studies that employ the constructs of desirability and self-efficacy, Lent, Lopez and Bieschke (1993) and Lent, Brown and Hackett (1994) also specify that a relationship is expected to occur between those concepts with self-efficacy having the motivational effect of leading the individual to value the results that follow from the exercise of their skills. Support for the belief that there is a Self-efficacy – Desirability relationship and that the primary direction of influence is from self-efficacy to perceived value is also found in Bandura (1997, 424): "Social cognitive theory posits a reciprocal but asymmetrical relationship between perceived efficacy and occupational interests, with efficacy beliefs playing the stronger determinant role."

2.7.4 Theory of Planned Behavior

The theory of planned behavior is an extension of the theory of reasoned action (TRA), developed by Fishbein and Ajzen (1980; 1975). The theory of reasoned action represents behaviour that "over which people have incomplete volitional control". However, the theory of planned behaviour is related to behaviour in which people do have the complete volitional control (Ajzen, 1991). People can "plan" their behaviour. The construct of "perceived behavioural control"

differentiate both the two theories (Ajzen, 1991: 183) which is the part of theory of planned behaviour presented by Ajzen (1991). Additionally, the theory of planned behaviour have the flexibility to predict and explain human behaviour in different contexts. It is specially designed to explain the behaviour which is "rare, hard to observe, or involves unpredictable time lags". The theory of planned behavior subsists of three main constructs. The subjective norms, includes someone's perception about a specific behavior that is influenced by the judgments of significant of others i.e. parents, friends, peers, teachers etc. The second is attitudes towards the outcomes of the behavior, which is "beliefs about the likely outcomes of the behavior and the evaluations of these outcomes," (Ajzen, 2002: 1). Third variable named as perceived behavioural control concerned with someone's "perceptions of the ease or difficulty of performing the behaviour of interest, a construct which is more important than the actual control over the behaviour of interest" (Ajzen, 1991).

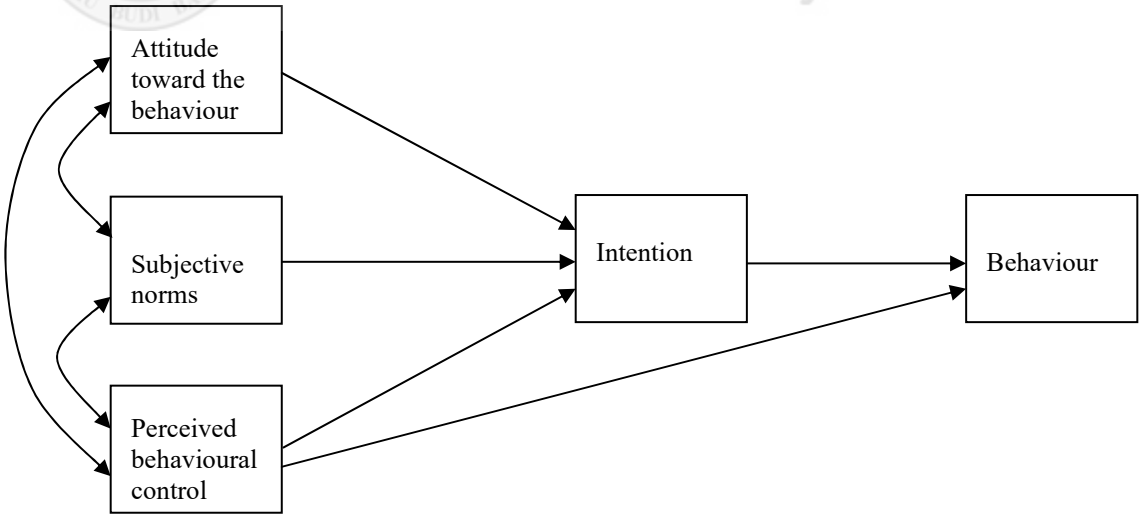


Figure 2.3
Theory of Planned Behavior (Ajzen, 1991)

The theory assumes that "the stronger the positive attitudes toward a behavior

are and the stronger the social norms toward a behavior are, the stronger the behavioral intention is" (Ajzen, 1991). The theory assumes that attitudes, subjective norms and perceived control help to predict intentions. The intentions towards a particular behavior and perceived behavioral control then predict behavior. The focal point of this theory is to highlight the key role of intentions and their influences in predicting a specific behavior (Ajzen, 1991).

Several researchers have used the Theory of Planned Behavior (Ajzen, 1991) to explain the decision of being self-employed or firm's creation. (Tkachev, 1999; Kolvereid, 1996; Kolvereid & Isaksen, 2006; Krueger, 2000; Krueger, 2007; Lüthje & Franke, 2003; Fayolle & Gailly, 2005; Fayolle & DeGeorge, 2006; Fayolle, 2006; Gelderen, 2008; Gird & Bagraim, 2008; Müller, 2008; Souitaris, 2007).

2.8 Selection of Theoretical Model

In the light of above discussion, both model either entrepreneurial event model and Theory of Planned Behavior has strong statistical support (Krueger Jr, 2000). They have the benefit that exogenous factors are captured in the attitudinal concepts, which in turn affect intention (Souitaris, 2007; Tkachev, 1999). A distinctive benefit of the general understanding of entrepreneurial behavior is the variable of propensity to act in the Entrepreneurial Event Model (EEM). This variable explains why someone who is capable of and desires to become an entrepreneur never becomes one, as the individual lacks the propensity to act on the behavior. Shapero and Sokol did not mention this variable explicitly in their original model; however, it was solved and included

in further developments of the entrepreneurial event model (Krueger Jr, 2000; Krueger, 1993).

Although of great interest for the explanation and understanding of processes that lead to an entrepreneurial event, the entrepreneurial event model is focused "on the issue of new business creation and not on the evolution towards the adoption of an entrepreneurial behavior in general" (Fayolle, 2006: 707). This disqualifies the entrepreneurial event model as a theoretical framework for research questions, as their purpose is to examine the development of entrepreneurial intention over a period of time. The theory of planned behavior has been tested and empirically validated in depth (Gelderen, 2008).

A distinctive advantage of this theory over the Entrepreneurial Event Model is the opportunity to measure the development of intentions through learning e.g. competencies and skills (Fayolle, 2006). Therefore, the theory of planned behavior (Ajzen, 1991) has been selected as the theoretical framework. Moreover, the Social Cognitive Theory (Bandura, 1986), and Social Cognitive Career Theory (Lent, Brown & Hackett, 1994) are considered as supportive theories in this study. In conclusion, considering the research questions, the theory of planned behavior is well suited to providing a theoretical framework for this study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The sketch of the methodology that has been followed in conducting this study is at first the section 3.2 named as research framework, section 3.3 and 3.4 contain hypotheses development and research design respectively. The section 3.5 consists of operational conceptualizations of variables, then measurement of variables/instruments is discussed in subsequent section 3.6. The next sections have the details of data collection, sampling size and its details, data collection procedures, and at the end the techniques of data analysis. All of the components of the research for this study are discussed in detail in the subsequent sections.

3.2 Research Framework

The research framework of the study is based on the review of literature, which has already been discussed in detail in chapter 2. The framework is developed

after a review of previous studies and mainly based on the Ajzen's theory of planned behavior (1992), while the Social Cognitive Theory (SCT) by Bandura (1986) and Social Cognitive Career Theory (SCCT) by Lent et. al were considered as supportive theories in this study. (1994) that support the research problem of this study, which is in the investigation process titled as: the effects of entrepreneurial skills in developing entrepreneurial intention among IT employees of Punjab, Pakistan; the mediating role of attitude towards behavior, perceived behavioral control, and stakeholders' support system . The selection of the theories is contingent with its relevance, ease of solicitation, and explanatory support from the literature.

The theoretical framework strengthens a study in the following ways:

1. An explicit statement of theoretical assumptions permits the reader to evaluate all of them critically and clarifying the relationship between entrepreneurial skills, attitudes towards outcomes, perceived behavioral control, stakeholders' support system, and entrepreneurial intentions.
2. This framework associates the researcher to the prevailing knowledge. Led by a relevant theory, which is given in the literature in detail i.e., Shapero's Model (1982) and Theory of Planned Behavior (1992).
3. Keeping in view the theoretical assumptions of a research study impels to address research questions of why and how. It allows to logical shift from simply describing a process whose step by step series is observed to generalizing about numerous facets of that phenomenon (Honig, 2004).
4. With the help of a theory, the researcher limits the scope and boundaries of the study. A theoretical framework helps to determine that which one of the

significant variables effect a concerned phenomenon of the study. It also underlines the basic need to study those key variables and how those significant variables might differ and under which conditions (Benson & College, 2004).

Based on the literature reviewed and suggestions by several studies, this study has developed a framework to examine the mediating effects of ATB, PBC, and SSS on the relationship between EPS, LS, MS, PMS, TS, and entrepreneurial intentions of IT employees in Punjab, Pakistan. The research framework has five independent variables, which represent the entrepreneurship skills, namely EPS, LS, MS, PMS, and TS. Entrepreneurial intention is the dependent variable, while attitude towards behavior (ATB), perceived behavioral control (PBC), and the stakeholders' support system (SSS) are mediating variables in this study.

Following is the framework of the study:

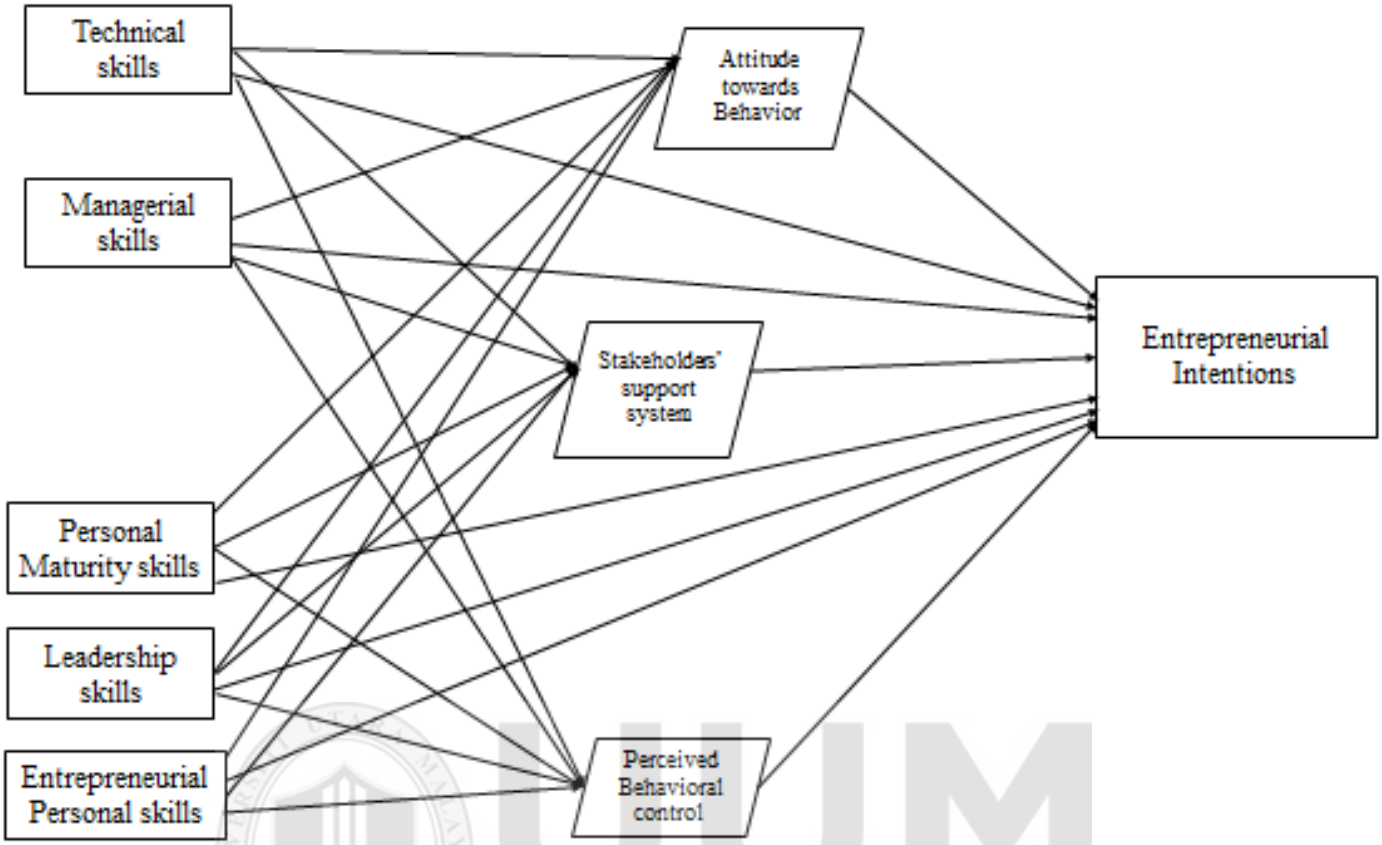


Figure 3.1
Research Framework of the Study

Numerous research studies in the domain of entrepreneurship provide evidence of the substantial role of entrepreneurial intentions on the decision to start a new business venture (Armanurah & Hussin, 2014; Chell, 2013; Fekri, 2012; Lichtenstein, 2001; Linan & Chen, 2009; Morales & Marquina, 2013; Smith & Eichholz, 2007). In addition, many factors have been identified in the previous studies, which effect on developing entrepreneurial intentions, environmental factors, background, individual characteristics such as age, previous experience, role models, religion, gender, level of education, and origin etc. (Bird, 1988; Giuniepero, 2005; Gibb, 1993; Gurol & Atsen, 2006; Hisrich et al., 2008; Krueger, 1993; Kuratko & Hodgetts, 2001; Kuratko, 2016; Kolvereid, 1999;

Linan, 2008; Lorz, 2011; Oosterbeek, van Praag, & Ijsselstein, 2010; Rengiah & Sentosa, 2014; Timmons, 1994; Zimmerer, 2008). From numerous factors, entrepreneurship skills have been viewed as an indicator for establishing and managing new businesses or innovative projects in prevailing organizations. (Chandler, 1994; Chen, 2008; Chell, 2013; Davidsson, 1991; Eggers & Smilor, 1996; GEM, 2015; Linan, 2008; Lorz, 2011; Lichtenstein & Lyons, 2001; Lyons, 2011; Palen, 2011; Smithm & Morse, 2005: OECD, 2011).

Entrepreneurship skills affect the intentions of an individual to become self-employed (Chell, 2008; Kuratko, 2016; Lazear, 2004; Lichtenstein & Lyons, 2001; Lyons, 2011; Smith et. al., 2008; OECD, 2011). Skills in general, provide the grounds for a firm's dynamic capabilities, the ability to learn and adjust to volatile circumstances, and as a result, have a positive impact on entrepreneurship (Lichtenstein & Lyons, 2001; Lyons, 2011; Smith et. al., 2008; OECD, 2010). Numerous studies on entrepreneurship draw attention to this linkage and highlight that the capacity to constantly learn, acquiring knowledge, and developing skills are essential abilities of successful entrepreneurs (Smilor, 1997; Minniti and Byrgave, 2001; Tether et al. 2005; World Economic Forum, 2009).

There are also some evidences providing support the significance of these skills for entrepreneurship (Chell, 2008; GEM, 2013; Lichtenstein & Lyons, 2001; Lyons, 2011; Smith et. al., 2008 OECD, 2010). Therefore, this study adapts entrepreneurial skills named as technical skills (TS), managerial skills (MS),

personal maturity skills (PMS), leadership skills (LS), and entrepreneurial personal skills (EPS) as independent variables. This is in line with the suggestion that future studies that assess the effects of entrepreneurial skills on developing entrepreneurial intentions (Chell, 2013; GEM, 2013; Lyons, 2011; Rengiah & Sentosa, 2014; Smith et al., 2007).

Entrepreneurial intention is the dependent variable in this study (Autio et al. 1997; Bird 1988; Boyd & Vozikis 1994; Frank & Luthje 2004; Fayolle & Gailly 2008; Krueger 2016; Peterman & Kennedy 2003; Phelan 2014). In addition to entrepreneurial intentions as dependent variable, attitude towards behavior (ATB), perceived behavioral control (PBC), and stakeholders' support system (SSS) are considered as mediating variables in this study (Ajzen, 2001). The mediating role of these factors is identified in relationship between exogenous variables and entrepreneurial intentions in the theory of planned behavior (Ajzen, 2001). The components examined in the mediating variable of attitude towards behavior: attitude towards money (Robinson et al. 1991; Douglas 1999), attitude towards change (Autio et al. 1997; Shane et al. 2003) and attitude towards competitiveness (Krueger et al. 2000). The stakeholders' support system which is examined with the components: the role of government (Reynolds et al. 2005; Stevenson & Lundstro¨m 2005; Storey 2005), financial institutions (Dollinger 1995; Fehr & Hishigsuren 2006; Greene & Brown 1997) and informal support from family and friends (Gerald & Saleh, 2011; Matlay 2009; Reavil 1998; Koksal & Egitman 1998).

The above theoretical framework drawn model describes the relationship between entrepreneurial skills named as EPS, LS, MS, PMS, TS, attitude towards behavior, perceived behavioral control, stakeholders' support and entrepreneurial intentions. The entrepreneurial skills present in the model, are independent variables (IV), attitude towards behavior, stakeholders' support system, and perceived behavioral control as mediating variables (MV), while entrepreneurial intentions considered as dependent variable (DV), in this study.

3.3 Hypotheses Development

Based on the above-mentioned research issues in line with previous researches resulted in the development of a number of hypotheses and a model as shown in Fig. (3.1). Based on the objectives of this study and available evidence in the literature, the following hypotheses were developed;

H1. Entrepreneurial personal skills have a significant effect on the entrepreneurial intention of IT employees in Punjab, Pakistan.

H2. Leadership skills have a significant impact on entrepreneurial intention of IT employees in Punjab, Pakistan.

H3. Managerial skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H4. Personal Maturity skills have a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.

H5. Technical skills have a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.

H6. Entrepreneurial personal skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H7. Leadership skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H8 Managerial skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H9 Personal Maturity skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H10. Technical skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.

H11. Entrepreneurial personal skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.

H12. Leadership skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.

H13. Managerial skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.

H14. Personal maturity skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.

H15. Technical skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.

H16. Entrepreneurial personal skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.

H17. Leadership skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.

H18. Managerial skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.

H19. Personal maturity skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.

H20. Technical skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.

H21. Attitude towards behavior has significant effect on the entrepreneurial intentions of IT employees in Punjab, Pakistan.

H22. Perceived behavioral control has significant effect on the entrepreneurial intentions of IT employees in Punjab, Pakistan.

H23. Stakeholders' support system has a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.

H24. Attitude towards behavior mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H25. Attitude towards behavior mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H26. Attitude towards behavior mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H27. Attitude towards behavior mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H28. Attitude towards behavior mediates the positive relationship between Technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H29. Perceived behavioral control mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H30. Perceived behavioral control mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H31. Perceived behavioral control mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H32. Perceived behavioral control mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H33. Perceived behavioral control mediates the positive relationship between Technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H34. The stakeholders' support system mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H35. The stakeholders' support system mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H36. The stakeholders' support system mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H37. The stakeholders' support system mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

H38. The stakeholders' support system mediates the positive relationship between technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

The hypotheses of this study were developed according to the framework of the study exhibited in Figure 3.1. Hypotheses are testable and measurable statements (Honig, 2004). Therefore, these hypotheses were tested through subsequent steps of data collection and analysis.

3.4 Research Design

Research design is a way, which explains the design and the methods of conducting the research study in a scientific way (Macdonald & Headlam, n.d.). The selection of the research design depends on the suitability with the study (Sekaran, 2010). Though this study attempts to thoroughly review and understand the relationships among the variables; entrepreneurial skills EPS, LS, MS, PMS, and TS, EI, ATB, PBC, and SSS. Therefore, this is an effort to understand the relationship between entrepreneurial skills EPS, LS, MS, PMS, and TS and entrepreneurial intentions with the support of mediating variables.

Research design of the study states the outline for the collection and analysis of the data (Bryman, 2004). Sekaran and Bougie (2010) describe that research design is a way of gathering and analyzing data to arrive at a solution. The present study follows a quantitative methodology. Quantitative data is a measurement where numbers are used to represent the phenomenon being studied (Hair Jr., Black, Babin, & Anderson, 2010). This study adopts a survey research design. A

survey method is adopted when a study is trying to assess thoughts, feelings, and opinions about a given situation by collecting primary data from the respondents (Fisher, 2010). The survey method allows the researcher to gather quantitative data and analyze it using descriptive and inferential statistics. Then, possible reasons for particular relationships between variables can be suggested and models of these relationships can be produced (Saunders, Lewis, & Thornhill, 2009).

Survey research provides a fast, cheap, efficient and accurate examination and facts about a certain population (Zikmund, Babin, Carr, & Griffin, 2013). Moreover, as compared to observation, secondary data, and interview survey research using questionnaires is less expansive and easy, especially when there is a need to collect c data from a large population. In an interview, the nature and characteristics of the interviewer may influence the answers of respondents compared to the questionnaire. Observation, may not give a better understanding of certain behaviors because people may behave differently when they know they are being observed (Zikmund et al., 2013). Similarly, secondary data may be inappropriate for study like this one, because of record keeping problem of the respondents. In the event were records are available, the information may be outdated, since the data was collected many years ago. Also, the information may refer to the entire country when this study aimed to study a specific region. Hence, the quality of the secondary data may not be guaranteed (Saunders et al., 2009).

Therefore, a survey method using questionnaire as the instrument for data collection is found to be more appropriate for this study. This is because the study involves collection of data from employees working in IT companies in Punjab, Pakistan in order to determine the mediating role of attitude towards behavior, perceived behavioral control, and stakeholders' support system on the relationship between TS, MS, PMS, LS, EPS and entrepreneurial intentions of IT employees Punjab, Pakistan. This study makes use of quantitative data in order to summarize and describe the information and testing of the indicated hypotheses. The study collected the data and labels the characteristics of the population of the study at one time and not over a long period of time; therefore, this study is a cross- sectional study. The cross-sectional mode of data collection was used in this study and proceeded in a quantitative mode. The data was collected through questionnaire survey method and analyzed through appropriate quantitative analysis.

3.5 Operationalization of Variables

Operational definition is the concept to render it measureable, which is done by looking at the dimensions, elements, and items. Followings are the operational definitions of independent variables named as EPS, LS, MS, PMS, and TS, dependent variable entrepreneurial intention, and attitude towards behavior, stakeholders'' support system, and perceived behavioral control as mediating variables. Through the process of operationalization, the research explains a construct's meaning in measurement terms by specifying the activities or operations necessary to measure it (Hair, Bush & Ortinau, 2004; Sekaran, 2010). Followings are the operational definitions of the identified variables.

3.5.1 Entrepreneurial Intentions

Intentions refer to "a person`s motivation to make an effort to act upon a conscious plan or decisions" (Conner & Armitage, 1998). The intension to be self-employed and set up a business is an individual's motivation to carefully plan and act accordingly (Lorz, 2011). Entrepreneurial intention can be defined as the intention to be self-employed (Douglas & Shepherd, 2002; Kolvereid, 1996), the intention to start a new venture (Krueger & Brazeal, 1994; Zhao, 2005), or the intention for possesses an enterprise (Crant, 1996). There may be different ways of measuring entrepreneurial intentions (Warshaw & Davis, 1985); from a behavioral intention perspective ("I intend to perform behavior abc"…) and from a self-prediction perspective ("How likely is it that you will perform behavior abc"). Arimtage (2001) add a third dimension, from a desirability perspective (I want to perform behavior abc). Statistical analysis shows that behavioral intention-related questions have a high predictive power for behavior (Armitage, 2001) as well as self-prediction-related questions (Shepperd, Hartwick, & Warshaw, 1988). For this study, entrepreneurial intention refers to the intend of employees working with IT companies to start his or her own business.

3.5.2 Attitude towards Behavior

Attitude can be defined as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object (Fishbein & Ajzen 1975). Attitude is unstable than personality characteristics, which can be changed both across time and circumstances in virtue of an individual's interaction with his or her environment (Robinson et al. 1991). For this study, attitude towards behavior refers to the degree to which an employee working with IT companies thinks positively to start his or her own business.

3.5.3 Perceived Behavioral Control Behavior

Perceived behavioral control measures the respondent's belief in his capacity to perform the behavior of becoming an entrepreneur. Similar to subjective norms and attitudes toward behavior, perceived behavioral control can be measured with single-item scales (Krueger Jr., 2000) to an 18-item scale measuring self-efficacy (Kolvereid, 2006). Self-efficacy is defined as "one's belief about his/her capabilities to produce designated levels of performance that exercise influence over events that affect his/her life" (Bandura, 1994: 71). This utilizes the scale from Linan (2009), with five items measuring general self-efficacy and one item referring to controllability (c) organizational commitment.

3.5.4 Stakeholder's Support System

The stakeholder's support system is same as subjective norms presented in the Theory of Planned Behaviour (Ajzen, 1992). The stakeholders'' support system factors consist of structural support by government and the social networks in the form of banks, agencies, and informal networks including parents, family, and friends etc. (Gelard & Saleh, 2011; Rengiah & Sentosa, 2014). The government can help the entrepreneurs to establish the business by supportive public policies, structural support and financial initiatives to support the entrepreneurial activities (Gelard & Saleh, 2011; Moghimi & Alambeigi, 2012; Rante & Warokka, 2013).

3.5.5 Entrepreneurial Skills

Entrepreneurial skill can be defined as the ability to create something new with value by devoting the necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence (Hisrich & Peters, 2002). Entrepreneurial thinking is the ability of an individual to exploit an idea and

create an enterprise (small or big) not only for personal gain but also for social and developmental gain (Olagunju, 2004).

3.5.5.1 Entrepreneurial Personal Skills

Lyons (2002) described entrepreneurial skills as "the skills needed to develop innovative products and services and to generate solutions to emerging needs in the marketplace" (p. 4).

3.5.5.2 Managerial Skills

The managerial skills are "the skills needed to organize the work on a day-to day basis." (Lyons, 2002; Smith & Eichholz, 2007). The known skills like management skill, marketing/sales, financial, and legal skills are generally recognized and widely accepted as essential managerial skills in the operation of every enterprise (Lyons, 2002; Smith & Eichholz, 2007; Williams, 2003). The administrative skills relates with using other people in the business and higher-order learning and problem-solving skills highlighted by (Smith & Eichholz, 2007). They found these skills as significant for entrepreneurs.

3.5.5.3 Personal Maturity Skills

Lyons (2002) defined personal maturity skills as "the skills needed to attain self-awareness, emotional maturity, ability and willingness to accept responsibility, and creativity" (p. 4). As per (Smith & Eichholz, 2007), personal maturity skills for the entrepreneur are the "make-or-break" skills for individual entrepreneurial opportunities. "These skills are only recently beginning to receive adequate attention in the entrepreneurial research, and are rarely included in entrepreneurial training programs" (p. 83.5.5.4 Technical Skills

Lyons (2002) defined the technical skills as "the skills necessary to be successful in one's line of business". For this study, technical skills refers to

the ability of an employee to perform his or her specialized tasks easily in an IT company.

3.5.5.5 Leadership Skills

The Leadership skills refer to the ability of an individual to work with and through other people, inspiration to do work, and independent thinking (Timmons, 1994).

3.5 Measurement of Variables/ Instruments

The study adapted measurements based on the preceding research studies related to the present research context (Churchill, 1979). The research model consists of nine constructs: entrepreneurial intentions, technical skills, managerial skills, personal maturity skills, leadership skills, entrepreneurial personal skills, attitude towards behavior, perceived behavioral control, and stakeholders' support system.

The study operationalizes entrepreneurial intentions as a one-dimensional construct using an index of six intention measures adapted from Linan and Chen (2009). Furthermore, attitude towards behavior is operationalize as mediating variable which has been theorized as a unidimensional construct (Kolvereid, 1996; Linan & Chen, 2009). The study measures ATB with an index of five measures adapted from Linan and Chen (2009). Additionally, this study operationally measures perceived behavioral control as mediating variable which has been theorized as a unidimensional construct (Autio, 2001; Gird, 2008; Linan & Chen, 2009; Kolvereid, 1996; Krueger Jr, 2000) measured with an index of six measures adapted from Linan and Chen (2009) and gauged on a seven point Likert type scale.

For stakeholders' support system, two dimension have been measured as there are two kinds of networks; formal networks consist of government departments, banks, law firms, insurance firms, and management consultants, and informal network stands for parents, peers, friends, and family members. The both networks support and encourage entrepreneurs to establish an enterprise (Farnk, 2003; Gelard & Saleh, 2011). Additionally, the measures stakeholders' support system as mediating variable which has been theorized as a two-dimensional construct (Gerald & Saleh, 2011) and measured with an index of fourteen measures adapted from Gerald & Saleh (2011), and gauged on a seven point Likert type scale.

Additionally, the measures entrepreneurial skills (entrepreneurial personal skills, leadership, managerial skills, personal maturity, and technical skills) as independent variables which have been theorized as a unidimensional constructs (Smith et al., 2007). The measure adapted from Smith, Schallenkamp and Eichholz (2007) and gauged on a seven point Likert type scale (1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Neither agree or disagree (Neutral); 5 = Somewhat agree; 6 = Agree; 7 = Strongly agree). Moreover, the study measures EPS with an index of fourteen measures adapted from Smith and Eichholz (2007) and gauged on a seven point Likert type scale (1 = Strongly disagree; 2 = Disagree; 3 = Somewhat disagree; 4 = Neither agree or disagree (Neutral); 5 = Somewhat agree; 6 = Agree; 7 = Strongly agree).

The six items of managerial skills suggested by Smith and Eichholz (2007), and gauged on a seven point Likert type scale. Furthermore, the study measures personal maturity skill with an index of four measures adapted from Smith and Eichholz (2007) and gauged on a seven point Likert type scale. Likewise, the study measures technical skills with an index of four measures adapted from Smith and Eichholz (2007) and gauged on a seven point Likert scale. Also, the study measures leadership skills with an index of ten measures adapted from Timmons (1994) and gauged on a seven point Likert type scale.

The Likert scale was adopted for all the items in this study, and the respondents were questioned to provide their responses to each item on a seven-point scale. The Likert scale is found to be more appropriate for this study due to the nature of the respondents and the information they are required to provide (Alreck & Settle, 1995). Additionally, as Krosnick and Fabrigar (1997) support that a scale between five and seven points is more reliable than higher or lower scales and a scale with no midpoint may increase the measurement error. Similarly, Dawes (2008) states that a five or seven point scale is likely to produce better results and seven point scales are a little better than five point scales (Sauro, 2010).

This study is conducted by using a questionnaire form in English. Each item is clearly asked in the questionnaire so that respondent can understand it very well. The adapted instrument is attached in the appendix A. The questionnaire has four parts; the first part has the items relevant to personal, demographical, and professional details, while the second part entails the variables of attitudes, perceived behavioral control, and entrepreneurial intentions, the third part has

items to assess stakeholder' support system factors, and the last part of questionnaire consists of assessment of entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, and technical skills. The second part of questionnaire entails the main constructs of the theory of planned behavior and entrepreneurial intentions (Autio, 2001; Gird, 2008; Kolvereid, 1996; Linan & Chen, 2009).

In this study, the questionnaire which are developed and published by Linan and Chen (2009) was adapted to assess attitudes towards behavior, perceived behavioral control, and entrepreneurial intentions. The construct developed by Gelard and Saleh (2011), was adapted to assess the stakeholder's support. The entrepreneurial skills named as entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, and technical skills, which are the reflective of the "Entrepreneurial Development System" (EDS) proposed by Lichtenstein and Lyons (2001), and operationalized by Smith, Schallenkamp and Eicholz (2007) adapted to assess the entrepreneurial skills of employees working in IT companies in Punjab, Pakistan. Based on existing literature Table 3.7 presents the adapted survey items that will capture the study variables.

Table 3.1
Measurement Instruments

Variables	Items	No of Items	Source
ATB	1. Being an entrepreneur implies more advantages than disadvantages to me 2. A career as an entrepreneur is attractive for me 3. If I had the opportunity and resources, I would like to start a business 4. Being an entrepreneur would entail great satisfactions for me 5. Among various options, I would rather be an entrepreneur	5	Linan & Chen (2009)

PBC	1. To start a firm and keep it working would be easy for me 2. I am prepared to start a viable company 3. I can control the creation process of a new firm 4. I know the necessary practical details to start a firm 5. I know how to develop an IT company 6. If I tried to start a firm, I would have a high probability of succeeding	6	Linan & Chen (2009)
Stakeholders' Support System	1. If I decide to become an entrepreneur, my parents will support me 2. If I decide to become an entrepreneur, my family members will support me 3. If I decide to become an entrepreneur, I will consult my family members 4. If I decide to become an entrepreneur, my friends will support me 5. If I decide to become an entrepreneur, my family will give me emotional support 5. In Pakistan, the government encourages entrepreneurs (who start new business) to establish a firm 6. In Pakistan, the government encourages entrepreneurs (who start new business) to establish a firm 7. Rules and regulations are unfavorable to running a business in Pakistan 8. Tax regulations in my country give facilities to entrepreneurs 9. There are lot of opportunities for entrepreneurs in Pakistan.	9	(Gelard & Saleh, 2011)
TS	1. It is not difficult for me to serve in an IT company. 2. I have skills to learn about new things in the field of information Technology. 3. I can work according to the task and have ability to match my skills according to the needs.	3	(Smith & Eichholz, 2007)
MS	1. I can design and supervising work activities 2. I think I am able to identify clients' needs. 3. I have knowledge about accounting and budgeting activities 4. I have knowledge about legal and security aspects of an IT organization 5. I am able to make and utilize relations	4	(Smith & Eichholz, 2007)

	6. I have ability to learn from the situations		
PMS	1. I have clear idea about myself and have ability to reflect and be introspective 2. I feel that I am able to take responsibility for resolving a problem 3. I think I have emotional ability to cope with a problem 4. I have the ability to produce a creative solution to a problem	4	(Smith & Eichholz, 2007)
LS	1. I have the Ability to perform tasks in a group or teams. 2. I have the Ability to coordinate work. 3. I have the Ability to do work with and through other people. 4. I am able to plan work and execute 5. I have consistency and intensity to achieve goals. 6. I believe that I am a motivated employee in my organization. 7. I am inspiration to do work. 8. I am able to adjust myself in different environmental settings. 9. I have independent thinking to plan something. 10 I am able to adopt new technology and methods to perform new tasks	10	(Smith & Eichholz, 2007)
EPS	1. I accept and easily adapt to change. 2. I respond to change with flexibility. 3. I can easily absorb and adapt ideas and information. 4. I continually show interest in new developments and in keeping up to date 5. My knowledge adds value to the work that I do 6. I am quick to foresee difficult situations and come up with alternative solutions. 7. I inspire enthusiasm in the people that I work with 8. I effectively present my ideas with a sound belief. 9. I am experienced in leading and motivating people. 10. I put a lot of effort in meeting set goals. 11. I come up with continual good results under pressure. 12. I can maintain or even increase effort under stressful situations. 13. I remain composed in stressful conditions.	14	(Smith & Eichholz, 2007)

14. I can control stressful situations

Note: ATB= Attitude towards Behavior, PBC= Perceived Behavioral Control, EI= Entrepreneurial Intentions, SS= Stakeholders 'Support System, TS= Technical Skills, MS= Managerial Skills, PMS= Personal Maturity Skills, LS= Leadership Skills, EPS= Entrepreneurial Personal Skills

The study used the closed-ended questions. The close-ended questionnaires have many check boxes for respondents to complete, while open-ended questionnaires have a number of questions that are open for respondents to comment (Fisher, 2010). The close-ended questionnaire is among the reliable data collection instruments and has widely been used. The close-ended questionnaires help the respondents to make their choices quickly from given options and it is an easy way for the researcher to code the information for further analysis (Sekaran & Bougie, 2010). It is found to be more appropriate for a study like this one due its advantages over other methods of data collection, in the terms of better and straight-forward generation of statistics, such as coding, tabulation and analysis (Dawson, 2007). In addition, based on the demographic characteristics of the respondents, this study used close-ended questionnaire with multiple choice questions. The questionnaires of this study were personally-administered to attain a high response rate.

3.6 Population and Sampling

According to Sekaran (2010), population always bring up such group of people, events, or points of interest that can be a focus point for the researcher to investigate (Sekaran, 2010). A sample is a unit from population that represents the chosen population (Sekaran, 2010). Sample always includes the some units or members, which are selected from the chosen population, which present the whole population. Sampling is the way of selecting a suitable number of

elements from the particular population, so that the results can be generalizable over the population (Macdonald & Headlam, 2002).

3.6.1 Population of the Study

According to Sekaran (2010), population can be defined as the entire group of people, events or things of interest that the study attempts to examine. The employees working with IT companies in Punjab, Pakistan is the targeted population of this study. Punjab is the largest populated province of Pakistan, which is selected as the population of this study. Pakistan have four provinces and four federal operated territories mentioned in the following details of table 3.2 and 3.3.

Table 3.2
Details of Four provinces in Pakistan.

Province/Territories	Percentage of total population in Pakistan	Capital City
Punjab	53.7%	Lahore
Khyber Pakhtunkhwa	12.9%	Peshawar
Baluchistan	4.8%	Quetta
Sindh	22.2%	Karachi

Sources: Ministry of Economic Affairs and Statistics of Pakistan (2014).

Table 3.3
Details of Federal Territories in Pakistan

Name of the federal territories	Percentage of Country's Papulation	Capital
Islamabad Capital Territory	0.6%	Islamabad
Federally capital territory	2.3%	Peshawar
Azad Kashmir	2.2%	Muzaffarabad
Gilgit-baltistan	1.3%	Gilgit Bultistan

Sources: Ministry of Economic Affairs and Statistics of Pakistan (2014).

The above mentioned details of provinces and territories in Pakistan are with respect to total population and percentage ratio of the each area. The target population of this study is the employees working with IT companies in Punjab. Among the other industries like manufacturing, food, beverages, crude materials, mineral manufacturing, live and tobacco inedible, fuels and chemicals, transport manufactured, animals fuels, lubricants goods equipment, Pakistan is being considered one of the software export hub and its share of global markets (Shah, 2015). The industry of Information Technology works as an underline support for this vast business infrastructure. The products and services which IT industry offers, ranges from ERPs, human resource management, financial reporting and management, trading, business infrastructure, business intelligence, quality assurance, data warehousing, social media, digital marketing, customer management, e-commerce, web and mobile applications (Ali, 2015). The total sales of IT industry is only $2.8 billion, while the share of technology and information services and software exported abroad is about $1.6 billion (PSEB, 2015).

Information Technology sector is carving a differentiated position as the preferred source for freelance software developers, programmers and application designers. It is currently ranked at number four for freelance development in the world (2015) and IT exports have leapt by 41% during fiscal year 2015-16. Pakistan with 70% of its 200 million population in the 15 to 29 age group represents an enormous human and knowledge capital potential. Pakistan has more than 300,000 English speaking IT professionals with expertise in current and emerging IT products and technologies. More than

20,000 IT graduates and engineers are being produced every year. Currently, Pakistan has 14 Software Technology Parks covering an area of one million square feet. A number of world class technology parks are already in the advance stages of development. Pakistan's IT exports have grown twenty folds over the past decade to $2.2 billion. In addition, annual revenues from freelancing and the domestic markets are $90-100 and $300 million respectively.

The Cellular Mobile Companies represent a huge market with total imports of PKR 73.224 billion for the FY 14-15. The number of firms wanting to enter the market, the number of incubation center which are emerging, the rising interest of IT students at educational institutions who set up various societies and clubs to bridge the gap between entrepreneurs and engineers to reap the maximum out of the combination, the presence of potential investors who find investment in technology viable and profit-oriented, etc. All these trends reflect a promising IT landscape in Pakistan and provides a room for nascent entrepreneurship. Keeping in view the growth and emergence of IT industry, the study selected it as its target population.

Currently the Punjab province is clearly on the leading edge of the IT development sector (Ali, 2015). Whether it is manufacturing, trading, general business, transportation, education or healthcare, the growth in this particular region of Pakistan is certainly on the rise.

As far as the selection of sample is concerned, the population and culture are divided into different parts. Every province and every federal territory has its own culture and subculture (Rose, 2008). The study was conducted in the province of Punjab, Pakistan. The other provinces e.g. Khyber Pakhtun Khwah, and Baluchistan are less populated and the number of IT companies are small in numbers (SECP, 2015). The law and order situation was another reason, which did not allow the researcher to collect the data from Baluchistan, Sindh, and Khber provinces.

Another reason for selecting the province of Punjab was its 53.7% of the total country's population (Ministry of economic affairs and statistics of Pakistan, 2014). Therefore, employees working with IT companies in the Punjab province were selected as target population. According to Securities and Exchange Commission of Pakistan (SECP, 2015), the total number of IT registered companies in Punjab under SECP were 292. The total number of employees working with these IT companies in Punjab, Pakistan were 19272, which represent the population of this study.

3.6.2 Sample Size

It is not possible for a researcher that investigates the large number of elements to collect data, test or examine every element (Sekaran & Bougie, 2010). Therefore, to making it possible, a sample is carefully chosen for examination which is a sub-set of the population of the study (Cavana *et al.*, 2001). Sample refers to a sub-set or some part of the larger population which represent the population of the study (Zikmund *et al.*, 2013). The sample of this study was the employees working with SECP registered IT companies in Punjab, Pakistan.

The sample size of this study was 372 which was obtained from the widely accepted formula of Mendenhall, Reinmuth, and Beaver (1993).

$$\frac{NZ^2{}_{\alpha/2}\, pq}{(N-1)e^2 + Z^2{}_{\alpha/2}\, pq}$$

As per the formula, n represents sample size and N represents population size (19272). Refers to the critical value of a two-tailed Z test at 95% confidence interval which is $\{(1.96)^2$ or 3.8416$\}$, pq corresponds to the component of sample proportion variance (assuming maximum variance, p=0.5 and q=0.5), e refers to margin of error (0.05) at 95% confidence interval.

$$n = \frac{19272Z^2{}_{\alpha/2}\, pq}{(19272-1)e^2 + Z^2{}_{\alpha/2}\, pq}$$

$$n = \frac{19272(3.8416)\ (0.5)(0.5)}{(19272-1)(.0025) + (3.8416)\ (0.5)(0.5)}$$

$$n = \frac{18508.73}{4339.7875 + 0.9604}$$

$$n = \frac{18508.73}{49.7479}$$

n = 372.03

As per the formula proposed by Mendenhall, Reinmuth and Beaver (1993), the resulting sample size was 372. This sample size was quite suitable, as this study intends to use PLS-SEM for data analysis. Most of the PLS-SEM applicants have used samples between 250 and 500 (Lei & Lomax, 2005). The list of IT companies and their employees were obtained from the office of the SECP, Pakistan.

3.7 Sampling Method

The study targets to gather data from a sample chosen by using statistical analysis to be well-represented of the population. For accuracy, time and convenience, the researcher decides to use probability sampling. When probability sampling is used, each unit in the population has a chance to be selected randomly and independently (Buckingham & Saunders 2004; Kumar 2005; Sekaran 2010). This sampling technique helps the researcher to reduce bias from the selection sample, as unequal sampling will affect accuracy of the study (Zikmund 2003). Probability sampling techniques are often associated with quantitative research tradition and as it involve generation of numeric data, so the study will use simple random sampling (Sekaran 2010).

The study desired true results to draw inferences about the targeted population. The simple random sampling used as it is the simplest technique of all the sampling methods to reduce bias (Sekaran 2010). Simple random technique is a suitable method for population that are not highly differentiated (Zikmund 2003;Bryman 2004;Kumar 2005). Therefore, For the purpose of sampling, a simple random sampling technique was used in this study, while sampling units were all the IT staff (developers, managers, managers of different departments, and IT administered etc.)

Merriam-Webster provides fuller definitions of profession such as "characterized by or conforming to the technical or ethical standards of a profession" (Webster, 2014). While technical standards march forward for everyone, the speed for IT is arguably more rapid and broad. Traditional

professions like doctors, nurses, engineers, electricians, teachers, and accountants have mature programs and strong societies, which govern the education, training and skills for their domains. The public has demanded many professional domains to take responsibility for public safety and regulate the right to practice. Some professionals are regulated directly by government and licensed to practice. The IT professional is "Someone who holds the professional degree in information technology related field (computer sciences, software developments etc.) and working in a professional organization" (SECP, 2014). In This study the information technology professionals are considered as individuals have a degree or certification in IT related field and working with IT related company registered with SECP Pakistan.

Samples were selected randomly from SECP registered IT companies based on the respective sample size (Sekaran & Bougie, 2010). Using the list of employees working in SECP registered IT companies (sampling frame) that were provided by SECP Pakistan, 700 questionnaires were administered on the randomly selected target respondents (employees working in IT companies).

3.8 Data Collection Strategy

After conducting the pilot study, the data collection for this study started in the month September 2015. The data collection were completed after four months on 20th December 2015. The data were collected through a personally administered questionnaire. The nature of the companies in Pakistan made it compulsory for this study to use personally-administered method in order to achieve the required number of responses. Consequently, this was also ensured

that the non-response bias would affect the results. Sekaran and Bougie (2010) state that personally-administered questionnaires help the researcher to establish greater understanding with the respondents when introducing the survey. It also serves as one way of making clarifications to the respondents immediately, and the response rate can be high since the collection of the questionnaires is immediate. Additionally, all completed responses can be collected within a short period of time.

As far as collection of the data is concerned, firstly, emails were sent to the human resource department of SECP registered IT companies to inform about the survey. Secondly, phone calls were made to SECP registered IT companies to fix the timings with human resource departments so that the survey could be conducted. The questionnaire was nine pages, including the cover letter, which clearly highlighted the background and purpose of the study and also provided instructions on how to answer the questionnaire. Most of the questionnaires were filled by employees at their convenient time as per supported by human resource departments. To further increase the willingness of the participants to join the survey, their secrecy and confidentiality were confirmed in the cover letter (see Appendix A).

The survey period was divided into two parts as follows. Firstly, all questionnaires collected within the period of October 10th-23rd Dec 2015 were considered early respondents. Considering the time frame, a follow-up phone calls and SMS were also sent to the HR department and respondents as

reminder. Additionally, extra effort was made in distribution and collection of the questionnaires per day. Therefore, this effort produced a good result and 325 usable questionnaires were collected. Likewise, these questionnaires were collected within the period of Dec 24th-Jan 28th 2016 and were considered late respondents. These two groups of collected questionnaires were used in conducting nonresponse bias on the study variables.

3.8.1 Reliability and Validity Tests of the Measures

In quantitative research, reliability and validity are important to measure the degree of consistency and validate the intended concept (Hair et al., 2016; Sekaran, 2010). Reliability is defined as the degree to which measures are free from error and therefore, yield consistent results (Zikmund, 2003). The reliability of a measure indicates the extent to which it is without bias (error free) and hence, ensures consistent measurement across time and across the various items in the instrument. It indicates the stability and consistency with which the instrument measures the concept and helps to assess the "goodness" of a measure (Sekaran, 2010). There are imperfections in the measuring process that affect the assignment scores or numbers in different ways each time a measure is taken, e.g. if the respondent misunderstands a question or not aware of the reason for giving untruthful response, or can be affected by other transitory factors such as moods, whims or contextual situations. These measures will not be error-free and stable over time (Zikmund, 2003).

The internal consistency is measured by assessing how highly inter-correlated items are to each other according to a scale using Cronbach's alpha coefficient (Hair et al., 1998; Kitchenham & Pfleeger, 2002). Cronbach's alpha coefficient

is a measure of consistency which tests how well a set of items measure a single unidimensional latent construct (Hair et al. 1998). It also measures the homogeneity of a group of items in a questionnaire (Carmines & Zeller, 1990). The reliability of the scale will be higher if the items are highly correlated. If each item measured in the questionnaire for the study has a Cronbach's alpha of less than 0.70, that item has a low value signifying a low consistency (Hair et al., 2008). Based on the previous studies, Cronbach's alpha was used in the pilot study and composite reliability was used in the main analysis to determine the internal consistency of the measurement scale adapted in this study.

Validity of instrument refers to what the instrument actually measures. If the instrument actually measures what it intends to measure, then it is said to be a valid instrument. In this study, majority of the questions are obtained, adapted and modified from the past studies. As the questions were taken from past studies, it indicates face validity. Face validity means that the questions appear to measure the concept they are developed to measure (Sekaran & Bougie, 2010). There are different types of validity, including content validity, predictive validity, concurrent validity, construct validity, face validity, internal and external validity and statistical validity (Vanderstoep & Johnston, 2009). Greener (2008) suggests the importance of face validity, construct validity and internal validity. He argues that construct validity is one of the important aspects of data analysis. Accordingly, this study conducted face validity to ensure the validity of the items on the face of it is measuring the intended construct. Construct validity was also conducted to ensure the items are actually measuring what the study has been operationalized to measure. In other words,

it is used to attest whether the results obtained from the use of the adapted items can fit the theories around and which the test was designed. This study used the two ways to determine construct validity, i.e., convergent validity and discriminant validity (Hair Jr., Hult, Ringle, & Sarstedt, 2013; Vanderstoep & Johnston, 2009)

3.9 Method of Data Analysis

3.9.1 Data Analysis

Method of data analysis is the procedure and statistical tools by which researchers analyze data, test research hypotheses and subsequently refine theories. In this study, descriptive and inferential statistics were employed to analyze the data. The Partial Least Squares Structural Equation Modeling (PLS-SEM) approach was adopted to assess the relationships between dependent variable entrepreneurial intensions, and independent variables named as entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, and technical skills and the mediating effect of Attitude towards behavior, stakeholders' support system, and perceived behavioral control. By comprehensive manner, both simple and advanced statistical tools and appropriate methods were used for examining the relationship among the variables in the model.

The Partial Least Squares or PLS modeling was proposed by Herman Wold (1982, 1985), in the computational aspects of the LVPLS software. It has also been attributed through theoretical development by Chin (1998, 2001) and Chin and Newsted (1999) for the new graphical interface (PLS-Graph) and for enhanced validation methods. The Lohmöller's (1989) program PLSX for units

x variable data is the basis of the PLS-Graph software and eventually enables similar options. After raw data was collected from the field, the entire usable questionnaires were coded and keyed-in to the Statistical Package for the Social Sciences (SPSS v18). Then the following method of data analysis was adopted to analyze the data.

Firstly, the data underwent screening to find data entry errors; frequency test was run for each variable to identify and correct the possible missing value using the respective mean values. Then, descriptive statistics were used to describe and compare the demographics (Saunders *et al.*, 2009). Lastly, the PLS-SEM which is the second generation SEM was adopted. SEM has become an important approach when it comes to investigating the cause and effect relations between latent constructs (Hair, Ringle, & Sarstedt, 2011). Generally, PLS-SEM is a path modelling statistical method for modelling complex multivariate analysis of relationships between observed and latent variables (Esposito Vinzi, Chin, Henseler, & Wang, 2010). The PLS-SEM approach is a strong, superior and flexible tool for statistical model building as well as testing and predicting theory (Lowry & Gaskin, 2014; Ringle, Wande, & Becker, 2014; Robins, 2012).

Wan Afthanorhan (2013) stresses that reliable and valid confirmatory factor analysis is better achieved using PLS-SEM path modelling. PLS-SEM is a statistical methodology that has been used by several researchers in various research areas in social sciences, including business research (Hair Jr., Sarstedt, Hopkins, & Kuppelwieser, 2014). For instance, marketing (Hair, Sarstedt,

Ringle, & Mena, 2012; Henseler, Ringle, & Sinkovics, 2009; Reinartz, Krafft, & Hoyer, 2004); management information system (Chin, Marcolin, & Newsted, 2003; Marcoulides, Chin, & Saunders, 2009); human resource (Becker, Klein, & Wetzels, 2012); family business (Sarstedt, Ringle, Smith, Reams, & Hair, 2014); operations management (Peng & Lai, 2012); and strategic management (Gudergan, Devinney, Richter, & Ellis, 2012; Hulland, 1999; Lew & Sinkovics, 2013).

The ability of PLS-SEM to assess latent variables and their relationship with the items (outer model) and test the relationship between the latent variables (inner model) allows its multidisciplinary acceptance (Hair, *et al.*, 2012; Henseler *et al.*, 2009). Therefore, this study used SmartPLS v3.0 (Ringle *et al.*, 2014) to determine the outer model (reliability, convergent validity and discriminant validity) and the inner model (significance of the path coefficients, coefficient determination, the effect size and predictive relevance).

3.11 Chapter Summary

This chapter presented theoretical framework of the study and also explain the relationship between the variables, hypotheses development, and the operationalization of the variables or instruments. The chapter highlighted that the study used a cross-sectional survey research design with the population of employees working in SECP registered IT companies in Punjab, Pakistan, and explained the sampling method used in selecting the sample from the population. Likewise, detail explanations of the survey instrument and the data collection process were presented. Furthermore, PLS-SEM as a method for data

analysis using SPSS v18 and SmartPLS 3.0 to conduct preliminary data analysis, descriptive statistics, the measurement model (reliability and validity tests), and the structural model evaluation was highlighted. Finally, the chapter offered the logic of conducting pilot study along with its results.

ANALYSIS AND FINDINGS

4.1 Introduction

The purpose of this chapter is to elaborate the results of the study. The chapter of comprise of analysis performed using different statistical tools and techniques and their results. The chapter is aliened into various sections, the first section is designated to introduction trailed by response rate and non-response bias test. Section 4.5 is regarding data screening followed by implications of missing data, evaluation of normality and multicollinearity. Section 4.6 represents the demographic details of the respondents of this study. Section 4.7 comprises of analysis of descriptive statistics, while proceeding section 4.8 comprises measurement model, whereas section 4.9 is about hypothesis testing applying PLS-SEM and also encompasses coefficient of determination, effect sizes and predictive relevance's ability were examined. Finally section 4.10 encapsulates research findings and concludes this chapter.

4.2 Response Rate

For the purpose of current research study, the respondents were employees of the IT companies, only Security and Exchange Commission (SECP) registered firms were included in the sample from Punjab, one of the largest and most populated district of Pakistan. Self-administered questionnaire approach was used for data collection, prior approval is sought from HR department of these companies and time sought is fixed for this activity to avoid any disturbance and inconvenience. The time and date was re confirmed before actually visiting for data collection, considering the low response rate for survey questionnaire (Sarfraz & Qureshi, 2011), while a total number of 700 survey questionnaires were circulated to the respondents in Punjab, Pakistan. 398 filled questionnaires were received with an encouraging response rate of 56. 85%:

nevertheless, out of the reverted questionnaires, only 376 questionnaires could be used for further data analysis making a valid response rate of 53.71% (Yehuda, 1999). The remaining 22 questionnaires were found improperly filled thus could not be included in the final analysis. The respondent's response is consistent and can be compared with other research studies on the same geographical location and research domain (Voss & Voss, 2000).

Table 4.1

Response Frequency of Surveys

Response	Frequency/Rate
Number of questionnaires distributed	700
Reverted questionnaires	398
Questionnaires used	376
Questionnaires not used	22
Response rate	56.85%
Response rate of used questionnaires	53.71%

4.3 Non-Response Bias Test

The bias of Non-response occurs when some respondents of the study refuse to respond. The results of this bias commonly is the form of significant different response from non-respondents. Non-response refers to inability of the researcher to collect the response (Deming, 1990). Therefore, in case of non-response bias takes place, the researcher of the study cannot determine the total response of the respondents in a meaningful way. Consequently, it effects the generalization of the sample to the population. Accordingly, assessment of non-response' bias is an essential prior phase to the main analysis of the study.

In order to assess the non-response bias in current study, an independent sample t-test was conducted for all the variables of this study; ATB, PBC, EI, SSS, TS, MS, PMS, LS, and EPS to observe the biasness among early and late response of the study. Levene's test for equality of variance was then employed to determine whether the variances between the early and late respondents differ. Additionally, , the two-tailed t-test was also conducted to recognize the true p-values related to the hypotheses in order to allow a decision on whether or not there is a significant difference between the two groups.

Table 4.2

Group Descriptive Statistics for the Early and Late Respondents

Variables	Response	N	Mean	Std. Deviation	Std. Error Mean
ATB	Early	325	5.46	1.00	0.06
	Late	73	5.92	0.99	0.12
PBC	Early	325	5.53	1.12	0.07
	Late	73	5.90	1.00	0.12
EI	Early	325	5.77	1.00	0.06
	Late	73	5.99	0.85	0.10
SS	Early	325	5.69	1.05	0.06
	Late	73	6.17	0.84	0.10
TS	Early	325	6.05	1.14	0.07
	Late	73	6.28	0.89	0.10
MS	Early	325	5.82	0.98	0.06
	Late	73	6.19	0.84	0.10
PMS	Early	325	5.91	0.94	0.06
	Late	73	6.01	0.97	0.11
LS	Early	325	6.01	0.94	0.05
	Late	73	6.14	0.86	0.10
EPS	Early	325	5.95	0.97	0.06
	Late	73	6.20	0.87	0.10

Table 4.3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
ATB	Equal variances assumed	0.25	0.62	-3.46	362.00	0.00	-0.45	0.13	-0.71	-0.19
	Equal variances not assumed			-3.47	111.69	0.00	-0.45	0.13	-0.71	-0.19
PBC	Equal variances assumed	2.34	0.13	-2.60	362.00	0.01	-0.37	0.14	-0.66	-0.09
	Equal variances not assumed			-2.78	121.34	0.01	-0.37	0.13	-0.64	-0.11
EI	Equal variances assumed	2.50	0.12	-1.73	362.00	0.08	-0.22	0.13	-0.47	0.03
	Equal variances not assumed			-1.91	126.82	0.06	-0.22	0.12	-0.45	0.01
SS	Equal variances assumed	2.42	0.08	-1.61	362.00	0.01	-0.48	0.13	-0.74	-0.22
	Equal variances not assumed			-1.82	134.38	0.00	-0.48	0.12	-0.71	-0.25
TS	Equal variances assumed	0.88	0.35	-1.62	362.00	0.06	-0.23	0.14	-0.51	0.05
	Equal variances not assumed			-1.88	137.13	0.06	-0.23	0.12	-0.48	0.01

MS	Equal variances assumed	5.69	0.08	-1.72	362.00	0.03	-0.37	0.13	-0.61	-0.12
	Equal variances not assumed			-1.87	125.46	0.00	-0.37	0.11	-0.59	-0.14
PMS	Equal variances assumed	0.08	0.78	-0.81	362.00	0.07	-0.10	0.12	-0.34	0.14
	Equal variances not assumed			-0.79	108.62	0.06	-0.10	0.13	-0.35	0.15
LS	Equal variances assumed	0.70	0.41	-1.09	362.00	0.09	-0.13	0.12	-0.37	0.11
	Equal variances not assumed			-1.15	118.78	0.05	-0.13	0.11	-0.36	0.10
EPS	Equal variances assumed	0.38	0.54	-1.97	362.00	0.05	-0.25	0.12	-0.49	0.00
	Equal variances not assumed			-2.11	121.36	0.04	-0.25	0.12	-0.48	-0.02

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4.4 Common Method Bias Test

Since the data on the endogenous and exogenous variables were collected at the same time using the same instrument, common methods bias could distort the data collected. Therefore, considering the potential problem caused by common method bias in behavioral studies, this study conducted a test to make sure that there is no variance in observed scores and correlations are not inflated because of the methods effect. This bias mentions to the variance attributable exclusively to the measurement procedure as opposed to the actual variables the measures represent (Podsakoff, et. al., 2003).

There are several procedures and statistical techniques to treat common method variance. These include wording questions in reverse, clarity of questions or items, confidentiality of the respondents and statistical Harman's one-factor test (Podsakoff *et al.*, 2003). In this study, un-rotated factor analysis with seventy items of all the variables of the study revealed that no single factor accounted for more than 50% of the variance. The result produced 13 distinct factors and only 19.72% of the total variance was accounted by a single factor, indicating the absence of common method bias in this study.

4.5.2 Test of Outliers

Having treated the missing responses, the proceeding step was to examine outliers. Outliers can occur in any random distribution, but they are often indicative either of measurement error or that the population suffers hard-tail distribution. Investigating outliers is an important step because skipping initial

examination of outliers can distort statistical tests if it happens to be a problematic outlier (Hair Jr. *et al.*, 2010).

In line with the suggestion of Tabachnick and Fidell (2013), in this study, Mahalanobis D2 was calculated using linear regression methods in SPSS v18, and then the computation of the Chi-square value. Given that 74 items were used, 69 represent the degree of freedom in the Chi-square table with $p < 0.001$, so the criterion is 112.31 (Tabachnick & Fidell, 2013). This means that any case with a Mahalanobis D2 value of 112.31 and above is a multivariate outlier and should be removed. Hence, cases with a value of 112.31 and above were deleted from further analysis.

4.5.4 Assessment of Multicollinearity

Assessment of multicoliuneirty is an essential steps before going to analysis the data. Since it has been observed that multicolliniarity cause many problems that refer to the higher level of inter-correlation between independent variables. As per Hair Jr. et al., (2015), multicollinearity is defined as the relationship among two or more independent variables, whereas the exogenous variable (s) indicate little inter-correlations with other exogenous variables.

For examining the multicollinearity, variance inflations factor (VIF) commonly used to assess. The values of 2.10, 2.10, 2.48, 2.12, for variance inflations factor of ATB, PBC, and SSS respectively were less than the threshold value of 10. The values of 2.12, 3.39, 2.7, 2.90, and 2.52, for variance inflations factor of TS, MS, LS, PMS, and EPS respectively were also less than the threshold value of 10

(Pallant, 2010). Thus, the results for variance inflations factor indicate that there is no issue of multicollinearity in the current study.

Table 4.5

Variable Inflation Factor

Model	**VIF**
ATB	2.12
PBC	2.11
SSS	2.50
TS	2.11
MS	3.37
PMS	2.71
LS	2.92
EPS	2.35

Table 4.6

Summary of Demographic Characteristics of Respondents

Item	Frequency	Percent
Order of births		
Eldest	131	35.2
Youngest	139	37.3
Only child	22	5.91
None of above	80	21.50
Father's working status		
Business	84	22.5
Full-time	130	34.94
Part time	38	10.21
Not working	66	17.74
Deceased	54	14.61
Family History of Entrepreneurship		
Parents	93	25.0
Sibling	28	7.52
Relatives	46	12.36
None	205	55.10
Work experience		
1 years	84	22.5
2 years	39	10.48
3 years	24	6.45
4 years	61	16.39
5 years or more	164	44.18
Location of your company		
Rawalpindi	124	33.33
Lahore	109	29.30
Faisalabad	44	11.82
Gujranwala	51	13.70
Multan	44	11.85
Position		
Director	31	8.30
Manager	61	16.39
Team lead	81	21.77
Developer	153	41.12
Others	43	11.90
Gender		
male	256	68.88
Female	116	31.12
Age		
up to 25 years	176	47.31
26-30 years	84	22.58
31-35 years	53	14.24
36-40 years	27	7.25
41-45 years	20	5.37
51-55 years	9	2.41

4.7 Descriptive Analysis of Major Variables

The proceeding step was to analyze the descriptive statistics of the data for the purpose of examining the average and standard deviations for every variable included in this research. The 7-point likert scale was utilized for assessing the values of all items in this study. The results of descriptive statistics are shown in the following table 4.7.

Table 4.7

Descriptive Statistics of Major Variables

Variables	Mean	Std. Deviation	Variance
ATB	5.52	1.06	1.12
PBC	5.56	1.11	1.24
EI	5.76	1.02	1.03
SSS	5.73	1.05	1.11
TS	6.03	1.15	1.32
MS	5.87	0.97	0.95
PMS	5.88	1.01	1.01
LS	5.99	0.94	0.88
PPS	5.97	0.97	0.94

4.8 Measurement Model

Measurement model refers to "*the portion of the model that specifies how the observed variables depend on the unobserved, composite, or latent variables*" (Arbuckl, 2005; p.89). All variables of this study, including ATB, PBC, SSS, EI, TS, MS, LS, PMS, and EPS were tested in the measurement model. The main objective of employing measurement model is to examine the construct validity of the model (Hair Jr. e. al., 2013). For this purpose, CFA was employed using PLS-SEM to examine the convergent

validity and discriminent validity of the construct (s). Hair Jr. et. al., (2013) proposed that construct validity of the model could be examined by assessing the discriminant and convergent validity.

4.8.1 Convergent Validity

Convergent validity can be defined as the extent to that items include in a certain scale measures the similar construct (Fornell & Larcke, 1981). To examine the convergent validity, composite reliability (CR), Average Variances Extracted, factor loading, and the significance of the outers loading (Fornell & Larcker, 1981; Gefen & Straub, 2005). The threshold value of AVE is more than 0.5, CR's value is more than 0.70, item loadings are also more than 0.70, and the t-statistics of the outer loadings must be greater than 1.96 (Gefen & Straub, 2005). The reliability of the scale was examined by measuring cronbach's alpha and CR (composite reliability) (Fornell & Larcker, 1981; Sekaran, 2011). The value of cronbach's alpha should be more than 0.70 (Nunally, 1978).

Table 4.8

Factor Loading and Cross Loading

Construct	Items	ATB	PBC	Ent-Int	SS	TS	MS	PMS	LS	EPS
ATB	Q08ATB	**0.76**	0.41	0.43	0.44	0.39	0.45	0.46	0.47	0.48
	Q09ATB	**0.88**	0.48	0.55	0.47	0.39	0.45	0.44	0.49	0.49
	Q10ATB	**0.86**	0.45	0.48	0.42	0.43	0.45	0.44	0.53	0.50
	Q11ATB	**0.91**	0.54	0.54	0.49	0.40	0.51	0.52	0.56	0.54
	Q12ATB	**0.87**	0.56	0.54	0.50	0.42	0.56	0.51	0.53	0.53
PBC	Q13PBC	0.50	**0.88**	0.50	0.54	0.37	0.49	0.40	0.42	0.45
	Q14PBC	0.52	**0.91**	0.57	0.56	0.32	0.48	0.34	0.37	0.38
	Q15PBC	0.53	**0.90**	0.56	0.58	0.39	0.49	0.39	0.43	0.43
	Q16PBC	0.50	**0.92**	0.56	0.61	0.40	0.50	0.38	0.42	0.43
	Q17PBC	0.50	**0.89**	0.51	0.53	0.45	0.54	0.41	0.45	0.51
	Q18PBC	0.49	**0.83**	0.54	0.59	0.48	0.55	0.40	0.47	0.47
EI-Int	Q19EI	0.48	0.57	**0.86**	0.69	0.47	0.57	0.42	0.42	0.48
	Q20EI	0.54	0.50	**0.85**	0.67	0.42	0.56	0.48	0.46	0.51
	Q21EI	0.51	0.47	**0.84**	0.59	0.40	0.52	0.45	0.47	0.50
	Q22EI	0.54	0.46	**0.88**	0.63	0.48	0.55	0.48	0.52	0.55
	Q23EI	0.55	0.43	**0.85**	0.59	0.50	0.52	0.47	0.53	0.54
	Q24EI	0.56	0.48	**0.86**	0.63	0.52	0.54	0.49	0.50	0.51
	Q25EI	0.49	0.58	**0.87**	0.65	0.46	0.48	0.42	0.47	0.47
	Q26EI	0.41	0.56	**0.82**	0.53	0.44	0.43	0.36	0.37	0.35
	Q27EI	0.39	0.56	**0.78**	0.57	0.39	0.46	0.37	0.37	0.40
	Q28EI	0.46	0.45	**0.73**	0.57	0.45	0.46	0.45	0.46	0.45
SS	Q29IN	0.51	0.55	0.70	**0.81**	0.52	0.53	0.43	0.53	0.47
	Q30IN	0.48	0.53	0.66	**0.80**	0.45	0.54	0.46	0.49	0.45
	Q31IN	0.46	0.43	0.57	**0.73**	0.46	0.53	0.47	0.56	0.52
	Q32IN	0.50	0.45	0.58	**0.80**	0.61	0.58	0.47	0.52	0.51
	Q33IN	0.54	0.45	0.61	**0.83**	0.60	0.55	0.45	0.50	0.53
	Q34SS	0.27	0.54	0.50	**0.77**	0.38	0.49	0.32	0.25	0.34
	Q35SS	0.30	0.49	0.43	**0.69**	0.45	0.55	0.37	0.33	0.40
	Q36SS	0.25	0.54	0.46	**0.75**	0.43	0.49	0.28	0.24	0.35
	Q37SS	0.28	0.44	0.42	**0.68**	0.42	0.45	0.32	0.26	0.37
TS	Q38TS	0.40	0.45	0.51	0.61	**0.93**	0.64	0.44	0.48	0.51
	Q39TS	0.47	0.41	0.51	0.59	**0.96**	0.65	0.50	0.55	0.54
	Q40TS	0.46	0.43	0.53	0.60	**0.95**	0.67	0.51	0.57	0.59
MS	Q41MS	0.42	0.43	0.53	0.59	0.70	**0.81**	0.49	0.52	0.51
	Q42MS	0.44	0.42	0.49	0.58	0.70	**0.83**	0.50	0.54	0.56
	Q43MS	0.37	0.54	0.52	0.61	0.53	**0.77**	0.44	0.46	0.46
	Q44MS	0.42	0.52	0.47	0.54	0.47	**0.80**	0.63	0.55	0.55
	Q45MS	0.57	0.47	0.51	0.55	0.50	**0.85**	0.72	0.66	0.61
	Q46MS	0.52	0.39	0.45	0.46	0.49	**0.81**	0.71	0.65	0.59
PMS	Q47PMS	0.54	0.50	0.51	0.54	0.52	0.72	**0.91**	0.66	0.60
	Q48PMS	0.53	0.38	0.52	0.47	0.51	0.67	**0.93**	0.72	0.61
	Q49PMS	0.46	0.37	0.46	0.48	0.44	0.63	**0.92**	0.66	0.60
	Q50PMS	0.49	0.33	0.44	0.43	0.39	0.60	**0.90**	0.67	0.55

As per aforementioned table, the values of cronbach's for ATB, PBC, EI, SSS, TS, MS, LS, PMS, and EPS all are greater than the threshold value of 0.70. As far as the CR is

concerned, all the values for ATB, PBC, EI, SSS, TS, MS, LS, PMS, and EPS are also more than 0.70. The AVE's values of all the constructs of ATB, PBC, EI, SSS, TS, MS, LS, PMS, and EPS provide evidence for convergent validity, as AVE of all the constructs are greater than the recommended cut-off of 0.50.

Table 4.9
Measures of Internal Consistency

Construct	No of Items	Cronbachs' Alpha	Composite Reliability	Average Variance Extracted (AVE)
Attitude Towards Behavior	5	0.91	0.93	0.74
Perceived Behavioral Control	6	0.95	0.96	0.79
Entrepreneurial Intentions	10	0.95	0.96	0.69
Stakeholder's Support System	8	0.91	0.93	0.58
Technical Skills	3	0.94	0.96	0.90
Managerial Skills	6	0.90	0.92	0.66
Personal Maturity Skills	4	0.94	0.96	0.84
Leadership Skills	10	0.96	0.97	0.75
Entrepreneurial Personal Skills	14	0.97	0.97	0.71

Lastly, in this study outer factor loading as important criteria in assessing the indicator's contribution to assigned construct was examined. Outer loadings were examined based on the threshold value of 0.50 and above (Hair Jr. *et al.*, 2010). However, Hair Jr. *et al.* (2013) stressed that outer loading greater than 0.40 but less than 0.70 should be carefully analyzed and should be deleted only if it increases the value of CR and AVE. Based on the recommendations regarding item deletion, only one item Q35SS with loading of 0.687 was deleted out of 74 items.

Table 4.10
Items Loading

Constructs	Items	Loadings	Constructs	Items	Loadings
	Q08ATB	0.76		Q41MS	0.81
	Q09ATB	0.88		Q42MS	0.83
ATB	Q10ATB	0.86	MS	Q43MS	0.77
	Q11ATB	0.91		Q44MS	0.80
	Q12ATB	0.87		Q45MS	0.85
	Q13PBC	0.88		Q46MS	0.81
	Q14PBC	0.91		Q47PMS	0.91
PBC	Q15PBC	0.90	PMS	Q48PMS	0.93
	Q16PBC	0.92		Q49PMS	0.92
	Q17PBC	0.89		Q50PMS	0.90
	Q18PBC	0.83		Q51LS	0.89
	Q19EI	0.86		Q52LS	0.90
	Q20EI	0.86		Q53LS	0.88
	Q21EI	0.84	LS	Q54LS	0.92
EI-Int	Q22EI	0.88		Q55LS	0.85
	Q23EI	0.85		Q56LS	0.82
	Q24EI	0.86		Q57LS	0.83
	Q25EI	0.87		Q58LS	0.84
	Q26EI	0.82		Q59LS	0.86
	Q27EI	0.78		Q60LS	0.85
	Q28EI	0.73		Q61EPS	0.83
	Q29SS	0.81		Q62EPS	0.85
	Q30SS	0.80		Q63EPS	0.84
	Q31SS	0.73		Q64EPS	0.87
	Q32SS	0.80	EPS	Q65EPS	0.88
SS	Q33SS	0.83		Q66EPS	0.91
	Q34SS	0.77		Q67EPS	0.86
	Q35SS	0.69		Q68EPS	0.87
	Q36SS	0.75		Q69EPS	0.84
	Q37SS	0.78		Q70EPS	0.84
	Q38TS	0.93		Q71EPS	0.81
TS	Q39TS	0.97		Q72EPS	0.80
	Q40TS	0.95		Q73EPS	0.82
				Q74EPS	0.79

4.8.2 Discriminant Validity

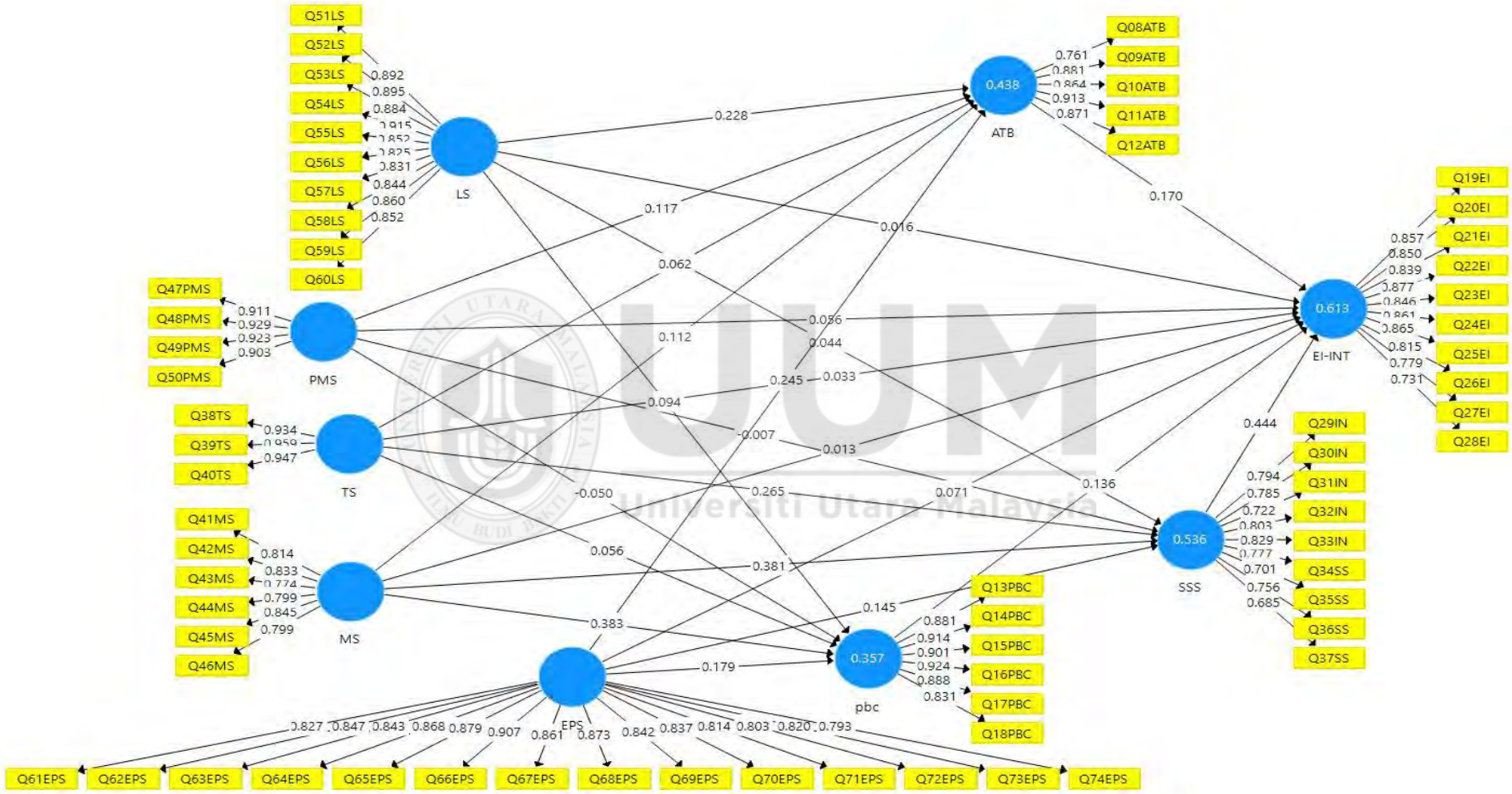
Discriminant validity can be defined as the extent to which the items in a specific scale measures only the constructs they should be measured (Whitly, 2002). Discriminant validity of the scale was examined for ATB, PBC, EI, SSS, TS, MS, LS, PMS, and EPS.

The discriminant validity of the scale is assessed by defining "whether the square root of the average variance extracted for a particular construct is greater than the correlations with the other constructs" (Gefin & Straub, 2005). As per the following table, all the constructs of ATB, PBC, EI, SSS, TS, MS, LS, PMS, and EPS fulfill these requirement, thus indicate the discriminant validity.

Table 4.11
Discriminant Validity

	ATB	EPS	Ent-Int	LS	MS	PBC	PMS	SS	TS
ATB	**0.86**								
EPS	0.59	**0.84**							
Ent-Int	0.59	0.57	**0.83**						
LS	0.60	0.70	0.55	**0.87**					
MS	0.56	0.67	0.61	0.70	**0.81**				
PBC	0.57	0.50	0.61	0.48	0.57	**0.89**			
PMS	0.56	0.64	0.53	0.74	0.72	0.44	**0.92**		
SSS	0.54	0.58	0.74	0.56	0.69	0.64	0.53	**0.76**	
TS	0.47	0.58	0.54	0.56	0.69	0.45	0.51	0.63	**0.95**

After establishing the construct's validity of the outer models, then assume that the examined results are valid and reliable.



Figur 4.1
Measurements Model

4.9 The Structural Model

After assessment of the measurement model of this study, the next step towards the data analysis is to test the structural or outer model. The structural or outer model can be measured when all variables include in the measurement's model are tested and confirmed that they are reliable as well as valid (Anderson and Gerbing, 1988). Structural model assesses the model's predictive ability and the relationships among latent constructs.

The major objective of assessing the structural or outer model was to test the hypothesized model and it's hypotheses in order to respond the research questions mentioned in the first chapter. In this study, a total of 38 hypotheses were developed in order to test the assumed relationships and effects discussed in Chapter One. The hypotheses were formulated, which contain the assumed relationships between ATB, PBC, SSS, EI, EPS, LS, MS, PMS, and TS. The hypothesized model of this study was then examined through PLS-SEM while the path diagram which is shown in Figure 4.2. The t-statistic was utilized to determine the significance of path coefficient in the structural model that was generated via the bootstrap procedure in PLS (Chin, 1998b). The bootstrap procedure is a "nonparametric and distribution-free approach for estimating the significance of the path coefficients in the structural model" (Chin, 1998b). The bootstrap was performed with 5000 re-samples.

4.9.1 Direct Relationships

In order to view the test and their results a systematic model analysis was utilized. The examination of structural model initiates from the analysis of direct relationships among the independent variable (s); independent variables and mediating considering them as dependent variables; and the dependent variable. The the path coefficints and their sizes were examined by

PLS-SEM algorithm, whereas PLS-SEM bootstrapping procedures in the SmartPLS 3.0 were employed in order to observe the significance of the relationships between variables of the study. The real amount of cases were used as the number of cases, and 5,000 were used as bootstrapping sample (Hair Jr. et. al., 2013)

The initial model involves in the assessment of direct relationships of the independent variable (s) with the dependent variable (H1 to H23), while next model of this study contains three mediating variables, and examination of relationships between independent variable (EPS, LS, PMS, MS, and TS) and mediating variables ATB, PBS, and SSS (H24 to H38) were proceeded. Supplementary, the connections among mediating variable (s) and indigenous variable EI were also analyzed. Additionally, mediating relationships were also examined (H24 to H38) in the second model.

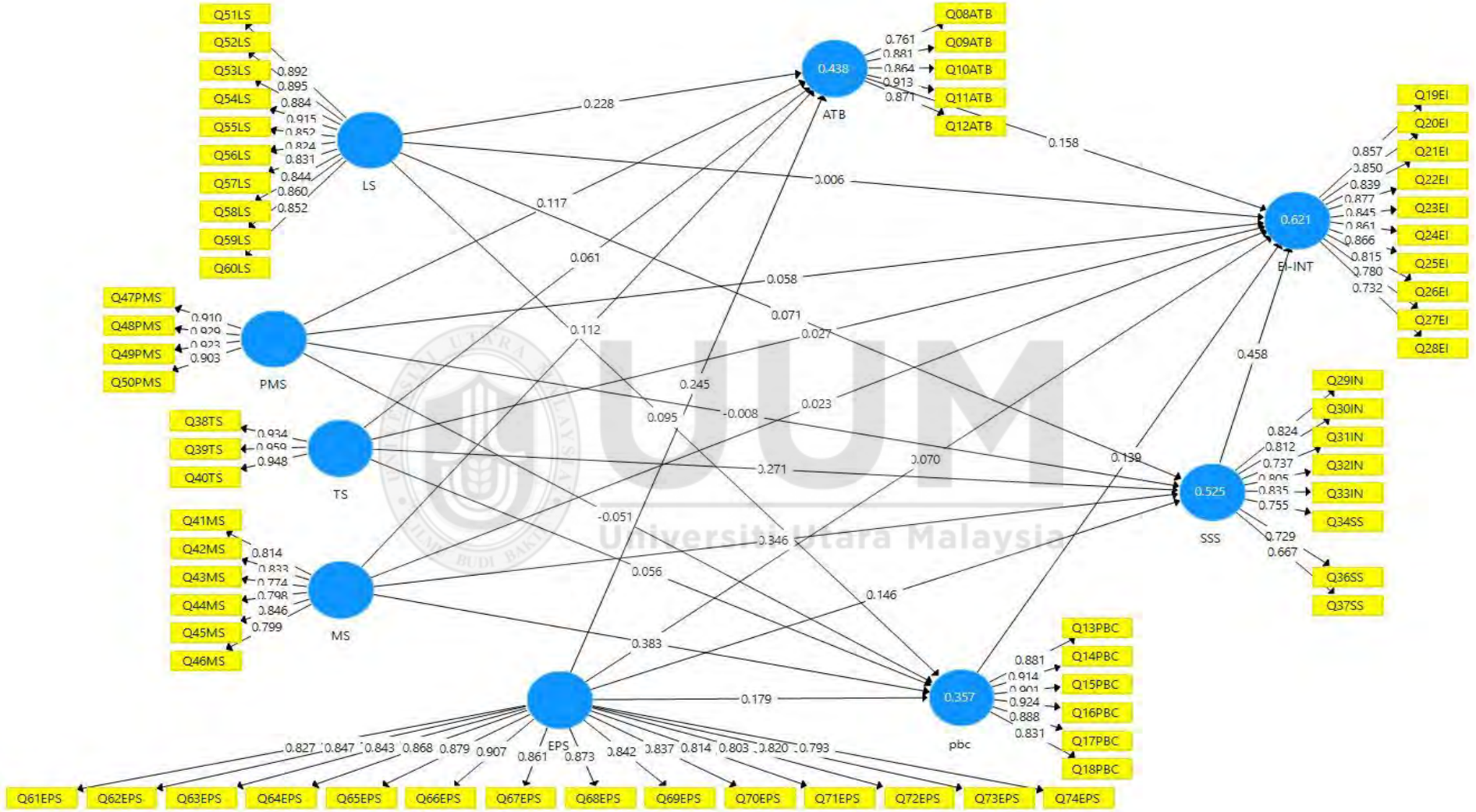


Figure 4.2
PLS-SEM Algorithm Direct Relationship

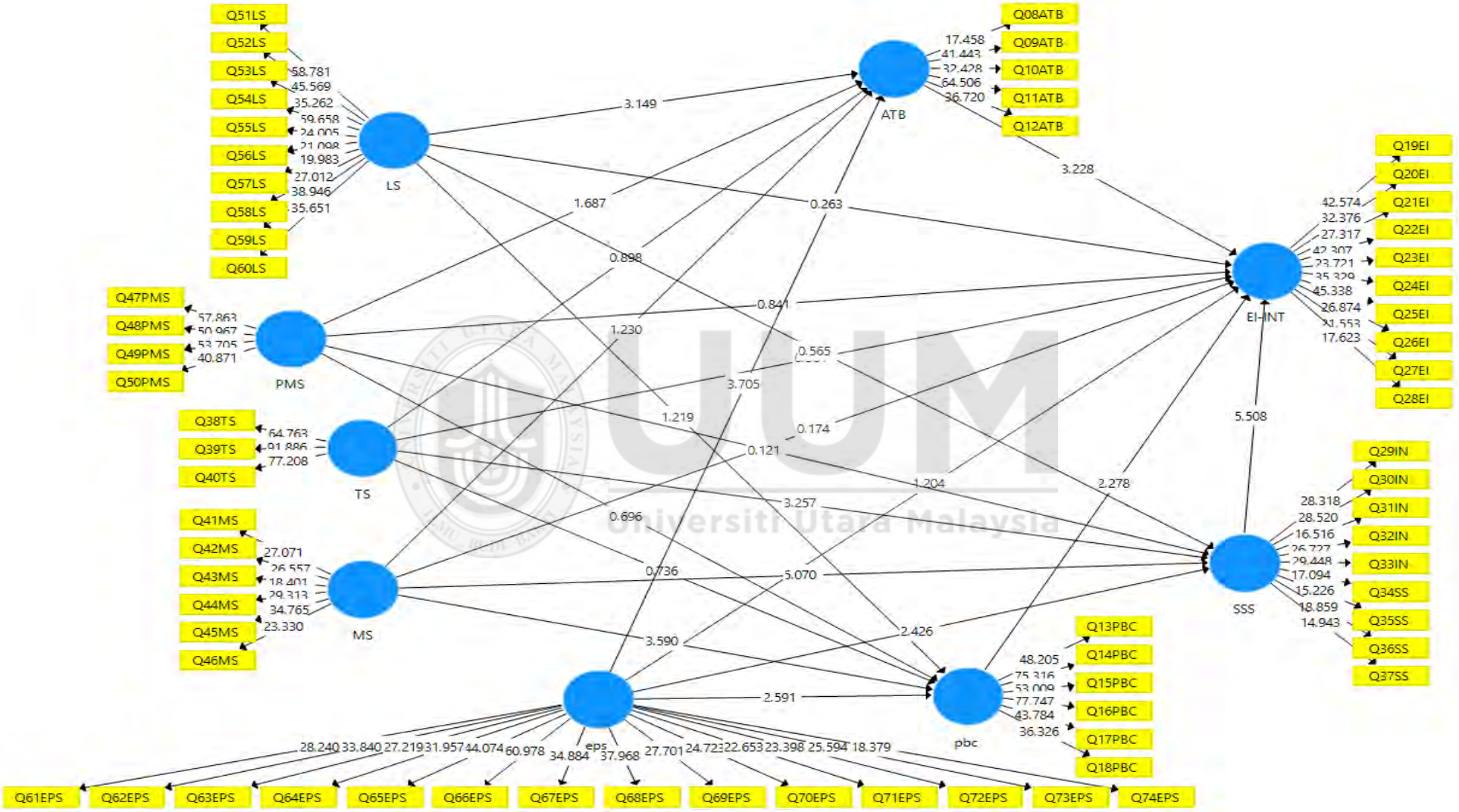


Figure 4.3
PLS-SEM Bootstrapping Direct Relationship

Path sizes presented in the above figure 4.2 indicate the path coefficients of EPS, LS, MS, PMS, LS, ATB, PBC, SSS, and EI. The resultant figures provide evidence that all the independent (exogenous) variables have positive path coefficients with the dependent (indigenous) variable. The results after following the bootstrapping procedure exhibited in the above Figure that show "the relationship between one of the independent variables and the dependent variable is significant at p<.01; two of the independent variables are significant at p<.05; while one is not significant. Table 4.12 presents the path coefficients, t-statistics and p-values". (Hair et al., 2013; p.219).

With respect to H1, the results are not in support of the assumed significant effect of EPS on EI (β.09; t=1.549; p<.06); therefore H1 is not supported. Similarly, next hypothesis H2 suggests the significant effect of LS on EI, although the results are also failed to provide the evidence of significant positive effect of LS on EI (β.06; t=.24; p<.34); thus H2 is rejected. However, H3 assumed that the significant positive effect of MS on EI of IT employees in Punjab, Pakistan, the results provide evidence of positive significant effect of MS on EI (β.12; t=1.84; p<.03); thus H3 is accepted. With regards to H4, which suggests that PMS positively effect on entrepreneurial intention. However, the result does not provide evidence of such relationship (β.06; t=0.85; p<.19), so H4 is rejected. In addition, with respect to H5, the results also provide evidence of significant positive effect of TS on EI (β.15; t=2.67; p<.00), so H5 is accepted".

The sixth hypothesis H6 assumed that there is a significant effect of EPS on ATB, the result support the assumed relationship (β.24; t=3.60; p<.00) thus H6 is supported. With respect to H7, the result support that there is a positive significant effect of LS on ATB (β.19; t=2.74; p<.00); therefore, H7 is supported. The next hypothesis suggests that there is an effect of MS on ATB of

IT employees in Punjab, Pakistan. However, the result does not support the assumed relationship (β.13; t=1.41; p<.07); therefore, H8 is rejected. Contrary to H8, the next hypothesis H9, which suggests the positive effect of PMS on ATB, is accepted, as the results reveal that there is a positive significant effect of PMS on ATB (β.12; t=1.75; p<.04), therefore, H9 is accepted. Conversely, H10 that suggests the positive effect of TS on ATB, the results are not supporting the assumed relationship (β.06; t=0.94; p<.17), thus H10 is rejected".

"Furthermore, the result shows evidence of positive effect of EPS on PBC (β.17; t=2.71; p<.00); therefore, H11 is accepted. About H12, the result does not support the significant effect of LS on perceived behavioral control (β.09; t=1.29; p<.09); so H12 is not rejected. However, H13 that suggests the positive effect of MS on perceived behavioral control, the results show the significant positive effect of MS over perceived behavioral control (β.38; t=3.72; p<.00), therefore H13 is accepted. Besides, the results of H14 do not support the assumed effect of PMS on perceived behavioral control (β.05; t=0.77; p<.22), so H14 is rejected. Similarly, H15 that suggests the effect of TS on perceived behavioral control, the results fail to provide evidence such effect (β.06; t=0.85; p<.19), thus H15 is rejected".

"With respect to H16, the results support the assumed relationship of that entrepreneurial skills have a positive effect on EI (β.14; t=2.42; p<.01), therefore H16 is accepted. However, the results of H17 do not support the relationship between LS and stakeholders' support system (β.04; t=0.56; p<.57), therefore H17 is not accepted. Whereas, H18 that assumed the positive effect of MS on the stakeholders' support system, the results show the positive significant effect of MS on the stakeholders' support system (β.39; t=5.07; p<.00), therefore H18 is accepted. However, the results reject H19, which suggests the positive effect of PMS on the stakeholders' support

system (β.01; t=0.12; p<.90), thus H19 is rejected. With respect to H20, the results show the significant positive effect of TS on the stakeholders' support system (β.26; t=3.26; p<.00), thus H20 is accepted".

"With regards to H21, the results suggest that there is a positive effect of ATB on EI (β.61; t=3.25; p<.00); therefore, H22 is accepted. Similarly, H22 suggests the positive effect of perceived behavioral control on EI is also supported, the results show that perceived behavioral control positively effect on EI (β.27; t=4.63; p<.00). As far as stakeholders support system's effect on EI is concerned, the results of H23 show that there is a significant positive effect of stakeholders' support on entrepreneurial intention (β.44; t=5.50; p<.00), thus H23 is accepted".

Table 4.12

Results of Hypotheses Testing (Direct Relationships)

Hypothesized Path	Path coefficient	Standard Error (STERR)	T Value	P Value	Decision
H1 EPS -> Ent-Int	0.10	0.06	1.55	0.06	Not Supported
H2 LS -> Ent-Int	0.03	0.07	0.41	0.34	Not Supported
H3 MS -> Ent-Int	0.12	0.07	1.84	0.03*	Supported
H4 PMS -> Ent-Int	0.06	0.07	0.85	0.19	Not Supported
H5 TS -> Ent-Int	0.15	0.05	2.67	0.00***	Supported
H6 EPS -> ATB	0.27	0.06	4.28	0.00***	Supported
H7 LS -> ATB	0.19	0.07	2.75	0.00***	Supported
H8 MS -> ATB	0.13	0.09	1.48	0.07	Not Supported
H9 PMS -> ATB	0.12	0.07	1.75	0.04*	Supported
H10 TS -> ATB	0.06	0.06	0.94	0.17	Not Supported
H11 EPS -> PBC	0.18	0.07	2.71	0.00***	Supported
H12 LS -> PBC	0.10	0.07	1.29	0.09	Not Supported
H13 MS -> PBC	0.38	0.1	3.72	0.00***	Supported
H14 PMS -> PBC	-0.05	0.07	0.77	0.22	Not Supported
H15 TS -> PBC	0.06	0.07	0.85	0.19	Not Supported
H16 EPS-> SSS	0.14	0.06	2.42	0.01**	Supported
H17 LS -> SSS	0.04	0.07	0.56	0.57	Not Supported
H18 MS-> SSS	0.39	0.07	5.07	0.00***	Supported
H19 PMS-> SSS	-0.01	0.05	0.12	0.90	Not Supported
H20 TS-> SSS	0.26	0.08	3.25	0.00***	Supported
H21 ATB -> Ent-Int	0.20	0.06	3.51	0.00***	Supported
H22 PBC -> Ent-Int	0.27	0.06	4.63	0.00***	Supported
H23 SSS-> Ent-Int	0.44	0.08	5.50	0.00***	Supported

As presented in the aforementioned Table 4.12 as well as in Figures 4.18, the hypotheses namely H3, H5, H6, H7, H9, H11, H13, H16, H18, H20, H21, H22, and H23 are supported, while hypotheses namely H1, H2, H4, H8, H10, H12, H14, H15, H17, and H19 are not supported.

4.9.2 Mediation Test

The examination of mediating relationships in this study involves the assessment of indirect effects of independent variables (EPS, LS, MS, PMS, and LS) on the dependent (indigenous) variable entrepreneurial intentions (EI) via intervening variables. Preacher and Hayes (2008) review the different techniques of examine mediating relationships include “Causal step strategy or serial approach (Hoyle & Robinson, 2004), which also refers to the four conditions of Baron and Kenny (1986)”. There are numerous other methods of examining the mediation like Sobel’s test (1982), distribution of product approach (MacKinnon, et. al., 2007; MacKinnon, Fritz,), and

finally the bootstrapping method (Preacher & Hayes, 2004). Though, bootstrapping approach is the latest one to assess the mediation relationship, which makes an empirical depiction of the distribution of samples of indirect effects (Hayes, 2009).

According to Baron & Keny (1986), mediation analysis can be assessed by fulfilling the following steps;

1. Defining the total effect relationships among variables (independent & dependent).
2. The significant effect or impact of the indirect relationship (s). It can be explained by the effects of independent variable (s) on the dependent variable via mediating variable (s).

Nonetheless, it is always needed that the total effects to be significant. However, the significant indirect effect occurs in its absence and mediation can take place (Hayes, 2009; MacKinnon, et. al., 2007; Rucker et al., 2011; Shrout & Bolger, 2002; Zhao, et. al., 2010).

The present study analyze the mediation effects of ATB, PBC, and SSS on the relationship between EPS, LS, MS, PMS, and TS on EI with the help of SmartPLS 3.0 (Ringle et al., 2014). The mediation effects examined through bootstrapping procedure with 376 cases and 5000 sub-samples. The aforementioned Figure 5 presents the PLS-SEM bootstrapping results subsequently ATB, PBC, and SSS were included as mediating variables.

The mediating variables of the study namely attitude, behavioral control, and stakeholders' support were introduced in the second model to examine the relationship between independent

variable (s) and mediating variables (s), as well as mediating and independent variable (s). The figure presented below indicates that all the path coefficients between independent and dependent variables and mediating variables are positive. Likewise, the paths coefficients between mediating variables namely ATB, PBC, and SSS are also positive. The results of bootstrapping indicate that nine relationships are found significant, whereas two of them are significant at $p<0.001$ while remaining six are at $p<0.05$.

In the second model, the bootstrapping results of 5000 re-samples were used to multiply the paths. "Then the product of the two significant paths was divided by the standard error of the product of the two paths to get the t-value". It is therefore clear from Table 4.12 that ATB mediates the positive relationship between EPS and EI (β.040; t=2.49; p<.03); LS and EI (β.03; t=2.31; p<.01); MS and EI (β.021; t=1.710; p<.04); and PMS on EI (β.02; t=1.650; p<.04). However, Table 4.13 shows that TS not mediate the relationship between ATB and EI (β.110; t= 0.92; p<.18).

As far as the mediating effects of PBC are concerned, the results of bootstrapping indicate that that PBC has a positive significant mediating effect on the relationship between EPS and EI (β.030; t=2.17; p<.01); and MS and EI (β.15; t=2.89; p<.000). However, Table 4.12 indicates that TS (β.080; t= 0.74; p<.23); PMS (β.13; t= 1.22; p<.68); and LS (β.03; t= 1.28; p<.09) have not any significant positive mediating effect on the relationship between PBC and EI.

Stakeholders' support was the third mediator of the current study. The results show that SSS has a positive significant mediating effect on the relationship between EPS and EI (β.06; t=2.24;

p<.01); and MS and EI (β.05; t=1.98; p<.05); and TS and EI (β.12; t= 2.64; p<.00). Conversely, Table 4.12 indicates that LS (β.02; t= 0.54; p<.29); and PMS (β.01; t= 0.23; p<.59) have not any significant positive mediating effect on the relationship between SSS and entrepreneurial.

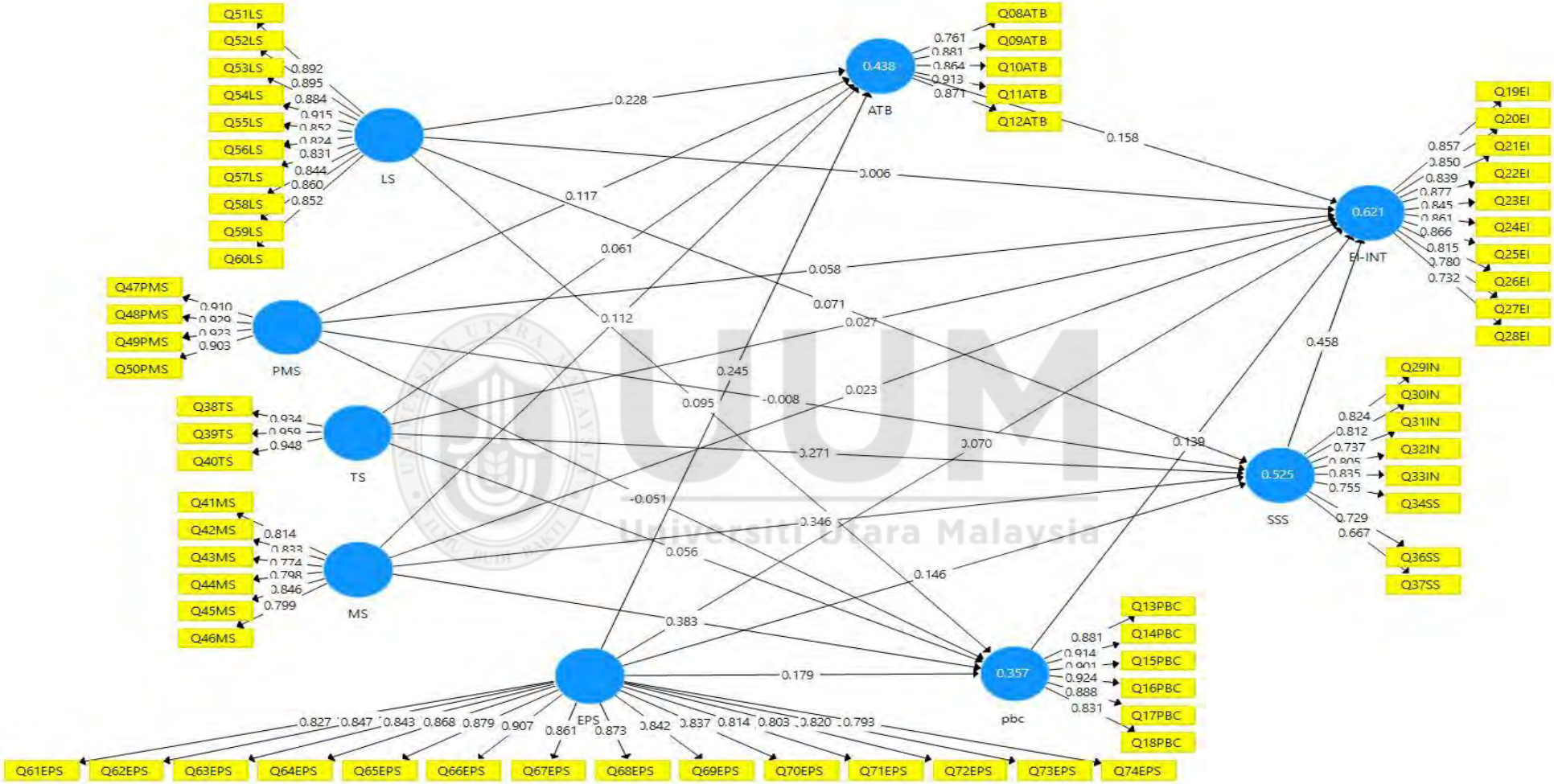


Figure 4.4
PLS-SEM Algorithm Mediating Relationship

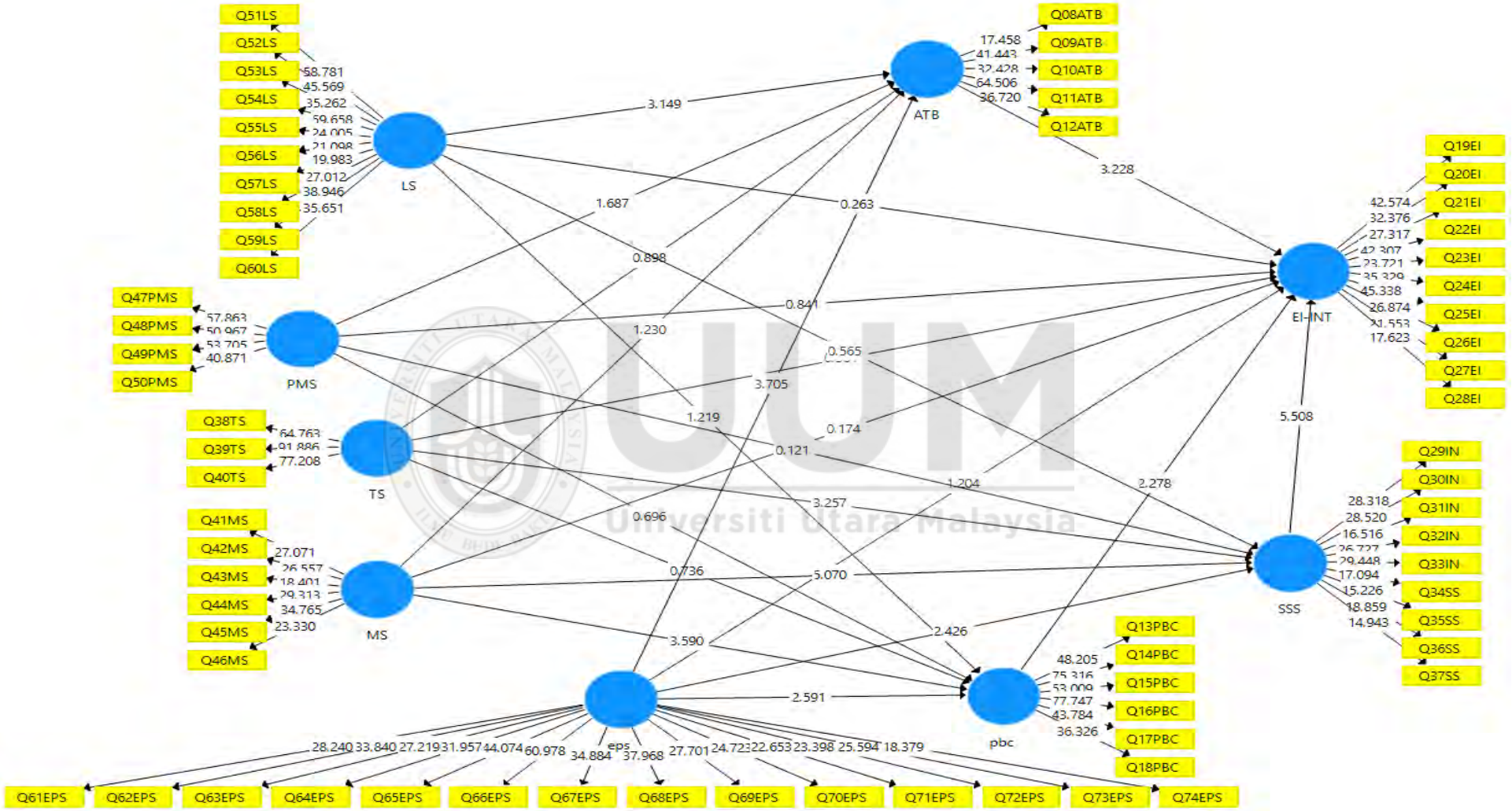


Figure 4.5
PLS-SEM Bootstrapping Mediating Relationship

Table 4.13
Results of Mediating Tests

	Hypothesized Path	Path coefficient	Standard Error (STERR)	T Value	P Value	Decision
H24	EPS -> ATB-> EI-INT	0.04	0.02	2.49	0.04*	Supported
H25	LS -> ATB> EI-INT	0.04	0.02	2.31	0.01**	Supported
H26	MS ->ATB -> EI-INT	0.02	0.02	1.71	0.04*	Supported
H27	PMS -> ATB -> EI-INT	0.02	0.01	1.66	0.05*	Supported
H28	TS -> ATB-> EI-INT	0.01	0.01	0.91	0.18	Not Supported
H29	EPS -> PBC-> EI-INT	0.03	0.02	2.19	0.01**	Supported
H30	LS -> PBC> EI-INT	0.03	0.02	1.29	0.10	Not Supported
H31	MS ->PBC -> EI-INT	0.02	0.01	2.88	0.00***	Supported
H32	PMS -> PBC -> EI-INT	0.02	0.01	1.24	0.70	Not Supported
H33	TS -> PBC-> EI-INT	0.01	0.01	0.75	0.23	Not Supported
H34	EPS->SSS -> EI-INT	0.06	0.03	2.24	0.01**	Supported
H35	LS->SSS -> EI-INT	0.02	0.04	0.54	0.29	Not Supported
H36	MS- >SSS -> EI-INT	0.05	0.03	1.63	0.05*	Supported
H37	PMS->SSS -> EI-INT	-0.01	0.03	-0.23	0.59	Not Supported
H38	TS->SSS -> EI-INT	0.12	0.04	2.64	0.00***	Supported

4.9.4 Coefficient of Determination (R2)

Coefficient of determination (R2) is widely accepted criteria for examining the inner model (Hair Jr. et al., 2013). According to Cohen (1988), R2 values of .27, .13 and .02 indicate substantial, moderate and weak R2 values, respectively. Results in Figure 4.8 indicate that the R2 value of ATB (.43) is substantial. Similarly, the results show that the R2 value of perceived behavioral control (.35) and SSS (0.53) which are also substantial. The R2 value of ATB directs all the five exogenous variables (TS, MS, PMS, LS, and EPS) combined together in the model explain 43% variance in the mediating variable ATB. Similarly, the results show that R2 value of all the five exogenous variables (TS, MS, PMS, LS, and EPS) combined together in the model explains 35% variance in the mediating variable perceived behavioral control and 53% in the third mediating variable of the SSS. Likewise, the holistic R2 value indicates that all the eight exogenous variables (TS, MS, PMS, LS, EPS, ATB, PBC, and SSS) combined together in the model explain 61%

variance in the endogenous variable (entrepreneurial intentions). Consequently, based on the assessment of the R2 of the endogenous latent variables ATB (.43), perceived behavioral control (.35), SSS (0.53), and EI (.61), it is concluded that the model has substantial predictive validity.

4.9.5 Assessment of Effect Size (f^2)

Having assessed the coefficient of determination of the endogenous constructs (ATB, perceived behavioral control, and entrepreneurial intention), the next criterion assesses the effect size (f^2) as suggested by Hair Jr. et al. (2013). Effect size is the difference in R^2 between the main effects when particular exogenous construct is in the model and when it is not included. This is done purposely to observe whether the deleted exogenous construct has some substantial impact or effect or on the endogenous variables (Hair Jr. et al., 2013). The formula below is used to calculate the effect size for the exogenous construct, where 0.02, 0.15, and 0.35 have been proposed as the small, moderate and the large effects, correspondingly (Cohen, 1988). However, Chin et. al., (2003), stress that even the tiniest strength of f^2 should be considered as it can influence the endogenous variables.

$$f^2 = \frac{R^2 \text{ included} - R^2 \text{ excluded}}{1 - R^2 \text{ included}}$$

The effect size in this study for the exogenous constructs found to be statistically significant to affect the endogenous variables are assessed and reported. The result in Table 4.14 shows the effect size of the particular independent (exogenous) constructs on the respective endogenous (dependent) construct. The result indicates that most of the exogenous constructs have small effect size on their respective endogenous construct, while one exogenous construct namely SSS has a moderate effect size on endogenous construct.

Table 4.14

Effect Size (f^2)

Variables	Effect Size	
TS-EI-int	0.00	
MS-EI-Int	0.00	
PMS-EI-Int	0.00	
LS-EI-Int	0.00	
EPS-EI-Int	0.01	Small
SS-EI-Int	0.33	Moderate
TS-ATB	0.00	
PMS-ATB	0.01	Small
LS-ATB	0.03	Small
MS-ATB	0.01	Small
EPS-ATB	0.05	Small
TS-PBC	0.00	
PMS-PBC	0.00	
MS-PBC	0.07	Small
LS-PBC	0.00	
EPS-PBC	0.02	Small
LS-SSS	0.00	
PMS-SSS	0.00	
TS-SSS	0.071	Small
MS-SSS	0.087	Small
EPS-SSS	0.019	Small

Note: ATB= ATB, PBC= Perceived Behavioral Control, EI= Entrepreneurial Intentions, SS= SSS, TS= TS, MS= MS, PMS= PMS, LS= LS , EPS= Entrepreneurial Personal Skills.

4.9.6 Assessment of Predictive Relevance (Q2)

Assessment of predictive relevance' ability (Q2) is another assessment of the inner (structural) model. Q2 can be assessed using Stone–Geisser criterion, which assumes that an inner model must be able to provide evidence of prediction of the endogenous latent construct's indicators (Henseler et al., 2009). Hence, predictive relevance Q2 assessment can be carried out using Stone-Geisser's Q2 test which can be measured using blindfolding procedures (Hair Jr. et al., 2013; Henseler et al., 2009). Therefore, this study used Stone-Geisser test to assess the Q2, through blindfolding procedure to obtain the cross-validated redundancy measure for endogenous latent construct (Hair Jr. et al., 2013). Table 4.15 presents the cross-validated redundancy for ATB, perceived behavioral control, and entrepreneurial intentions.

Table 4.15
Predictive Relevance (Q2)

Total	**SSO**	**SSE**	**1-SSE/SSO)**
ATB	1820.00	1261.69	0.31
EI-INT	3640.00	2120.63	0.41
PBC	2184.00	1583.07	0.28
SSS	3276.00	2,306.34	0.30

The results in above Table 4.15 show that all the Q2 values are greater than zero ATB (.31), perceived behavioral control (0.28), SSS (0.30), and EI (.41); this suggests a substantial predictive relevance of the model. This is in line with the suggestion by Hair Jr. *et al.* (2013) and Henseler *et al.* (2009) that Q2 values greater than zero indicate the model has predictive relevance, while Q2 values less than zero, indicate the model lacks predictive relevance.

4.9.7 Assessment of Goodness-of-Fit Index (GoF)

Another evaluation criterion is the global Goodness-of-Fit (GoF) Index. However, there are many arguments on the usefulness of this criterion on the validating model (Hair Jr. et al., 2013; Henseler

& Sarstedt, 2013). On one hand, Tenenhaus, Amato and Esposito Vinzi (2004) propose that GoF can be applied to PLS-SEM to compare performances produced by models. However, others argue that no such global measure of GoF is available for PLS-SEM (Hair Jr et al., 2014; Hair Jr. et al., 2013; Henseler & Sarstedt, 2013; Sarstedt et al., 2014). Additionally, Henseler and Sarstedt (2013) challenged the applicability of GoF in PLS-SEM as their simulation result indicated that it is not useful for model validation, but can be useful to assess how well the model can explain different sets of data.

Table 4.16
Predicated Relevance of the Model (GoF)

Construct	R Square	AVE	GOF
ATB	0.439	0.739	
EPS		0.713	
Ent-Int	0.617	0.694	
LS		0.749	
MS		0.658	
PBC	0.356	0.793	
PMS		0.840	
SS	0.530	0.580	
TS		0.897	
Average	0.485	0.740	60%

Table 4.17
Recapitulation of the Study Findings

Hypothesis	Statement of The Hypothesis	Decision
H1	Entrepreneurial personal skills have a significant effect on the entrepreneurial intention of IT employees in Punjab, Pakistan.	Not Supporte
H2	Leadership skills have a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.	Not Supporte
H3	Managerial skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Supported
H4	Personal Maturity skills have a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.	Not Supporte
H5	Technical skills have a significant impact on entrepreneurial intention of IT employees in Punjab, Pakistan.	Supported
H6	Entrepreneurial personal skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Supported
H7	Leadership skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Supported
H8	Managerial skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Not Supporte
H9	Personal Maturity skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Supported
H10	Technical skills have a significant effect on attitude towards behavior of IT employees in Punjab, Pakistan.	Not Supporte
H11	Entrepreneurial personal skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.	Supported
H12	Leadership skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.	Not Supporte
H13	Managerial skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.	Supported
H14	Personal maturity skills have a significant effect on perceived behavioral control of IT employees in Punjab, Pakistan.	Not Supporte

H15	Technical skills have a significant impact on perceived behavioral control of IT employees in Punjab, Pakistan.	Not Supporte
H16	Entrepreneurial personal skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.	Supported
H17	Leadership skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.	Not Supporte
H18	Managerial skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.	Supported
H19	Personal maturity skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.	Not Supporte
H20	Technical skills have a significant effect on stakeholders' support system of IT employees in Punjab, Pakistan.	Supported
H21	Attitude towards behavior has significant effect on the entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H22	Perceived behavioral control has significant effect on the entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H23	Stakeholders' support system has a significant effect on entrepreneurial intention of IT employees in Punjab, Pakistan.	Supported
H24	Attitude towards behavior mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H25	Attitude towards behavior mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H26	Attitude towards behavior mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H27	Attitude towards behavior mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported

II28	Attitude towards behavior mediates the positive relationship between Technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H29	Perceived behavioral control mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H30	Perceived behavioral control mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H31	Perceived behavioral control mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H32	Perceived behavioral control mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H33	Perceived behavioral control mediates the positive relationship between Technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H34	The stakeholders' support system mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H35	The stakeholders' support system mediates the positive relationship between leadership skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H36	The stakeholders' support system mediates the positive relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported
H37	The stakeholders' support system mediates the positive relationship between personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Not Supporte
H38	The stakeholders' support system mediates the positive relationship between technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.	Supported

4.10 Summary

This chapter offers the statistical analysis of quantitative data were collected through a survey questionnaire distributed in IT companies of Punjab, Pakistan. The chapter presents the results of the response rate test and test of non-response bias. Furthermore, the initial data examination and data screening were conducted, including missing value analysis, assessment of outliers, and tests of normality and multicollinearity assessment. Then, demographics are presented, followed by the measurement model along with the structural model which were assessed with PLS-SEM using the SmartPLS 3.0 software package developed by Ringle *et al.* (2014). Lastly, results from hypothesis testing based on the evaluation of the inner model are reported.

CHAPTER FIVE

DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.1 Introduction

This chapter concentrates on describing and analyzing the findings based on research objectives, research questions, hypotheses, and the literature review. The chapter starts from the executive summary followed by the discussion on data analysis. The next section focuses on the implications of the theory and practice. Additionally, the chapter contains the research limitations and suggestions for future research. Finally, the chapter offers conclusion of the study.

5.2 Executive Summary

This section covers summary of the research findings of this study. The leading objective of this research is to examine the effects of entrepreneurial skills on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. Additionally, the mediating roles of attitude towards behavior, stakeholders' support system, and perceived behavioral control are also the main focus of this study. Furthermore, five independent variables named as entrepreneurial personal skills, leadership skills, managerial skills, personal maturity skills, and technical skills are hypothesized to have a positive effect on developing entrepreneurial intentions, whereas the relationships are also hypothesized to be mediated by attitude towards behavior, stakeholders' support system, and perceived behavioral control.

In the light of the research objectives, 6 objectives are developed based on the research questions drawn from the problem statement in the Chapter One of this study. The Theory of Planned Behavior, Entrepreneurial Event Model, and Social Cognitive Career Theory support the framework of this study. Examining of these relationships will help to develop understanding about the factors important to improve entrepreneurial intentions. Consequently, 38 hypothesis are formulated and statistically tested based on PLS-SEM using Smart PLS 3.0. Furthermore, the research findings support 22 hypotheses out of which 13 are direct, while 9 are mediating relationships.

5.3 Discussion of Data Analysis

5.3.1 Positive Relationship between EPS, LS, MS, PMS, TS, and Entrepreneurial Intentions of IT employees in Punjab, Pakistan.

The first objective of the study is to examine the effects of EPS, LS, MS, PMS, and TS on entrepreneurial intentions of IT employees in Punjab, Pakistan. In order to test the direct relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions, the researcher used the measurement model recommended by previous researchers (e.g. Anderson & Gerbing 1988; Bentler, 1978) to test the relationship between the observed measures and their underlying constructs and performed a confirmatory assessment of construct validity. In addition, the study used a comprehensive two stage analysis, in which the measurement model was first confirmed using confirmatory factor analysis on each dimension of EPS, LS, MS, PMS, TS, and entrepreneurial intentions and then PLS-SEM was implemented based on the measurement model to estimate the fit of the hypothesized model to the data.

Based on the Theory of Planned Behavior and the Social Cognitive Career Theory, the first objective is formulated five hypotheses on the positive relationship between EPS and entrepreneurial intentions; LS and entrepreneurial intentions; MS and entrepreneurial intentions; PMS and entrepreneurial intentions and the TS and entrepreneurial intentions. Firstly, the aforementioned objective resulted in H1, which presents that there is a positive effect of entrepreneurial personal skills on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. The results of data analysis show that there is no significant effect of entrepreneurial personal skills on developing entrepreneurial intentions of IT employees in Punjab, Pakistan.

The findings of this study are in line with the previous studies that have already been recognized the effect of entrepreneurship skills on developing entrepreneurial intentions (Kuratko & Hodgetts, 2001; Oosterbeek et., al, 2010; Smith et. al., 2007). Additionally, several studies also recognized the significant role of entrepreneurship skills in entrepreneurship process (Chell, 2013; Fleischmann, 2006; Gibb, 1993; Lichtenstein, Strategies, & Lyons, 2001; Oosterbeek, van Praag, & Ijsselstein, 2010; Zimmerer, 2008).

With respect to H2, which hypothesized that leadership skills have a positive effect on developing entrepreneurial intentions. The result does not support the positive significant effect of leadership skills on entrepreneurial intentions of IT employees in

Punjab, Pakistan. These findings are also confirmed the results of Phelan' study (2014) that was conducted in the United Kingdom. The results suggest that the skills which are mostly recognized in the literature such as networking with other people, opportunity recognition, leadership, negotiation, business and strategic planning, were not recognized as significant in the context of farm diversification. Similarly, the findings of this study are also failing to identify the direct effect of entrepreneurial personal skills and leadership skills on entrepreneurial intentions of IT employees in Punjab, Pakistan. Additionally, the findings are not in support of the previous studies, which recognized the impact of these skills on developing intentions (Chel et. al., 2009; Linan, 2008; Cooney, 2012; Oosterbeek, 2010; Phelan, 2014).

The third hypothesis formulated based on the first objective is H3, which states that there is a significant effect of managerial skills on entrepreneurial intentions of IT employees in Punjab, Pakistan. The finding provides support for H3 as the result suggests that there is a positive significant effect of managerial skills on entrepreneurial intentions. This finding supports the understanding of numerous studies, which have been recognized the significant impact of skills on developing entrepreneurial intention. The results of this study are in line with Maurizio Sobrer Roberts and Fusfeld (1981), who claimed that a high level of managerial skills are required for individuals who are involved in high-technology firms and these skills are, in fact, predictors of entrepreneurial activities (Riccardo, Grimaldi, & Marzocchi., 2009). Papulova (2007) also recognized the managerial skills imperative for an individual to be self-employed.

Similar to the results of this study, Baum et. al., (2001) empirically established that managerial skills have an impact on entrepreneurial activities. To sum up, the individuals' higher level of managerial skills, such as, planning, organizing, supervising, directing, networking, learning, and problem-solving effect positively on the intentions to start a business and become self-employed. Hence, this study suggests that identification and development of managerial skills should be focused since it can improve the intentions to become an entrepreneur.

The fourth hypothesis H4 states that there is a positive effect of personal maturity skills on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. Contrary to the stated hypothesis, this study does not find support from statistical analysis for significant effect of personal maturity skills on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. The next hypothesis H5 suggests that there is a positive effect of technical skills on entrepreneurial intentions of IT employees in Punjab, Pakistan. The findings provide support for H5 as the results suggest that there is a significant positive effect of technical skills on entrepreneurial intentions of IT employees in Punjab, Pakistan. The results suggest that the individuals with a higher level of technical skills are having more intentions to become entrepreneurs.

The findings of this study are in line with the work of Lichtenstein and Lyons (1996), who exhibited that the most successful entrepreneurs had a higher level of technical skills. This is consistent with the findings of researchers like Smith and Miner (1983), who categorize entrepreneurs by basic entrepreneurial patterns. On one end of the continuum they identify artisan or craftsman entrepreneurs. These are persons who create a new venture in order to exploit their technical skills or job experiences. They have strong technical expertise, but often lack other essential skills like management experience and communication abilities. On the other end of the continuum are opportunistic entrepreneurs. These are individuals who have supplemented their technical ability with additional skills such as communication, legal, economic or strategic knowledge (Lichtenstein and Lyons, 1996; Smith and Eichholz, 2007; Williams, 2003). Similarly, Gupta and Govindarajan (2000) postulate that technical and procedural skills are fundamental in technology-intensive entrepreneurial environments like IT companies. In addition, Baum, et. al., (2001) empirically provide the evidence of the effect of that technical, procedural and managerial skills on developing entrepreneurial intentions.

5.3.3 Positive Relationship between TS, MS, PMS, EPS, LS, and Attitude towards Behavior, Stakeholders' Support System, and Perceived Behavioral Control of IT employees in Punjab, Pakistan.

The second objective of this study is to examine the effects of TS, MS, PMS, EPS, LS, on attitude towards behavior, stakeholders' support system, and perceived behavioral control of employees working in IT companies in Punjab, Pakistan. Therefore, fifteen hypotheses were put forward, representing the positive relationship between TS, MS, PMS, EPS, LS, and attitude towards behavior; TS, MS, PMS, EPS, LS, and

stakeholders' support system; and finally TS, MS, PMS, EPS, LS, and perceived behavioral control. Specifically, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19, and H20 were tested to achieve the second objective of the study.

To achieve the second objective, 15 hypothesis are formulated. Firstly, five hypotheses are formulated on the positive effect of EPS on attitude towards behavior; the effects of leadership skills on attitude towards behavior; the effects of managerial skills on attitude towards behavior; the effects of personal maturity skills on attitude towards behavior; and the effects of technical skills on attitude towards behavior of IT employees in Punjab, Pakistan.

To begin with H6, which suggests the positive effect of entrepreneurial personal skills on attitude towards behavior of IT employees in Punjab, Pakistan. The finding provides the support for H6 as the results suggest that there is a positive significant effect of entrepreneurial skills on attitude towards behavior. The skills of scanning the environment, developing innovative products and services, and generating solutions to emerging needs are positively related to a person's favorable evaluation of becoming self-employed, which in turn, positively affect his or her attitude to become an entrepreneur. Additionally, these findings further provide evidence that individuals with higher levels of entrepreneurial personal skills have a higher degree of desirability to start a business, and in turn, become self-employed. Lyons (2002) described entrepreneurial personal skills as "the skills needed to develop innovative products and

services and to generate solutions to emerging needs in the marketplace" (p. 4). The findings of the study supported by analysis, which suggest that entrepreneurial personal skills have positive effect on attitude towards behavior.

The findings link well with the view of the theory of planned behavior (1991), which proposes that "the behavior is a function of beliefs relevant to the behavior. It is these salient beliefs that are considered to be the prevailing determinants of a person's attitudes, intentions and behavior" (p.189). There are several interconnections between attitude towards behavior and numerous interrelated objects (Gasse, 1985). Several studies concluded that attitude is relatively less stable than other factors related to the propensity to act, and reported as changing both across time and across situations by interactive processes with the environment (Abelson, 1982; Chaiken & Stangor, 1987; Robinson et al., 1991; Rosenberg & Hovland, 1960). Therefore, attitude of an individual may be influenced by learning, and experience (Schwarz, Wdowiak, Almer-Jarz, & Breitenecker, (2009).

Attitude towards behavior, in this study, assesses the perceptions of an individual to find his or her personally desirable to become an entrepreneur (Krueger & Brazeal, 1994). In previous studies, behavioral views and perceptions have been assumed to influence attitudes toward the behavior, and every belief relates the behavior to a specific result, therefore, individuals with favorable attitudes believed to achieve desirable results (Veciana, Aponte, & Urbano, 2005). Perceptions of desirability or

attitude towards behavior are linked with to an intrinsic interest in entrepreneurship and innovation (Krueger & Brazeal, 1994).

To sum up, the extent to which individuals have higher levels of entrepreneurial skills, such as, business skills, networking skills, and ability to scan the environment and respond accordingly, the probability of increasing the perceived desirability or attitude towards behavior to start a business and become self-employed will also increase. Hence, this study suggests that identification and development of entrepreneurial skills should be focused since it can improve the perceived desirability to become an entrepreneur. In other words, Government of Pakistan can focus on employees' entrepreneurial personal skills in order to increase the desirability of becoming self-employed.

With respect to the effect of leadership skills on attitude towards behavior of IT employees in Punjab, Pakistan, H7 was formulated and tested. The Leadership skills refer to the ability of an individual to work with and through other people, inspiration to do work, and independent thinking (Timmons, 1994). As per hypothesized, the results support that leadership skills have positive significant effect on attitude towards the behavior. These findings provide the evidence that individuals with higher levels of leadership skills have a higher degree of desirability to start a business, and in turn, become self-employed. The higher levels of leadership skills such as motivating other, the ability to perform tasks in a group, or teams, consistency and intensity to achieve

goals, the ability to adjust in different environmental settings, and independent thinking further effect on desirability to be become an entrepreneur.

The results of this study are linked with the work of Linan (2008), who claimed that attitude towards behavior affected by personal skills, as attitude is relatively less stable than other factors related to the propensity to act, and reported as changing both across time and across situations by interactive processes with the environment (Abelson, 1982; Chaiken & Stangor, 1987; Robinson et al., 1991; Rosenberg & Hovland, 1960). Therefore, the perceptions about one's ability to lead and adjust in different environmental settings with consistency and intensity to achieve goals, make him or her desired to start a business (Fini et. al., 2009).

The results of this study also supported by Kolvereid (1996), who showed that attitudes significantly affected by skills. Similarly, these findings are also coherent with the assumptions of Shapero and Sokol (1982), as well as Souitaris, Zerbinati, and Al Laham (2007), who reinforced these views by explaining that individual skills directly effect on attitudes and indirectly on intentions. To sum up, this study suggests that identification and development of leadership skills should be focused since it can improve the perceived desirability to become an entrepreneur.

The next hypothesis H8, which assumed that managerial skills have a positive effect on attitude towards behavior of IT employees in Punjab, Pakistan. After analyzing the results, it was not found that managerial skills significantly effect on attitude towards behavior of employees working in IT companies in Punjab, Pakistan. Unlike to entrepreneurial personal and leadership skills, the results of H8 failed to provide evidence of the effect of managerial skills on attitude towards behavior.

The findings of this study may affect from the region selected for the empirical analysis, and according to these results, it might be said that the insignificant effect of managerial skills on attitude towards behavior among IT employees in Punjab, Pakistan, can be explained by two reasons. Firstly, entrepreneurship would not be valued as a feasible career option, leading to low closer valuation. Secondly, managerial skills are not satisfactorily developed among the IT employees in Pakistan, leading to low desirability towards entrepreneurship (Ali, 2015; Haque, 2007; Sarfraz & Qureshi, 2010).

With respect to personal maturity skills, which hypothesized to be positively effect on attitude towards behavior in H9. The results of this study provide evidence of significant effects of personal maturity skills on attitude towards behavior of IT employees in Punjab, Pakistan. It is important to recall that personal maturity skills are defines as “the skills needed to attain self- awareness, emotional maturity, ability and willingness to accept responsibility, and creativity” (Lyons, 2002: p. 4). The findings

are also coherent with Baum et. al., (2001), who empirically provide evidence of the effect of personal skills on entrepreneurship. To sum up, the individuals' higher level of personal skills, such as, attain self- awareness, emotional maturity, ability and willingness to accept responsibility, and creativity effect positively on his or her desirability to start a business and become self-employed. Hence, this study suggests that identification and development of personal maturity skills should be focused since it can improve the desirability to become an entrepreneur.

These findings support the understanding of previous studies, which have been recognized the significant impact of personal skills on developing desirability to start a business. The results of this study are in line with Maurizio et. al., (1981), who claimed that a high level of personal skills are required for individuals involved in high-technology firms and these skills are, in fact, predictors of entrepreneurial activities (Riccardo, Grimaldi, & Marzocchi., 2009).

Proceeding to H10, which suggests the positive effect of technical skills on attitude towards behavior of IT employees in Punjab, Pakistan. Similar to the managerial skills, the results also failed to provide evidence of the effect technical skills on the attitude towards the behavior of IT employees in Punjab, Pakistan.

The findings of this study may also affect from the region selected for the empirical analysis, and according to these results, it might be said that the insignificant effect of technical skills on attitude towards behavior among IT employees in Punjab, Pakistan, can be explained by two reasons. Firstly, entrepreneurship would not be valued as a feasible career option, leading to low closer valuation. Secondly, the working conditions and job nature are not allowed professionals to become independent and start their own business, which leading to low desirability towards entrepreneurship (Ali, 2015; Haque, 2007; Sarfraz & Qureshi, 2010).

The next five hypothesis H11, H12, H13, H14, and H15 are formulated on the positive effect of EPS on perceived behavioral control of IT employees in Punjab, Pakistan; the positive effect of leadership skills on perceived behavioral control of IT employees in Punjab, Pakistan; positive effect of managerial skills on perceived behavioral control of IT employees in Punjab, Pakistan; positive effect of personal maturity skills on perceived behavioral control of IT employees in Punjab, Pakistan; and positive effect of technical skills effect on perceived behavioral control.

To begin with H11, which formulated by the assumptions of entrepreneurial personal skills' positive effect on perceived behavioral control. The finding provides the support for H11as the results suggest that there is a positive significant relationship between entrepreneurial skills and perceived behavioral control. Accordingly, to the results of this study, it can be concluded that the skills of scanning the environment, developing

innovative products and services, and generating solutions to emerging needs are positively related to a person's favorable evaluation of becoming self-employed, which in turn, positively affect his or her perception of feasibility to become entrepreneur. Krueger (1993) also provide evidence by postulating that perceived credibility, attitude towards behavior and propensity to perform behavior explain well "over half" of the variance of entrepreneurial intentions, with perceived behavioral control explaining the most (Krueger, 1993).

The results are well linked with the study by Linan (2008) and Phelan (2014), which concluded with empirical evidence that entrepreneurial skills' perceptions have a very significant effect on perceived behavioral control. Perceived behavioral control explained more variance, and not surprisingly seen as more closely related to entrepreneurial skills. Similarly, the findings of this study further provide an evidence by that, the individuals with higher levels of entrepreneurial personal skills, have higher degree of perceived feasibility to start a business, and in turn, high probability to become self-employed (Chell, 1998; Linan, 2008; Cooney, 2012; Phelan, 2014; Smith et. al., 2007).

The results of this study are also in line with the previous studies, which recognized the effect of personal skills on perceived feasibility to start a business (Chen et al. 1998; Lazear, 2004; Linan, 2008; Cooney, 2012; Phelan, 2014). The perception or believe of the availability of financial and moral support, consultation, learning and

education have also been considered as factors, which can make the act of venture creation feasible to the potential entrepreneur (Shapero, 1982). Similarly, the effects of personal skills have also been confirmed by Linan (2008) and Chell (2009), which confirm the connection of entrepreneurial personal skills and perceived behavioral control in the process of entrepreneurship. They established that there is an obvious linkage between skills and perceived behavioral control (Chell, 2009; Linan, 2008). These views support the effects of skills on perceived feasibility or perceived behavioral control of an individual to perform a desired behavior. Therefore, it can be concluded that the individual's perception about his or her higher levels of entrepreneurial personal skills, lead to increase in perceived feasibility to start a business (Chen et. al., 1998; Linan, 2008). It is further suggested that there is a need to extend the focus on perceived feasibility and the factors which contribute the most (Krueger and Brazeal, 1994).

Perceived behavioral control presented as an important element in the Theory of Planned Behavior (Ajzen, 1991), which also considered in Krueger and Brazeal's model (1994) named as perceived venture feasibility, and in Shapero's model (1982) as perceived control. It refers to an individual's perceived ability to perform specific behavior (Krueger & Brazeal, 1994). It also refers to the perceived personal ability to perform a specific job or responsibilities. In addition, the resources, capabilities, and opportunities available to an individual guides the likelihood of behavioral achievement (Veciana et.al., 2005). According to the theory of planned behavior, perceived behavioral control is an individual's perception or belief of the ease or

difficulty of performing a specific behavior (Ajzen, 1991). Veciana et. al. (2005) further explain it by that the control beliefs lead the behavioral control and deal with the availability or absence of necessary means and opportunities. These control beliefs may be based on previous experiences, information, and on other variables, which may increase or decrease the perceived difficulty of performing a required behavior (Ajzen, 1991; Krueger & Brazeal, 1994; Shapero & Sokal, 1982; Veciana et. al. (2005).

The next hypothesis H12 is formulated and tested, which suggests that the leadership skills have positive effect on perceived behavioral control of IT employees in Punjab, Pakistan. The findings of this study do not support the assumed effect of leadership skills on perceived behavioral control. The findings of this study confirm the previous studies of Lichtenstein and Lyons (1996) and Phelan (2014), who shown that the most successful entrepreneurs had technical skills beyond just producing the product or service. Phalen (2014) exhibited that the skills which were mostly recognized in the literature such as leadership skills, networking skills, opportunity recognition skills, negotiations skills, business and strategic planning skills were not considered as significant skills in the context of England's farm diversification. Equally, the findings of this study are also failed to identify the direct effect of entrepreneurial personal skills and leadership skills on entrepreneurial intentions of IT employees in Punjab, Pakistan.

The hypothesis H13 is formulated based on the second objective, which states that there is a positive effect of managerial skills on perceived behavioral control of IT

employees in Punjab, Pakistan. The finding provides support for H13 as the results suggest that there is a positive significant effect of managerial skills on perceived behavioral control. Based on the findings of this study, it can be concluded that the higher levels of managerial skills of an individual predict his or her higher perceptions about feasibility of starting a business.

The next hypothesis H14 states that there is a positive effect of personal maturity skills on perceived behavioral control of IT employees in Punjab, Pakistan. Contrary to the stated hypothesis, this study does not find support for a positive significant effect of personal maturity skills on perceived behavioral control of IT employees in Punjab, Pakistan. Similar to the findings of Lichtenstein and Lyons (1996), who revealed that the most successful entrepreneurs had technical skills beyond just producing the product or service. Based on this, it is therefore, established that the personal maturity skills alone do no lead towards perceived behavioral control to be an entrepreneur.

With respect to H15, which presents that there is a positive effect of technical skills on perceived behavioral control of IT employees in Punjab, Pakistan. The results of data analysis reveal that there is no such significant positive effect of technical skills on perceived behavioral control. The findings of this study are not supporting the positive significant effect of technical skills on perceived behavioral control, based on that, it can be concluded that technical skills of an individuals do not affect the individual's perceptions of feasibility to start his or her own business.

The findings of this study are the same as Lichtenstein and Lyons (1996), who exhibited that the most successful entrepreneurs had technical skills beyond just producing the product or service. This is also consistent with the findings of Smith and Miner (1983) who categorized entrepreneurs by basic entrepreneurial patterns. On one end of the continuum they identified artisan or craftsman entrepreneurs. Those were persons who created a new venture in order to exploit their technical or job experience. They had strong technical expertise but often lack other essential skills like management experience and leading abilities. On the other end of the continuum were opportunistic entrepreneurs. Those were individuals who had supplemented their technical ability with additional skills such as communication, legal, economic or strategic knowledge (Lichtenstein and Lyons, 1996; Smith and Eichholz, 2007; Williams, 2003). Based on this, it is therefore, concluded that the technical skills alone do no lead towards perceived behavioral control to be self-employed.

The proceeding hypothesis namely H16, H117, H18, H19, and H20 are formulated on the positive effect of EPS on stakeholders' support system of IT employees in Punjab, Pakistan; the positive effects of leadership skills on stakeholders' support system of IT employees in Punjab, Pakistan; the positive effects of managerial skills on stakeholders' support system of IT employees in Punjab, Pakistan; the positive effects of personal maturity skills on stakeholders' support system of IT employees in Punjab,

Pakistan; and the positive effects of technical skills effect on stakeholders' support system of IT employees in Punjab, Pakistan.

To begin with H16, which hypothesizes the positive effect of entrepreneurial personal skills on the stakeholder's support system. The results provide evidence of a positive significant effect of entrepreneurial personal skills on the stakeholder's support system. The skills of scanning the environment, developing innovative products and services, and generating solutions to emerging needs are positively related to the individual's perceived support from their closer environment of family and friends and from government, and effect to a person's favorable evaluation of becoming self-employed. Additionally, the findings further suggest that individuals with higher levels of entrepreneurial personal skills have a higher degree of desirability to start a business, and in turn, become self-employed.

The findings of this study with coherent social capital literature, which emphasized that entrepreneurial behavior could be related to the closer links with family or friends. It further extends with this view that the support from family and other environmental sources could exert their influence directly on the perceived desirability as a consequence of the cognitive values and beliefs conforming individual's perceptions towards a career (Uphoff 2000; Grootaert and Bastelaer, 2001).

The findings are also in line with this view that the environmental or institutional factors reflect the social dynamics of entrepreneurship, where the level of entrepreneurial activity within a community is an unintended consequence of many individual choices with respect to entrepreneurship (Bygrave and Minniti 2000). Therefore, it is suggested that focusing on identifying and developing the entrepreneurial personal skills can result the higher perceived support in the selection of entrepreneurship as a career.

The next hypothesis H17 assumed the effect of leadership skills on stakeholders' support system. As per hypothesized, the results are not supported the assumed leadership skills' effect on the stakeholders' support system of IT employees in Punjab, Pakistan. The results are failing to provide the evidence that individuals with a higher level of leadership skills are having higher perceived support, which in turn, become self-employed.

The findings of this study may affect from the region selected for the empirical analysis, and according to these results, it might be said that the insignificant effect of leadership skills on stakeholders' support among IT employees in Punjab, Pakistan, can be explained by two reasons. In Pakistan, people with higher levels of leadership skills are not confident to show their intentions to become entrepreneurs due to low level of structural support, which results the increase the fear of failure. As per Global

Entrepreneurship Monitor (2012) and Sarfraz and Qureshi (2013), the fear of failure in Pakistan is much higher than as compared to other countries.

The proceeding hypothesis H18, which assumed that managerial skills have positive effect on stakeholders' support system. After analyzing the results, it was found that managerial skills significantly effect on a stakeholders' support system of employees working in IT companies in Punjab, Pakistan. This finding also supports the understanding of numerous studies, which recognized the significant impact of skills on developing entrepreneurial intentions. The results of this study are in line with Maurizio Sobrer Roberts and Fusfeld (1981), who claimed that a high level of managerial skills are required for individuals who involved in high-technology firms and these skills are, in fact, predictors of entrepreneurial activities (Riccardo, Grimaldi, & Marzocchi., 2009). Papulova (2007) also recognized the managerial skills imperative for an individual to be self-employed.

The results are also in line with Baum et. al., (2001), who empirically showed that managerial skills had an impact on entrepreneurship process. To sum up, the individuals' higher level of managerial skills, such as, planning, organizing, supervising, directing, networking, learning, and problem-solving effect positively on the intentions to start a business and become self-employed. Therefore, this study suggests that identification and development of managerial skills should be focused since it can improve the intentions to become an entrepreneur.

With respect to personal maturity skills, which hypothesized in H19, to be positively effect on stakeholders' support system. The findings are not in support the positive significant effect of personal maturity skills on stakeholders' support system of IT employees in Punjab, Pakistan. The findings of this study may also affect from the region selected for the empirical analysis, and according to these results, it might be said that the insignificant effect of personal maturity skills on stakeholders' support among IT employees in Punjab, Pakistan, can be characterized by low levels of perceived formal and structural support in Pakistan (Haque, 2007; Sarfraz & Qureshi, 2013).

Proceeding to H20, which suggests the positive effect of technical skills on a stakeholders' support system of IT employees in Punjab, Pakistan. Similar to the managerial skills, the results also found evidence of significant positive effect of technical skills on stakeholders' support system of IT employees in Punjab, Pakistan. The findings of this study suggest that individuals with a higher level of technical skills are having more confident to perceive higher support from the environment (Gerald & Saleh, 2010).

The results are also in line with the work of Lichtenstein and Lyons (1996), who concluded that the most successful entrepreneurs had technical skills beyond just producing the product or service. Similarly, Gupta and Govindarajan (2000) postulate

that technical and procedural skills are fundamental in technology-intensive entrepreneurial environments like IT companies. In addition, Baum, et. al., (2001) empirically provide the evidence of the effect of that technical, procedural and managerial skills on entrepreneurial intentions.

5.3.4 Positive Relationship between attitude towards behavior, perceived behavioral control, stakeholders' support system, and Entrepreneurial Intentions of IT employees in Punjab, Pakistan.

The third objective of this study is to examine the positive relationship between attitude towards behavior, perceived behavioral control, stakeholders' support system, and entrepreneurial intentions of IT employees in Punjab, Pakistan. To achieve the third objective of this study 3 direct relationships between the attitudes towards behavior, perceived behavioral control, stakeholders' support system and entrepreneurial intentions of IT employees in Punjab, Pakistan were tested in H21, H22, and H23. To start with the direct relationship between attitude towards behavior and entrepreneurial intentions, H21 was tested, since one of the criteria for the mediation to hold is the relationship between independent variable to the mediator and the mediator to dependent variable (Preacher & Hayes, 2008). As hypothesized that attitude towards behavior positive effect on developing the entrepreneurial intentions of IT employees in Punjab, Pakistan, the results provide strong evidence of the significant effect of attitude towards behavior on developing entrepreneurial intention of IT employees in Punjab, Pakistan.

In the current study, the relationship between attitude towards behavior and entrepreneurial intentions directs that individuals, who have higher perceived

desirability to start a business, will have better intentions to become entrepreneurs. The results of the current study also supported by several studies, which have been reported that the attitude towards behavior or perceived desirability to start a firm influence on developing entrepreneurial intentions (Ajzen, 1991; Chen, 2009; Franke & Luthje, 2004; Linan, 2008; Lichtenstein & Lyons, 1996; Lorz, 2011; Kolvereid, 1996; Krueger & Brazeal, 1994; Shapero & Sokal, 1982; Smith et. al., 2007; Souitaris, Zerbinati & Al Laham, 2007).

The next direct relationship was tested in H22, which assumed the positive effect of perceived behavioral control on the entrepreneurial intentions of IT employees in Punjab, Pakistan. The statistical results indicate the significant positive effect of perceived behavioral control on developing entrepreneurial intentions of IT employees in Punjab, Pakistan, therefore H22 is supported.

The findings of this study are in line with the Social Cognitive Career Theory (Lent, Brown & Hackett, 1994, 2000, 2008), and the theory of planned behavior (Ajzen, 1991), which established that entrepreneurial self-efficacy or perceived behavioral control mediate the relationships between both person and distal contextual factors and entrepreneurial intentions, as well as the relationships between both person and distal contextual factors and outcome expectations (Bandura, 1997; Ajzen, 1991). Taken together these effects, which reflect the self-efficacy's multifaceted utility, as it has been described to influence "the courses of action people choose to pursue, how much

effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with environmental demands, and the level of accomplishments they realize" (Bandura, 1997: 3).

The third direct relationship between the stakeholders' support system and the entrepreneurial intentions was tested in H23. H23, which suggests the significant positive effect of stakeholders' support system on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. The statistical result confirms this significant positive effect of stakeholders' support system on developing entrepreneurial intentions of IT employees in Punjab, Pakistan. The stakeholder's support system, which consist of the perceived social (family, friends, and significant others) and environmental (institutional and government) pressure and support (Ajzen 1991; Grootaert and Bastelaer, 2001) to perform the entrepreneurial behavior. The findings of this study confirm the results of several studies indicating that the favorable effect of stakeholders' support system on entrepreneurial intentions (Ajzen, 1992; Cooper 1993; Linan, 2008; Kennedy et al. 2003; Matthews and Moser 1996; Rengiah & Santosa 2014; Scherer et al. 1991).

The findings of the current study support the "Social Factor Model" for informal support from family and friends, which in turn, leads towards entrepreneurial

intentions. This model stresses that individual's background and family history are early life experiences and provide a growth environment for entrepreneurial activities (Alstete 2002; Greene et al. 1996; Robinson et al. 1991). The results of H23 also supported by the "Career Socialization Theory" that advocated that mother or father's entrepreneurship history affect the children's selection of entrepreneurial career than working for others (Dyer, 1992).

5.3.5 The Mediating effect of Attitude towards behavior in the Relationship between Entrepreneurial skills-set and Entrepreneurial intentions.

The forth objective of this study is to examine whether attitude towards behavior positively mediates the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan. For this purpose, five mediating hypotheses were formulated and tested using the bootstrapping method (Preacher & Hayes, 2008). Specifically, hypotheses H24, H25, H26, H27, and H28 were tested to see the the mediating role of attitude towards behavior.

To achieve the mediation objective, the mediating role of attitude towards behavior started to examine from H24, which suggests that attitude towards behavior mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The result of statistical analysis indicates that attitude towards behavior significantly mediates the relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The findings suggests that high perceived desirability to start a

business positively mediate the relationship between entrepreneurial personal skills and developing entrepreneurial intentions to become entrepreneur.

Similar to the results of H24, the statistical results of this study support that attitude towards behavior positively mediate the relationship between leadership skills and developing entrepreneurial intentions in H25. The results of this study also supported by the fundamental research of Ajzen & Fishbein (1980), Ajzen (1991), and Davis et al. (1989), which suggest that an individual's behavior is determined by his or her intentions to perform the specific behavior, and these intentions are a function of his or her attitude towards this behavior. Likewise, the study of Autio et al. (1997), who observed the effect of attitude in the selection of entrepreneurship as career and established that a positive input of person's general attitude towards entrepreneurial belief. Furthermore, the research conducted by Franke and Luthje (2004), who also confirmed a significant positive relationship between attitude towards entrepreneurial behavior and entrepreneurial intentions.

The next hypothesis H26 was formulated to test the mediating role of attitude towards behavior on the relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The result indicates the positive mediating effect of attitude towards behavior on the relationship between managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. Similarly, H27 suggests that attitude towards behavior positively mediates the relationship between

personal maturity skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The findings of this study confirmed the results of previous studies, which reported the positive mediating role of attitude towards behavior (Ajzen, 1991; Chen, 2009; Franke & Luthje, 2004; Linan, 2008; Lichtenstein & Lyons, 1996; Lorz, 2011; Kolvereid, 1996; Krueger & Brazeal, 1994; Shapero & Sokal, 1982; Smith et. al., 2007; Souitaris, Zerbinati & Al Laham, 2007).

The findings of the current study, therefore, suggest that the attitude towards the entrepreneurial activity positively mediates the relationship between managerial skills and entrepreneurial intentions of IT employees is Punjab, Pakistan. Additionally, the findings also support the positive mediating effect of attitude towards the entrepreneurial activity on personal maturity skills and entrepreneurial intentions of IT employees is Punjab, Pakistan.

With respect to H28, which suggests that attitude towards behavior positively mediates the relationship between technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The statistical results, however, indicate that attitude towards behavior does not mediate the relationship between technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. This result, conversely, are not surprising given the fact that the path from technical skills to attitude towards behavior was insignificant in the direct relationship as reported earlier. Therefore H28 is not supported.

In this study, technical skills was the only variable, which did not support the mediating effect of attitude towards behavior on the relationship between technical skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The results of data analysis confirmed the mediating effect of attitude towards behavior on the relationship between; entrepreneurial personal skills and entrepreneurial intentions; leadership skills and entrepreneurial intentions; managerial skills and entrepreneurial intentions; and finally personal maturity skills and entrepreneurial intentions.

In the current study, the variable of attitude towards behavior contributes 43% to entrepreneurial intentions. Therefore, it can be concluded that in line with previous studies (Ajzen, 1991; Chen, 2009; Franke & Luthje, 2004; Linan, 2008; Lichtenstein & Lyons, 1996; Lorz, 2011; Kolvereid, 1996; Krueger & Brazeal, 1994; Shapero & Sokal, 1982; Smith et. al., 2007; Souitaris, Zerbinati & Al Laham, 2007), attitude towards behavior has a significant positive mediating effect on the relationship between entrepreneurial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. In the Pakistani context, it was stated in the literature that the educational institutions and SMEDA can play a significant role through its programs and activities and that stresses the importance and build the confidence of young people to increase the desirability to become an entrepreneur (GEM, 2012; Zainal Abidin & Bakar 2004).

5.3.5 The Mediating effect of perceived behavioral control in the Relationship between Entrepreneurial skills-set and Entrepreneurial intentions.

The fifth objective of this study is to examine whether perceived behavioral control positively mediates the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan. For testing the mediating effect of perceived behavioral control, five mediating hypotheses namely H29, H30, H31, H32, and H33 were formulated and tested to examine the mediating effect of perceived behavioral control on the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.

After confirming the direct relationship between perceived behavioral control and entrepreneurial intentions, the mediation objective was then examined by testing the mediating role of perceived behavioral control in the relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The first hypothesis to achieve this objective was H29, which proposed the significant positive effect of perceived behavioral control on the relationship between entrepreneurial personal skills and entrepreneurial intentions. The result of statistical analysis indicates that perceived behavioral control significantly mediates the relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The findings suggest that high perceived feasibility to start a business positively mediate the relationship between entrepreneurial personal skills and developing entrepreneurial intentions to become entrepreneur.

Similarly, the hypothesis H31, which assumed the significant positive effect of perceived behavioral control on the relationship between managerial skills and entrepreneurial intentions found support from statistical analysis. Therefore, H31 is supported. The findings of the hypotheses H29 and H31 are in line with the previous researches, which have been provided evidence that the relationship between certain personality constructs and one's intentions is mediated by perceived behavioral control (Green, & Borgen, 2002; Nauta, 2004; Rottinghaus). Similarly, Chen et al. (1998) provide evidence for the relationship between entrepreneurial perceived behavioral control and intentions. Likewise, Zhao and Colleagues (2005) provide empirical evidence that perceived behavioral control mediates the relationships between formal learning, experience and risk propensity and entrepreneurial intentions.

Henceforth, the results of H23 show that there is a mediating effect of perceived behavioral control between entrepreneurial personal skills and entrepreneurial intentions. This mediating relationship was also examined between leadership skills and entrepreneurial intentions, but as hypothesized H24, the result does not support the mediating effect of perceived behavioral control. The next hypothesis H25 presents that perceived behavioral control has mediating effect between the relationship of managerial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The results confirm the mediating role of perceived behavioral control between managerial skills and entrepreneurial intentions of IT professionals. On the other hand, the results of H26 and H27 fail to provide evidence of mediating effect of perceived behavioral control between personal maturity skills and

entrepreneurial intentions and technical skills and entrepreneurial intentions simultaneously. Thus, H26 and H27 are rejected.

Theoretical arguments and empirical research support the idea that perceived behavioral control and outcome expectations directly influence one's goals or intentions; self-efficacy beliefs and outcome expectations each accounted for approximately 27% of the variance in goals or intentions and choice actions (Lent, Brown & Hackett, 1994). Moreover, according to Lent and colleagues (Lent, Brown & Hackett, 1994, 2000), an individual's vocational interests, goals or intentions, and choice actions reflect concurrent self-efficacy beliefs and outcome expectations, thus self-efficacy and outcome expectations are directly associated with intentions.

In support of this prescription, research suggests that the relationship between certain personality constructs and one's intentions is mediated by perceived behavioral control (e.g., Nauta, 2004; Rottinghaus, Lindley, Green, & Borgen, 2002). Further, specific to the entrepreneurship domain, Chen et al. (1998) provide evidence for the relationship between entrepreneurial perceived behavioral control and intentions, and Zhao and colleagues (2005) provide initial evidence that entrepreneurial perceived behavioral control mediates the relationships between formal learning, experience and risk propensity and entrepreneurial intentions. Therefore, given the theoretical arguments for perceived behavioral control's mediating effect (Bandura, 2001). Consequently, aligned with literature, it can be concluded that perceived behavioral control has a

mediating effect in the relationship between entrepreneurial skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

5.3.5 The Mediating Effect of Stakeholder's support on the Relationship between EPS, LS, MS, PMS, TS and Entrepreneurial Intentions.

The sixth objective of the study is to examine the mediating effect of stakeholders' support system on the positive relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan. For testing the mediating effect of stakeholders' support system, five mediating hypotheses were formulated and then tested using the bootstrapping method (Preacher & Hayes, 2008). Specifically, hypotheses H29, H30, H31, H32, and H33 were tested to examine the mediating effect of stakeholders' support system on the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.

Stakeholders' support system can be categorized into two forms; informal support and structural support. Informal support refers to the perception that "reference people" would, or would not, approve of the decision to become an entrepreneur (Ajzen 2001). In general, this type of norms tends to contribute more weakly on intention (Armitage and Conner, 2001) for individuals with a strong internal locus of control (Ajzen 2002) than for those with a strong action orientation (Bagozzi 1992). The findings are in line with the theory of planned behavior (Ajzen & Fishbein, 1991), which states that the component of subjective norm or supports from society and friends have an effect on entrepreneurial intentions (Davidsson 1995). Similarly, in the Pakistani context,

mostly nascent entrepreneurs have a family history of entrepreneurship (Haque, 2007; Sarfraz & Qureshi, 2011).

The findings of the current study support the "Social Factor Model" for informal support from family and friends, which in turn, leads towards entrepreneurial intentions. This model stresses that individual's background and family history are early life experiences and provide a growth environment for entrepreneurial activities (Alstete 2002; Greene et al. 1996; Robinson et al. 1991). The results of H23 also supported by the "Career Socialization Theory" that advocated that mother or father's entrepreneurship history affect the children's selection of entrepreneurial career than working for others (Dyer, 1992).

To attain the sixth objective of this study, the mediating role of stakeholders' support system (structural and informal support) was examined in H34, which suggests that stakeholders' support system (structural and informal support) mediates the positive relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan. The result of statistical analysis indicates that (structural and informal support) significantly mediates the relationship between entrepreneurial personal skills and entrepreneurial intentions of IT employees in Punjab, Pakistan.

The findings of this study are in line with previous studies that indicate the positive effect of stakeholders' support system on developing entrepreneurial intentions (Ajzen, 1992; Cooper 1993; Linan, 2008; Kennedy et al. 2003; Matthews and Moser 1996; Rengiah & Santosa 2014; Scherer et al. 1991). The findings suggest that high perceived structural and informal support to start a business positively mediate the relationship between entrepreneurial personal skills and developing entrepreneurial intentions to become an entrepreneur.

Similar to the results of H34, the proceeding hypotheses H36 and H38 that assumed the positive mediating effect of stakeholders' support system on the relationship between managerial skills and entrepreneurial intentions and technical skills and entrepreneurial intentions respectively, are found supported. The statistical results provide evidence of the significant positive mediating effect of stakeholders' support system (structural & informal) on the relationship between managerial skills and entrepreneurial intentions, and therefore H36 is supported. Likewise, the results also reveal that stakeholders' support system (structural & informal) has a significant positive mediating effect of on the relationship between technical skills and entrepreneurial intentions. Thus H38 is supported

The findings of this study are supported the several researches, which established that the subjective norm (support from family and environment) mediate the relationship between exogenous factor and entrepreneurial intentions (Ajzen, 1992; Cooper 1993;

Linan, 2008; Krueger & Brazeal, 1994; Kennedy et al. 2003; Matthews and Moser 1996; Rengiah & Santosa 2014; Scherer et al. 1991). In line with the findings of this study, it can be suggested that individuals' expectations from family members, friends and significant others (government & financial institutions) are the key influencing factors that significantly affect their intentions to become entrepreneurs. Accordingly, closer environment expectations related to personal attraction, informal support, and support from government and others (Gelard & Saleh, 2010; Lorz, 2008). The findings of this study, are therefore, suggest that high perceived structural and informal support to start a business positively mediate the relationship between entrepreneurial personal skills and developing entrepreneurial intentions to become an entrepreneur.

The hypotheses H35was formulated to examine the mediating effect of stakeholders' support system on the relationship between leadership skills and entrepreneurial intentions. The statistical results are failing to provide the evidence of the significant positive mediating effect of stakeholders' support system (structural & informal) on the relationship between leadership skills and entrepreneurial intentions, and therefore H35 is not supported.

Similarly, H37 which assumed the significant positive mediating effect of stakeholders' support system on the relationship between personal maturity skills and entrepreneurial intentions, did not find the support from statistical analysis. The statistical results show that there is no significant positive mediating effect of

stakeholders' support system (structural & informal) on the relationship between technical skills and entrepreneurial intentions, and therefore H37 is not supported. The findings of this study confirm the results of several studies, which found no significant direct relationship between subjective norms and entrepreneurial intention. However, the social capital literature provides evidence indicating that these elements favorably affect personal attraction and self-efficacy. (Scherer et al. 1991; Cooper 1993; Matthews and Moser 1996; Kennedy et al. 2003; Liñán and Santos 2007).

The sixth objective of this study was to examine whether stakeholder's support system positively mediates the relationship between entrepreneurial EPS, LS, MS, PMS, TS and entrepreneurial intentions. The PLS path model result reveals that the stakeholders' support system (structural support and informal support) contribute 52.5 % variance in the model. The findings of the mediating role of stakeholders' support system are coherent with Cohen & Cohen (1983), who established that family roles and formal network and structural support contribute significantly to the model (Ajzen, 1991; Cohen & Cohen, 1983; Gelard & Saleh, 2010; Shapero, 1982). The results of the path analysis indicate the significant positive mediating effect of stakeholders' support system on the relationship between EPS, MS, TS and entrepreneurial intentions. However, the findings of this research are not supported the significant positive mediating effect of stakeholders' support system on the relationship between LS, PMS, and entrepreneurial intentions.

Based on the findings of this study, it is therefore, suggested that the perceived higher structural support from government and financial institutions, and informal support from family and friends increase the intentions of a person to start his or her own business, which in turn, provide the base for flourishing entrepreneurial activity in the society. Furthermore, it is also suggested that in the context of Pakistan, the government should focus on facilitating young professional to provide structural support and the support from other institutions make the entrepreneurial activity more desirable and feasible, so that the entrepreneurial environment can be flourished.

5.4 Implications for Theory and Practice

Governments, public and private institutions, practitioners and academic researchers in the area of and entrepreneurship and entrepreneurship education have given a lot of consideration to the entrepreneurial intentions and exogenous factors, influencing and affecting behavior. Based on the findings of this research work, the study has more than a few important implications, specifically in terms of entrepreneurial skills in the context of Pakistan. The results of this study provide practical, theoretical and methodological implications. These implications are discussed in the following sub-sections.

5.4.1 Theoretical Implications

The theoretical perspective of this study has contributed significantly to the study on entrepreneurial skills by providing a clearer theoretical perspective on entrepreneurial skills set, entrepreneurial intentions, attitude towards behavior, perceived behavioral control, and stakeholder's support system and the relationship between entrepreneurial skills and entrepreneurial intentions. Moreover, this study gives a better understanding

of the mediating effect of attitude towards behavior and perceived behavioral control in the relationship between the EPS, LS, MS, PMS, TS and entrepreneurial intentions. The study, based on the Theory of Planned Behavior, and Social Cognition Career Theory, as the underlying theories for this study. The findings of this study also validate the respective theories.

5.4.2 Methodical Implications

The methodological perspective of this study contributed significantly to the study on entrepreneurial skills by assessing and validating entrepreneurial skills set variables of technical, managerial, personal maturity, entrepreneurial personal, and leadership, with the mediating effects of attitude, perceived behavioral control and stakeholder' support systems in a different setting that is, in the context of Pakistan. Additionally, preceding studies on entrepreneurial intentions and skills have mainly used SPSS and or AMOS, but to the best knowledge of the researcher, very few have utilize the SmartPLS-SEM 3.0 (Ringle *et al.*, 2014) to produce results. Moreover, composite reliability, convergent validity and discriminant validity were assessed and found to be satisfactory, above the required threshold. Hence, the current study represents a further contribution to methodology and literature of entrepreneurial intentions and entrepreneurial skills by establishing validity and reliability of the adapted measures in the Pakistani context.

5.4.3 Practical Implications

The finding of the this study provides useful insights for the Government of Pakistan, which is responsible to provide all basic facilities to the people, so that it could not only develop numerous qualities in the people, but also create positive impact on

economic improvement of the people. Basic facilities include, stress-free financial funding policies, low-cost loan facility with soft terms and conditions, stable political condition, conduct public awareness programs, higher education facilities, adequate infrastructural facilities can be of great help to the development of better skills in the people. Nascent entrepreneurs cannot survive without having an adequate infrastructure like electrical energy, water, roads and rail network, transportations, telecom services, necessary proficiency training, adequate educational system at all stages. The government is accountable to provide all these facilities to private enterprises. It is also very essential whether district level or provincial level as well as federal government responsibility to provide above mentioned facilities.

The findings also highlight that in Pakistan, the government should support the IT professionals by providing them support in interest free loans, access to the financial institutions, access to the finance and credit for entrepreneurs with easier access to funds for all businesses, free trade facility for both local and international markets. It is also required by the government to provide the excellence of mentoring facilities for IT and CS professionals, particularly with consider to counsel at start-up, expanding market for entrepreneurs, support entrepreneurship development programs, and funding for support information, the consciousness of business prop up opportunities. Additionally, the study also highlights that too much time is spent on processing the loan applications to disburse the approved loans and have complicated procedures (Sarfraz & Qureshi, 2013). The study suggests to resolve these issues by having a simple loan application without complicated procedures and a one-stop center that

would consolidate the government financing, where all the parties could obtain standardized information on financing schemes.

The present study will contribute significantly to the operational elements of the educational systems of education and specifically information technology based programs, with regard to the quality of programs, skills development approaches, sponsorship from the government, government-linked organizations and financial institutions, and the stakeholders' support system of the IT graduates or working employees. The study could assist both the internal and external stakeholders in understanding the unemployment situation of the country and how entrepreneurial skills along with support could be motivated with a world-class education system, and structural support as focused by the Government of Pakistan.

5.5 Recommendations

5.5.1 Role of the Higher Education Institutions

The Pakistani higher education institutions need to review their curriculum in order to flourish entrepreneurship in the country. Pakistani universities and institutions of higher learning need to establish an entrepreneur friendly culture to impart entrepreneurial intentions among students during the study. The teaching methodologies and pedagogical approaches need to be revamped. They have to create an entrepreneur friendly environment to instill entrepreneurial behavior among the students. It is possible when they start promoting an entrepreneurial culture through introducing of entrepreneurial courses in all programs and endorsing entrepreneurial

activities. For this purpose, incubation centers of entrepreneurship could be established to flourish entrepreneurial activities. As a result, the participants will exposed to practical experiences of entrepreneurship.

The Pakistani universities should support an entrepreneurship culture across campuses to inspire the participants' decisions to be self-employed. It will help to portray an attractive picture to be self-employed as a career option to draw the students' attention. Even though individuals have the relevant knowledge and skills, they must have an interest, motivation and a positive image to venture into the business field. However, the current programs and activities in Pakistani universities do not aligned with the government policies, therefore, it is a need to stress and encourage a strategic direction towards entrepreneurship to achieve the national objectives. Suggestions are for extended internship programs, entrepreneurial trainings, technology spin-off activities, incubation centers, partnership with SMEs and chamber of commerce that are entrepreneurially inclined.

5.5.2 Attitude of IT Employees towards Entrepreneurship

Individuals relevant to information and technology fields, are considered as proactive, creative and innovative learners, and should have exceptional personality traits and skills, directed to entrepreneurship. Keeping in view their strengths, the Pakistani higher education institutions need to design a scheme of study that would suit to entrepreneurial learning purpose, and change their traditional pedagogical methods to more on practical learning approach and experiential learning. Information technology and computer sciences students should have access to unconventional teaching

methods such as: internships in software houses, entrepreneurial simulations and activities, spin-offs, business plan competitions and focus on more technology-related business activities. They should be exposed to more on analytical, interpersonal, personal maturity, creative thinking, problem-solving, innovation, decision-making, effective communication skills, and entrepreneurial personal skills in their academic programs and activities to inspire them towards entrepreneurship.

The focus of all aforementioned approaches and activities should identify and exploit an individual's creativity, analytical and working skills, and even with the intent of changing of behavior towards entrepreneurship. Preparing them for business plans and starting business projects would increase their attitude towards entrepreneurship, where they are actively involved in such projects which could eventually turn out as a small business for them in future. The universities could encourage internship and partnership with small medium industries, chamber of commences, software houses, and government departments for the students to actively participate and involve in business projects. However, the higher education institutions and government could do their best for the IT and other relevant areas in the new learning approach for inspiring them towards entrepreneurship , but it still depends on the attitude and cooperation of the individuals to be actively involved, participate in and having an interest in becoming future entrepreneurs in the country.

5.5.3 The Role of Pakistani Government

Government is responsible to provide all basic facilities to the people, so that it could not only develop numerous qualities in the people, but also create positive impact on economic improvement of the people. Basic facilities include, stress-free financial

funding policies, low-cost loan facility with soft terms and conditions, stable political condition, conduct public awareness programs, higher education facilities, adequate infrastructural facilities can be of great help to the development of better skills in the people. Nascent entrepreneurs cannot survive without having an adequate infrastructure like electrical energy, water, roads and rail network, transportations, telecom services, necessary proficiency training, adequate educational system at all stages. The government is accountable to provide all these facilities to private enterprises. It is also very essential whether district level or provincial level as well as federal government responsibility to provide above mentioned facilities.

Government has a pragmatic role to provide a supportive environment that facilitates individuals in identifying and developing entrepreneurial skills and capabilities in them. This role of facilitation and supporting includes, but not specifically, provide financial assistance policies and schemes, establishment of entrepreneurship incubation centers, structural support to the individuals, providing safe and crime free society to let entrepreneurs grow. These government policies not only assist nascent entrepreneurs to establish their own business and generating revenues for the government, but also helps in combating with the unemployment in the country. The following are some recommendations for Government to promote entrepreneurship in information technology sector in Pakistan;

i. Support Start-ups and SME sector through training, skills acquisition, international scholarships, national level competitions, certifications (e.g. CMMI) and connecting them to Angel and Start-up Funding Organizations.

ii. Advance entrepreneurship and Research and Innovation (R&I) by implementing a paradigm shift towards the strategic exploitation of traditional as well as emerging technology sectors such as biotechnology, nanotechnology, renewable energy, Internet of Things (IoTs) and Big Data etc. through innovation.

iii. Focus on international collaboration e.g. Newton Fund, to develop IT and innovation partnerships that promote the economic development and welfare.

iv. Promote a culture of entrepreneurship, through technology incubators within the IT community. Invest in creating the ecosystem that is needed for successful entrepreneurs to compete in global knowledge economies.

v. Help increase usage of internet through faster internet access at affordable data rates.

vi. Promote sector-wise digitization and entrepreneurship by developing viable and cost effective next generation services, applications and content that is relevant to key economic sectors for mass adoption and commercialization. Promote smart IT applications to facilitate Agriculture, Health, Education, Security and Media Sectors.

vii. Provide seed funding to pilot "Proof of Concept" projects of entrepreneurs to encourage localization, content creation and user adoption.

viii. Collaborate with technology industry associations, Academic & Industry incubation centers and stakeholders to promote the products produced by seed funding initiatives at national and international forums.

ix. Create incentives and initiatives for entrepreneurs for import substitution by helping the domestic IT and ITES industry build upon its success in traditional sectors of strength including banking, insurance, health and telecommunication applications.

x. Promote National Innovation and Entrepreneurship competitions in emerging ICT technologies across the country and their participation in relevant international events to gain global exposure and to attract international investors.

xi. Encourage financial institutions and major key Industry Players for the provision of funding for IT Start-ups.

xii. Setup awareness programs at school level to promote entrepreneurship along with exposure to success stories and mentorship

To encourage IT professional to be self-employed, the government can support them by providing support in interest free loans, access to the financial institutions, access to the finance and credit for entrepreneurs with easier access to funds for all businesses, free trade facility for both local and international markets. It is also required by the government to provide the excellence of mentoring facilities for IT and CS professionals, particularly with consider to counsel at start-up, expanding market for entrepreneurs, support entrepreneurship development programs, and funding for support information, the consciousness of business prop up opportunities. To turn out to be a facilitator, the government be supposed to perform a source of resources to prop up the advisory bodies. The government can generate cumbersome procedures to

provide the freedom and infrastructure for new enterprises and pioneering businesses, and assisting them to resolve industrial problems, and to hunt for knowledge and prop up advancement.

5.5.4 Role of Financial Institutions

The financial institutions set up in Pakistan for entrepreneurial development are: the First Women Bank, Apna micro finance bank, Commercial banks, Venture capital companies, Central Bank, Ministries and agencies. Their main role is the disbursement of loans to SME's and entrepreneurs and providing advisory services. There have been complaints that too much time is spent on processing the loan applications to disburse the approved loans and have complicated procedures. These issues could be addressed by having a simple loan application without complicated procedures and a one-stop center that would consolidate the government financing, where all the parties could obtain standardized information on financing schemes.

5.5.5 Parents and Extended family members

Individuals with close family members who own businesses are likely to become future entrepreneurs, compared to those who do not. The advantage of individuals with parents or close family members owning businesses is that, they are able to provide access to relevant information, markets, financial support, and other necessary resources for business information. The involvement of family in entrepreneurship creates a profound opportunity for understanding how entrepreneurship qualities develop. The individuals with entrepreneurial parents and family members have a strong tendency to develop a critical role in developing leadership values, styles and behavior. Entrepreneurial parents tend to provide inspiration, encouragement and support for their children at a young age to get involved in entrepreneurial activities.

The encouragement given by parents is the first step that directs the students to take up entrepreneurial activities.

Second is the continuous involvement in a family business that will enhance the individual's awareness and change their perceptions on entrepreneurial capabilities. Thirdly, the entrepreneurial parents would enhance the students‟ confidence in business through close guidance and monitoring them. Fourthly is when the students perceive their parents or family members as entrepreneurial leadership role models with whom they want to engage with in understanding and doing the business. Parents act as role models not only in their leadership style, but also in recognizing entrepreneurial opportunities and being adventurous in trying out new business ideas. The impact of family business goals will increase individual's intentions to start-up businesses and enhance their perceived behavioral control in leading entrepreneurial activities. The parents who are not entrepreneurs should also encourage their children to be involved in entrepreneurial activities.

5.6 Limitations of the Study

The findings in the present study display some shortcomings. These limitations need to be recognized when interpreting the findings of this study, while at the same time recognizes the opportunities which it presents for further research. The limitations are discussed below.

The present study was conducted in the province of Punjab, Pakistan and most of the data were collected from big cities (Rawalpindi, Faisalabad, Lahore, Gujranwala, and Multan). There are other provinces and big cities of Pakistan and can be focused for assessing entrepreneurial intentions, but not included in the study. Thus, the study is limited to only the province of Punjab in Pakistan. The study examined the relationships between entrepreneurial skills and entrepreneurial intentions and the mediating effects of attitude, perceived behavioral control and stakeholders' support systems in the relationships. The study is limited to the relationship between these variables only.

The study utilizes the simple random sampling technique to determine the sampling size. Due to the sampling technique employed, the finding is limited to the sampling technique. The sample of the population might have underrepresented, as among them were other software houses, which are not registered with SECP Pakistan but working in Pakistan. The population of this study was a small percentage of the total population. The finding is limited to the sample population. Samples of the study are IT employees working with companies registered with Security and exchange commission of Pakistan. The study does not take into account of all the views of IT employees working with other than SECP registered firms in Pakistan.

The present study used a cross-sectional study, and not a longitudinal study to view entrepreneurial intentions among IT employees. The finding of the research is limited to a cross-sectional study. Factors like employees' intentions are likely to change over

time and could be influenced by other factors not covered in the research study. The constructs were measured with multi-items scales and may result in loss in scale validity and reliability.

5.7 Suggestions for Future Research

Considering the limitations of the present study, there are promising avenues for future research. It is proposed that further research should consider the following areas or aspects. The present study was conducted to examine the mediating effect of attitude towards behavior and perceived behavioral control, and stakeholders' support system in the relationship between entrepreneurial skills and entrepreneurial intentions in Punjab, Pakistan. Future research may be conducted in other provinces y modifying some of the dimensions found in the present study. Such studies could enrich knowledge on variables in the evaluation of entrepreneurial intentions within the entrepreneurial skills set settings. The present study employed the survey method that used a set of questionnaires as measurement scale. Future studies could consider the use of other tools, such as interviews and focus groups, to collect the required data for assessing entrepreneurial skills and entrepreneurial intentions. In the present study, the instrument measured perceptions. The study employed was the survey method using a set of questionnaires. Through this method, the research attempts to predict entrepreneurial intentions, by asking what they will do and make assumptions about their behavior based on how they have answered the questionnaire. The present study emphasizes on what the respondents say and they will do, or what the researcher assumes they will do. Future research should emphasize on what the respondents do by using the direct interaction research method or interview methods. The primary

benefit of this method is that it allows the researcher to employ the direct interaction, whereby the researcher may have direct contact with the respondents and the contact personnel during the interactions. Through this method there will be a two-way communication, where any unclear questions or doubts could be answered.

The present study is limited to only IT employees. Future research could be conducted with non-IT employees, in the fields of engineering, hospitality, legal, architecture, accounting and medical fields. The study is also limited to only province of Punjab in Pakistan. There is a likely tendency that further research needed to be conducted to assess the employees in another geographic area in Pakistan. The current research focuses on cross-sectional study and does not examine the entrepreneurial intentions on a time-line basis. The time frame between the employees' job and their involvement in entrepreneurial activities is not taken into account. Further research could be conducted to examine the entrepreneurial intentions on a longitudinal study to evaluate the number of employees who have turned entrepreneurs in the country. This assertion needs to be validated by further research that includes independent replications. The mediator model could be expanded and validated beyond the attitude and perceived behavioral control. Further research exploring the relationship between entrepreneurial skills set and entrepreneurial intentions is necessary and appropriate.

5.8 Conclusion

The main purpose of this research work is to examine the relationship between entrepreneurial skills and entrepreneurial intentions along with mediating roles of

attitude and perceived behavioral control and moderating effect of stakeholders' support system in Punjab, Pakistan. This research has achieved all the five objectives as discussed in chapter 1. The conclusion and findings of this study has discussed the five research objectives developed for the study in the context of Punjab, Pakistan.

The first object of this study was to examine the impact of entrepreneurial skills set on developing entrepreneurial intentions. The second objective was to examine the positive effect of EPS, LS, MS, PMS, and TS on ATB, PBC, and SS. The third objective of this study was to examine the interaction of attitude towards behavior, as a mediator between the relationship of EPS, LS, MS, PMS, TS and entrepreneurial intentions. The fourth objective was to examine the perceived behavioral control, as a mediator between the relationship of EPS, LS, MS, PMS, TS and entrepreneurial intentions. The fifth objective was to examine to assess the mediating effect of stakeholders' support on the relationship between EPS, LS, MS, PMS, TS and entrepreneurial intentions of IT employees in Punjab, Pakistan.

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Appendix A

Research Questionnaire

QUESTIONNAIRE:

Dear Sir/Madam,

I am pleased to inform you of the aforementioned study, which is currently undertaken by UUM. Mainly this study aims to evaluate the effects of entrepreneurial skills in developing the entrepreneurial intentions among the employees of IT companies in Punjab, Pakistan. This is an academic research and will be helpful in understanding the factors affecting entrepreneurial skills. For this purpose. This is self-administered questionnaire and it will take 5-10 minutes to complete.

The analysis of all the questionnaires will provide the basis for identifying best practices, highlighting the key critical factors and building a proposed model for the implementation. I would highly appreciate your participation, since the success of the research is dependent upon receiving the maximum number of responses. Your response is very important and will be kept strictly confidential for the sake of knowledge. Your answers will of course be treated confidentially and the information will only be used for the purpose of this study. The questionnaire has been designed to make completion simple, easy, and speedy.

I am looking forward to receive your completed questionnaire as soon as possible and many thanks for your kind support and the cooperation.

Yours sincerely,

Muhammad Salman Shabbir

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Supervisors:

Prof.Dr. Noor Mohd Noor Shariff

Dr. Arfan Shahzad (Co-Supervisor)

Order of Birth

- Eldest
- Youngest
- Only Child
- None of the above

Father's working Status

- Business
- Full-time
- Part-time
- Not working
- Deceased (Late)

Mother's working Status

- Business
- Full-time
- Part-time
- Not working
- Deceased (Late)

Family History of Entrepreneurship (having own business)

- Parents
- Siblings (Sisters/brothers)
- Relatives
- None

Working Experience

- 1 year
- 2 Years
- 3 years
- 4 Years
- More than 5 years

Have you ever taken any entrepreneurship course(s)?

- Yes
- No

Location of your company

- Rawalpindi
- Lahore
- Multan
- Faisalabad
- Gujranwala
- Other …….

About yourself						
	Position	❑ Director _____	❑Manager	❑Supervisor/team leader	❑Developer	❑Other:

1	Gender	❑ Male ❑ Female
2	Age	❑ Up to 25 years ❑26-30 years ❑31-35 years ❑36-40 years ❑41-45 years ❑46-50 years ❑51-55 years ❑56-60 years ❑ More than 60 years
4	Educational background	❑ Doctoral degree ❑ Masters in Computer Sciences ❑ MIT (Master in Information Technology) ❑ Master degree other subjects ❑ Bachelors degree (4 years) ❑ Bachelors degree (2 years) ❑Diploma or equivalent ❑ Others:_____
About your organization		
3	No of employees	❑ Less than 10 ❑10-20 ❑20-50 ❑50-100 ❑101-150 ❑151-250 ❑250 above
5	Ownership	❑Sole proprietorship ❑ Partnership ❑Joint venture ❑limited company ❑Joint stock corporation ❑Others:_____
1	Years of operations	❑ Less than 5 years ❑6-10 years ❑11-15 years ❑15-20 years ❑more than 20 years

Attitude toward behavior

	Read each of the following items carefully and try to decide how true the statement is in describing you. Indicate your level of agreement with the following statements. Please encircle only one box of each statement.	Strongly disagree	Moderately disagree	Slightly disagree	Neutral	Slightly agree	Moderately agree	Strongly agree

	Being an entrepreneur implies more advantages than disadvantages to me	1	2	3	4	5	6	7
	A career as an entrepreneur is attractive for me	1	2	3	4	5	6	7
	If I had the opportunity and resources, I would like to start a business	1	2	3	4	5	6	7
	Being an entrepreneur would entail great satisfactions for me	1	2	3	4	5	6	7
	Among various options, I would rather be an entrepreneur	1	2	3	4	5	6	7
Perceived behavioral control								
	To start a firm and keep it working would be easy for me	1	2	3	4	5	6	7
	I am prepared to start a viable company	1	2	3	4	5	6	7
	I can control the creation process of a new firm	1	2	3	4	5	6	7
	I know the necessary practical details to start a firm	1	2	3	4	5	6	7
	I know how to develop an IT company	1	2	3	4	5	6	7
	If I tried to start a firm, I would have a high probability of succeeding	1	2	3	4	5	6	7
Entrepreneurial Intentions								
	I am ready to do anything to be an entrepreneur	1	2	3	4	5	6	7

1	My professional goal is becoming an entrepreneur	1	2	3	4	5	6	7
1	To start my own company would probably be the best way for me to take advantage of my education.	1	2	3	4	5	6	7
1	I will make every effort to start and run my own firm	1	2	3	4	5	6	7
1	I am determined to create a firm in the future	1	2	3	4	5	6	7
1	I personally consider entrepreneurship (to start my own company) to be a highly desirable career alternative for people with my education	1	2	3	4	5	6	7
1	I am seriously thinking of starting a firm	1	2	3	4	5	6	7
1	I have got the intention to start a firm in the next 2-5 years	1	2	3	4	5	6	7
1	I would rather found a new company than be the manager of an existing one	1	2	3	4	5	6	7
1	I have got the intention to start a firm some day	1	2	3	4	5	6	7
Informal Networks								
1	If I decide to become an entrepreneur, my parents will support me	1	2	3	4	5	6	7
1	If I decide to become an entrepreneur, my family members will support me	1	2	3	4	5	6	7
1	If I decide to become an entrepreneur, I will consult my family members	1	2	3	4	5	6	7

	If I decide to become an entrepreneur, my friends will support me	1	2	3	4	5	6	7
	If I decide to become an entrepreneur, my family will give me emotional support	1	2	3	4	5	6	7
Structural Support								
	In Pakistan, the government encourages entrepreneurs (who start new business) to establish a firm	1	2	3	4	5	6	7
	Rules and regulations are unfavorable to running a business in Pakistan	1	2	3	4	5	6	7
	Tax regulations in my country give facilities to entrepreneurs	1	2	3	4	5	6	7
	There are lot of opportunities for entrepreneurs in Pakistan.	1	2	3	4	5	6	7
Entrepreneurial Skills								
Technical Skills								
	It is not difficult for me to serve in an IT company.	1	2	3	4	5	6	7
	I have skills to learn about new things in the field of information Technology.	1	2	3	4	5	6	7
	I can work according to the task and have ability to match my skills according to the needs.	1	2	3	4	5	6	7
Managerial Skills								
	I can design and supervising work activities	1	2	3	4	5	6	7
	I think I am able to identify clients' needs.	1	2	3	4	5	6	7

4	I have knowledge about accounting and budgeting activities	1	2	3	4	5	6	7
4	I have knowledge about legal and security aspects of an IT organization	1	2	3	4	5	6	7
4	I am able to make and utilize relations	1	2	3	4	5	6	7
4	I have ability to learn from the situations	1	2	3	4	5	6	7
Personal Maturity Skills								
4	I have clear idea about myself and have ability to reflect and be introspective	1	2	3	4	5	6	7
4	I feel that I am able to take responsibility for resolving a problem	1	2	3	4	5	6	7
4	I think I have emotional ability to cope with a problem	1	2	3	4	5	6	7
4	I have the ability to produce a creative solution to a problem	1	2	3	4	5	6	7
Leadership Skills								
4	I have the Ability to perform tasks in a group or teams.	1	2	3	4	5	6	7
4	I have the Ability to coordinate work.	1	2	3	4	5	6	7
4	I have the Ability to do work with and through other people.	1	2	3	4	5	6	7
4	I am able to plan work and execute	1	2	3	4	5	6	7
4	I have consistency and intensity to achieve goals.	1	2	3	4	5	6	7
4	I believe that I am a motivated employee in my organization.	1	2	3	4	5	6	7
4	I am inspiration to do work.	1	2	3	4	5	6	7

	I am able to adjust myself in different environmental settings.	1	2	3	4	5	6	7
	I have independent thinking to plan something.	1	2	3	4	5	6	7
	I am able to adopt new technology and methods to perform new tasks	1	2	3	4	5	6	7
Entrepreneurial Personal Skills								
	I accept and easily adapt to change.	1	2	3	4	5	6	7
	I respond to change with exibility.	1	2	3	4	5	6	7
	I can easily absorb and adapt ideas and information.	1	2	3	4	5	6	7
	I continually show interest in new developments and in keeping up to date	1	2	3	4	5	6	7
	My knowledge adds value to the work that I do	1	2	3	4	5	6	7
	I am quick to foresee difficult situations and come up with alternative solutions.	1	2	3	4	5	6	7
	I inspire enthusiasm in the people that I work with	1	2	3	4	5	6	7
	I effectively present my ideas with a sound belief.	1	2	3	4	5	6	7
	I am experienced in leading and motivating people.	1	2	3	4	5	6	7
	I put a lot of effort in meeting set goals.	1	2	3	4	5	6	7
	I come up with continual good results under pressure.	1	2	3	4	5	6	7

1	I can maintain or even increase effort under stressful situations.	1	2	3	4	5	6	7
1	I remain composed in stressful conditions.	1	2	3	4	5	6	7
1	I can control stressful situations	1	2	3	4	5	6	7

Appendix B

Profile of Experts Interviewed for Content Validity

Sr. No	Name of expert	Designation	Organization

1	Prof. Dr. Abdul Basit	Professor	Leads Business School, Lahore Leads University, Pakistan.
2	Prof. Dr. Jawad Iqbal	Associate Professor	Department of Management Sciences, The Islamia University of Bahawalpur.
3	Dr. Yasir Riaz	Assistant Professor,	International Islamic University Islamabad, Pakistan.
4	Dr. Muhammad Farooq	Assistant Professor	Department of Management Sciences, The Islamia University of Bahawalpur
5	Mr. Sajid Mohayodin	Assistant Professor	Leads Business School, Lahore Leads University, Pakistan.
6	Mr. Muhammad Nauman	Director	BS Solutions, Lahore Pakistan.
7	Mr. Ijaz Ahmad	Director	Bizsoftech Lahore, Pakistan.
8	Mr. Tayyab Rafique	Manager	Rozee.com, Lahore Pakistan.
9	Muhammad Faisal	Manager Office of Sponsored Research and Programs.	Lahore University of Management Sciences, Pakistan.