

THEORY OF INTELLECTUAL ENTREPRENEURSHIP AND BUSINESS SUCCESS OF PAKISTANI SMES: THROUGH STRUCTURAL EQUATION MODELLING APPROACH

**Muhammad Khalique, Universiti Malaysia Kelantan and Mirpur
University of Science and Technology
Khushbakht Hina, National University of Modern languages Islamabad
Sundas Kashmeeri, University Malaysia Kelantan
Noor Raihani Zainol, University Malaysia Kelantan
Mohd Rafi bin Yaacob, Universiti Malaysia Kelantan
Ieeqan Ali Qureshi, University Malaysia Kelantan
Riffat Shahzady, University Malaysia Kelantan**

ABSTRACT

The main objective of this study is to examine the impact of intellectual entrepreneurship on the business performance of SMEs in Pakistan and to validate the theory of intellectual entrepreneurship. Structured questionnaire survey forms were used to gather the primary data. A purposive sampling technique was used to select the targeted respondents. A total of 210 out of 400 pieces of useable feedback were involved for data analysis. Smart PLS 3.0 was used to test the proposed three research hypotheses. Results showed one hypothesis was supported while two research hypotheses were not supported. The findings of this study will be useful for policymakers, entrepreneurs, and academicians. This study is unique in nature and constructs a measurement scale. This is the first empirical study, which addressed the impact of intellectual entrepreneurship on the business performance of SMEs and tested the theory of intellectual entrepreneurship empirically in the context of Pakistan.

Keywords: Theory of Intellectual Entrepreneurship, Academic, Intellectualism, Entrepreneurship, Sustainability, Measurement Scale, Business Success, Pakistan.

INTRODUCTION

In Pakistan, small and medium enterprises (SMEs) are facing business challenges for the sustainability and growth. In developing economy SMEs plays a crucial role in creating employment, empowering society, increasing export, innovation, GDP and providing raw materials to the big industries (Hassan & Kashif, 2016; Wang et al., 2020). In a knowledge-based economy, the paradigm of the business organizations shifted from industrial based to a knowledge based economy (Agostini et al., 2017); (Khalique et al., 2018); (Khalique et al., 2014); (Ruzzier et al., 2020); (Sharabati et al., 2013). In a knowledge-based economy, intellectual capital has appeared as a competitive asset for the success of organizations. The

concept of entrepreneurship has transformed from traditional entrepreneurship to intellectual entrepreneurs.

More information about the products and services bring more competition and challenges to small and medium enterprises. To fascinate and hold customers, SMEs are required to shift their mind-set and procedures from traditional entrepreneurship to intellectual entrepreneurship. There is no doubt that the conventional business methods have no more survival in a present competitive business environment and the survival, and the growth of SMEs are at alarming situation (Nor-Aishah et al., 2020). Moreover, in Pakistan mostly SMEs are still using outdated and conventional business procedures and practices (Khalique et al., 2015). Pakistan is a developing and SMEs based economy. Despite of the significant contribution of SMEs in economy SMEs are facing numerous threats and their survival and performance is undermine and at high risk of failure. Unfortunately, according to the Index of Ease of Doing Business (IEDB) perspective “Pakistan has ranked at 144 out of 190 countries in the world (World Bank, 2017). Khawaja (2006) argued that only 19% of newly established SMEs have less than 5 years life and only 4% of firms survive up to 25 years in Pakistan”. It showed that the failure rate of SMEs in Pakistan is very high and 81% of SMEs quit from the market within first 5 years of their operation. These alarming signals are pushing academicians and researchers to explore the foremost grounds of success and failure of SMEs. In competitive business environment there is a great demand to comprehend the spirit of business challenges and opportunities because the dynamics of enterprises has already shifted from conventional based to intellectual based. Subsequently, it is indispensable for SMEs to understand the new concept of entrepreneurship, which known as intellectual entrepreneurship (IE).

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Intellectual entrepreneurship is a new term in academia and research. Literature expressed that the research on IE is still at embryonic stage. Sennikova (2016) argued that the term intellectual entrepreneurship has been used since the mid-nineties. Researchers from different countries proposed many definitions of intellectual entrepreneurship but a common understanding of the term is still required. A study on intellectual entrepreneurship in Latvia identified three patterns of intellectual entrepreneurship; an ideal one, professional one and a forced one based on the educational, professional and experimental account of the entrepreneurs that lay foundation for further development of training and educational programs for potential entrepreneurs. These patterns will permit the use of intellectual capacity of individuals from different fields and engaging them into entrepreneurship in some positive conditions. Stowe (1999) stated that the “*Intellectual entrepreneurship based on the philosophy of developing an organization with intellectual capital*”. Johannisson et al. (1999) argued that “there are three departure points namely, intellectualism, entrepreneurship, academia, and the arrival is intellectual entrepreneurship”. Furthermore, they argued that the intersection of these three departure points emerges intellectual entrepreneurship. Khalique et al. (2021) argued that the term “intellectual entrepreneurship based on diverse knowledge base, ability and motivation to generate new knowledge and intellectual courage or finding entrepreneurial challenges intellectually rewarding”.

Literature showed that intellectual entrepreneurship (IE) is developing a synergic relationship between academia and intellectuals. It refers connecting, integrating and efficiently

utilizing talent and intellectual energy anywhere in order to enhance business performance, economic and political change. Intellectual entrepreneurship provides an opportunity to increase knowledge and discover new ways to make and apply relevant outcomes in order to create change on micro as well as on macro level in business enterprises. Intellectual entrepreneurship enables individuals to apply their knowledge, visions in order to enhance the performance of their businesses. Intellectual entrepreneurs recognize opportunities through surveying the environment that is appropriate for positive change and which will be benefited for organizations and community as a whole.

Khalique et al. (2021) argued that they did not define the departure points of intellectual entrepreneurship in depth and left the concept unclear. For this empirical study the definition of intellectual entrepreneurship was adopted from (Khalique et al., 2021). In addition, they argued that the “intellectual entrepreneurship offers an intellectually sound business foundation that encompasses on intellectualism, entrepreneurship intentions and academia to address the complex issues of organizations in a knowledge-based economy”. This definition of “intellectual entrepreneurship refers business perspective where any individuals having intellectualism, professional education and entrepreneurial intention to become an intellectual entrepreneur” (Khalique et al., 2021).

COMPONENTS OF INTELLECTUAL ENTREPRENEURSHIP

Khalique et al. (2021) argued that due to the nature, “composition and the function, intellectual entrepreneurship is considered as different phenomena from the traditional entrepreneurship”. Related literature convinced that the term entrepreneurship was introduced very long time ago, but with the passage of its characteristics were changed. Moreover, they argued that several SMEs were vanished from the competitive business environment due to their traditional and outdated thoughts, products and services. Nowadays, the procedure of business is completely reformed. Knowledge customers demanded new products and services. To stay alive in a global market and take competitive business edge there is a great need to comprehend the concept of intellectual entrepreneurship with full spirit. Khalique et al. (2021) stressed that the intellectual entrepreneurship is an only valuable element that will help to SMEs in a competitive business environment to enhance their performance. Johannisson et al. (1999); Sennikova & Kurovs (2006); Khalique et al. (2021) argued that “intellectual entrepreneurship is mainly based on three components such as intellectualism, academia and entrepreneurship. Furthermore, they argued that the intersection points of these three components mention to the intellectual entrepreneurship”. Therefore, in this study three components were used to understand the concept of intellectual entrepreneurship. These three components are described as follow;

Intellectualism Perspective

Intellectualism is considered as one of the most important components of intellectual entrepreneurship (Johannisson et al., 1999). It includes learning, knowledge as well as informed and critical thinking (Abosedo & Onakoya, 2013). Zalesna (2012) argued that the “existence of business enterprises relies on employee’s intellectualism and hardworking essence”. Sennikova (2016) argued that mainly intellectuals are involved in business activities and due to their dealing, flexibility and knowledge they can create extraordinary enterprises in conventional

environment. In the same way, Khalique et al. (2021) stated that the intellectual entrepreneur is primarily based on the rigorous background of the intellectualism.

Gardner (2007) argued that the intellectual capabilities are required and nurtured by business leaders in the future. These intellectual capabilities were expressed as five minds such as disciplinary mind, synthesizing mind, creating mind, respectful mind and ethical mind. Davis & Gardner (2012); Khalique et al. (2019) stressed the cultivation of these five minds help individuals to become good citizens and knowledge workers. Each mind reflects the specific set of cognitive abilities and attitudes of thinking that individual need to tackle the business challenges, exploit the opportunities and become an active and successful entrepreneur. In addition, they argued that these five minds should be considered as more than theoretical constructs and these are very crucial competencies for individuals to be effective and productive in organizations.

Academic Perspective

According to (Meyer, 2003); academic who is interested in establishing a fast growing venture. Beckman and Cherwitz (2009) stated that the academic entrepreneurship as an “intellectual enterprise,” in which “universities cooperate with local communities to create new values or ideas”. Khalique et al. (2021) stated that the “prime function of universities is to provide quality education and research culture in the society and it will help to improve the national innovation system”. In addition they argued that there is no doubt that the “academic entrepreneurship is a one of the most important components of the intellectual entrepreneurship and it can be measured by the professional graduates having universities/institutions educations”.

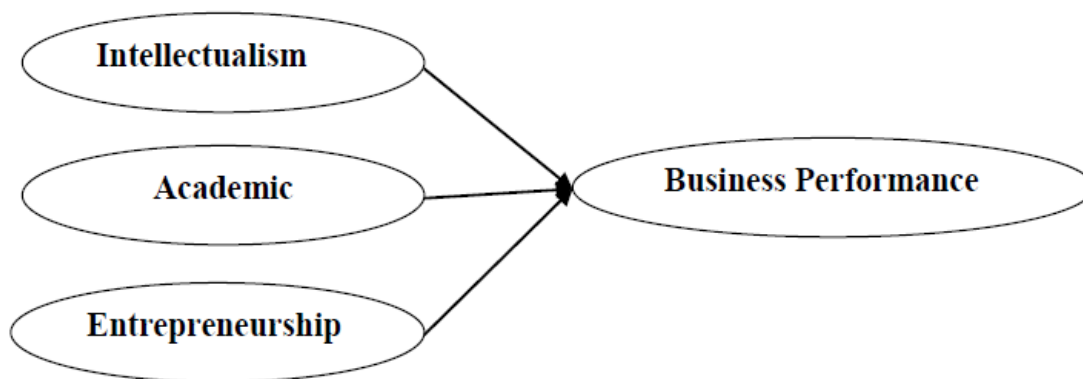
Entrepreneurship Perspective

Khalique et al. (2021) argued that entrepreneurship is considered as the most important and integral part of an intellectual entrepreneur. Casson (1982) argued, “*The entrepreneur could differ from non-entrepreneurs on the bases of information and making judgmental decisions*”. Johannisson et al. (1999) reported that the “entrepreneurship is a one of the most crucial component of intellectual entrepreneurship”. Mačerinskienė and Aleknavičiūtė (2011) argued that not long time ago the arena of entrepreneurship was mainly considered as to earn money through business transactions and mostly businessperson was uneducated. They were considered as socially ineffective and general opinion about entrepreneurship was negative but now the scenario has changed, and the world economy mainly based upon entrepreneurship.

Khalique et al. (2021) argued that in “intellectual entrepreneurship perspective, intention is a very important constituent of entrepreneurship. Duening (2010) argued that the relatively new “entrepreneurial intention skills differentiates intellectual entrepreneur from non-entrepreneurs. Those entrepreneurs who possess cognitive skills and habits to a greater degree of success than non-entrepreneurs do”. Moreover, Misoska, Dimitrova, and Mrsik (2016) argued that in entrepreneurship perspective (Shapero & Sokol, 1982) model is best to comprehend entrepreneurial intention, which is based on the perceptions of desirability, feasibility and propensity of individuals.

FOUNDATION OF THE THEORY OF INTELLECTUAL ENTREPRENEURSHIP

In this study, theory of intellectual entrepreneurship was applied to achieve the selected objective. Cherwitz and Beckman (2006) argued that the initiative of intellectual entrepreneurship was begun in 1997. They argued that intellectual entrepreneurship provides both the philosophy and vision to accomplish the selected goals if integrated into graduate education and it reconsiders and reinvents themselves as individuals in the context of their disciplines. They defined the term intellectual entrepreneurship in an art perspective. Traditional entrepreneurial theories were unable to address the business challenges of enterprises more specifically SMEs which are operating in a knowledge-based economy. Moreover, traditional theories are silent to offer business solutions for potential threats that will face SMEs in industry 4.0. To visualize the contemporary and forthcoming business challenges Khalique et al. (2019) did seminal work and proposed the theory of intellectual entrepreneurship which is based on intellectualism, academic and entrepreneurship (Arenas & Gardner, 2017). This study based on theory of intellectual entrepreneurship and its components were used as independent variables while business performance as a dependent variable. Conceptual framework of this study is shown in Figure 1.



Source: Johannisson et al., 1999; Sennikova and Kurovs, 2006; Khalique et al., 2021.

FIGURE 1
CONCEPTUAL FRAMEWORK

Based on the conceptual framework three research hypotheses were constructed to find the objective of the research. Research hypotheses are given below;

- H₁:** *Intellectualism perspective (IP) has positive significant influence on the business performance of SMEs.*
- H₂:** *Academic perspective (AP) has positive significant influence on the business performance of SMEs.*
- H₃:** *Entrepreneurship perspective (EP) has positive significant influence on the business performance of SMEs.*

RESEARCH METHODOLOGY

Measurement of Variables

The employed independent variables and dependent variable were grasped through questionnaire items that were developed from the seminal work of (Beckman & Cherwitz, 2009; Gardner, 2008; Johannisson et al., 1999; Khalique et al., 2014; Sennikova & Kurovs, 2006). The questionnaire items were reported in Table 1. A Five Points Likert Scale where 1 = strongly disagree and 5 = strongly agree was used to grasp the perception of respondents about the employed unobserved constructs. In this research, the intellectual entrepreneurship was measured by three distinct dimensions namely intellectualism, academic and entrepreneurship.

In this study, these three dimensions of intellectual entrepreneurship were considered as independent variables while the business performance was used as a dependent variable. To measure the business performance of SMEs 8 items were generated using the work of various academic researchers such as (Bagorogoza & de Waal, 2010; Khalique et al., 2014; Sharabati et al., 2013). The questionnaire items were addressed to respondents to “take on the role as their employer’s representative” and to respond to items from an overall organization perspective. In effect, each respondent replied as a proxy respondent for their whole organisation. Moreover, the targeted respondents were encouraged to provide feedback on the generated items if they have difficulty to understand but no such complain was received.

Sample Size and Data Collection

The structured questionnaire survey forms were distributed to the targeted respondents of selected SMEs. The questionnaire forms were addressed to CEO, Managing Directors, Managers, Senior Managers, Junior Managers, Assistant Managers and staff of the SMEs operating in knowledge intensive SMEs operating in Islamabad and Rawalpindi. In this study, the individual was considered as the sample unit. For empirical data collection, a total of 400 questionnaire survey forms were distributed and 210 were returned with response rate of 52.50 percent.

Table 1			
MEASUREMENT SCALE			
Constructs	Items	Mean	Std. dev.
Curriculum Perspective	The entrepreneurship course is developed to meet the criteria of the curriculum.	3.721	1.147
	The subject of entrepreneurship interests me very much because of interactive learning.	3.743	1.124
	I gain a new experience through pursuing the entrepreneurship course.	3.464	1.295
	My liking to study entrepreneurship is more compared to other subjects.	2.150	1.259
	I enjoy learning by doing in the entrepreneurship course.	1.986	1.153
	I have a better understanding about business as a result of taking up the entrepreneurship course.	2.536	1.349
	I like to study entrepreneurship because it teaches real-world situations.	2.607	1.361
	The entrepreneurship program taught me to deal with tolerance of ambiguity in the real world.	2.557	1.416
Teaching Perspective	The instructor did a good job in making the entrepreneurship course relevant to the real world.	4.229	1.051
	The instructors are experienced in teaching the courses in entrepreneurship	4.157	1.154
	The methodologies introduced by instructors for the entrepreneurship courses are not very interesting.	4.286	1.226
	The instructors take the students for visits to industries to gain more knowledge on the subject.	4.607	0.799

	The lecturer teaches a comprehensive business plan model for the subject.	4.707	0.797
	Practical sessions help a lot in understanding the entrepreneurship subject.	4.400	0.893
	The lecturers have an excellent way of presenting the entrepreneurship courses.	4.521	0.952
	The instructors stimulate the interest in entrepreneurship course through the teaching methodologies.	4.150	0.941
University Perspective	My university is focused towards entrepreneurship.	3.793	1.137
	Entrepreneurship courses should be made compulsory in order to stimulate entrepreneurial spirit in the university.	3.800	1.070
	The policies in my university promote entrepreneurship education.	3.736	1.125
	The university environment inspires me to develop innovative ideas for new business.	3.664	1.246
	The university provides resources to assist students in entrepreneurship.	3.979	1.079
	At my university, I get to meet a lot of people with good ideas for new businesses.	3.750	1.190
Entrepreneurial Propensity (EP)	I will choose a career as an entrepreneur.	3.971	0.878
	I will choose a career as an employee in a company/an organization.	3.857	1.032
	I prefer to be an entrepreneur rather than to be an employee in a company / an organization.	4.179	0.864
Entrepreneurial Desirability (ED)	I want the freedom to express myself in my own business.	3.650	1.189
	I would rather be my own boss than have a secure job.	4.043	0.827
	I relish the challenge of creating a new business.	3.707	1.124
	I am ready to do anything to be an entrepreneur.	3.957	0.977
Entrepreneurial Feasibility (EF)	My professional goal is to become an entrepreneur.	4.036	0.996
	I have very seriously thought about starting a firm.	4.521	0.797
	I am determined to create a firm in the future.	4.657	0.595
Disciplined Mind (DM)	I have expertise in my field.	3.707	1.216
	I try to update my knowledge.	4.157	1.117
	I reinforce the new information in my business that I learned.	4.536	0.814
	I have selected time for my business.	4.421	0.802
	I come in my office on time.	4.136	1.090
	I keep all related information in record.	4.686	0.728
Synthesizing Mind (SM)	I am able to select crucial information from various sources.	4.729	0.664
	I can find the best possible options for my business.	4.664	0.703
	I try to do a project within a given framework.	4.479	0.841
	I collect the selected information in ways that make sense to self and others.	4.607	0.724
	I am able to go beyond existing knowledge and synthesis to pose new questions.	3.979	0.982
Creative Mind	I am able to offer new solutions, fashion works that replace the existing one.	4.036	0.921
	I am proactive to take risk.	3.957	0.992
	I am energetic to do a business.	3.979	1.003
	I consider myself as a leader and as a follower.	3.943	1.005
Respectful Mind	I respond sympathetically and constructively to my customers and common people.	4.014	0.978
	I can understand and work with those individuals who are bearing different opinions.	3.779	1.096
	Respect is easier to be developed in childhood rather than adulthood.	3.757	1.088
	I am sincere with my customers.	4.021	0.967
	Respect is very important to satisfy the customers.	3.979	0.982
Ethical Mind	I learned ethics values from my family.	4.443	0.839
	My parents are role models for me to be an ethical	4.021	1.124

	entrepreneur.		
	I believe that the religion has a positive effect in having ethical mind.	3.750	1.090
	My teachers have a positive effect in my ethical mind.	3.129	1.388
	I believe that the ethical mind is very crucial for a successful entrepreneur.	3.093	1.383
Business Performance	Our organization's sale growth rate is increasing continuously.	4.764	0.556
	Our organization's return on sale (net profit margin) is increasing continuously.	4.186	0.923
	Our organization's gross profit is increasing continuously.	4.171	1.089
	Our organization's net profit after taxes is increasing continuously.	4.436	0.880
	Our organization's financial strength (liquidity and ability) to raise capital is increasing continuously.	4.214	0.885
	Our organization's overall performance is increasing continuously.	4.407	0.836
	Our organization's customer satisfaction is increasing continuously.	4.293	0.945
	Our organization's return on investment is increasing continuously.	4.300	0.976

RESULTS

To analysis data Smart Partial Least Squares (PLS) 3.0 was used. Smart PLS based on model two stages namely measurement model and structural model (Hair Jr, Hult, Ringle, & Sarstedt, 2016; Khalique, Hina, Ramayah, & Shaari, 2020).

Measurement Model

Table 2 reported that the measurement model is established and the values of AVE and CR were reflected that the convergent validity of employed constructs was acceptable and met the suggested thresholds (Khalique et al., 2020).

First-order Constructs	Second-order Constructs	Items	Loading	AVE	CR
Disci. Mind Perspec.		DMP1	0.698	0.535	0.821
		DMP2	0.689		
		DMP3	0.791		
		DMP4	0.794		
Creat. Mind Perspec.		CMP1	0.608	0.573	0.798
		CMP3	0.800		
		CMP4	0.842		
Ethical Mind Perspec.		EMP1	0.832	0.552	0.785
		EMP3	0.746		
		EMP4	0.638		
Respec. Mind Perspec.		RMP2	0.697	0.514	0.760
		RMP3	0.741		
		RMP4	0.703		
		SMP1	0.777	0.607	0.860
Synth. Mind Perspec.		SMP2	0.804		

		SMP3	0.779		
		SMP4	0.755		
Intellectualism perspective (IP)		DMP		0.526	0.845
		CMP			
		EMP			
		RMP			
		SMP			
Ent. Des. Pers.		EDP1	0.523	0.514	0.754
		EDP3	0.768		
		EDP4	0.824		
Entr. Feas.Pers.		EFP1	0.891	0.792	0.884
		EFP3	0.888		
Entr. Prop. Pers.		EPP1	0.628	0.543	0.778
		EPP2	0.860		
		EEP3	0.704		
Entrepreneurship perspective (EP)		EDP		0.661	0.853
		EFP			
		EPP			
CUPER		CUP1	0.885	0.573	0.899
		CUP2	0.893		
		CUP3	0.844		
		CUP6	0.687		
TEPER		TEP1	0.742	0.790	0.949
		TEP2	0.876		
		TEP3	0.956		
		TEP4	0.960		
		TEP5	0.894		
UNIPER		UNIP1	0.860	0.754	0.925
		UNIP2	0.820		
		UNIP3	0.908		
		UNIP5	0.884		
Academic perspective (AP)		CUPER		0.554	0.779
		TEPER			
		UNIPR			
Business Performance (BP)		BP1	0.652	0.520	0.883
		BP3	0.687		
		BP5	0.772		
		BP6	0.855		
		BP7	0.702		
		BP8	0.635		

Note: Average Variance Extracted (AVE), Composite Reliability (CR), Cronbach Alpha (α)

The discriminant validity was assessed through Fornell-Larcker criterion and Heterotrait–Monotrait (HTMT) ratio. The discriminant validity was established by applying the comparison

of the square root of AVE against correlations and HTMT. Table 3 and Table 4 showed that the discriminant validity was established and met the criteria suggested by (Khaliq et al., 2020).

Constructs	AP	BP	EP	IP
AP	0.617			
BP	0.109	0.721		
EP	0.104	0.487	0.632	
IP	0.341	0.576	0.442	0.633

Notes: *The off-diagonal values are the correlations between the latent constructs and diagonal are square; values of AVEs.

Constructs	AP	BP	EP	IP
AP				
BP	0.587			
EP	0.496	0.268		
IP	0.696	0.583	0.376	

Structural Model

To test the proposed research hypotheses structural model was used, the path coefficients and their corresponding t-values were generated through the bootstrapping sub-samples with 5,000 cases as suggested by (Hair et al., 2011; Khaliq et al., 2020). The R^2 for the structural model is 0.405 which showing that 40.5 percent of the total variance was explained by academic, entrepreneurship and intellectualism towards the business performance of SMEs operating in Pakistan. Table 5 showed that two path relationships were appeared as positively significant at 95 % confidence interval namely (IP → BP, $\beta = 0.154$, $t = 3.118$, $p < 0.05$ while AP → BP, $\beta = 0.087$, $t = 0.963$, $p < 0.05$) and EP → BP, $\beta = 0.174$, $t = 1.632$, $p < 0.05$) was appeared as insignificant contributors. Based on the empirical findings this study concluded that only one-research hypothesis was supported while remaining were not supported. In Table 5, the empirical findings reported that the f^2 for intellectualism perspective (IP) has a large effect, academic perspective (AP) has medium and entrepreneurial perspective has no effect on the business performance of SMEs in Pakistan.

Hs.	Path relationship	Std. Beta	t-values	Decision	f2	R2	Effect of f2
H1	IP → BP	0.154	3.118	Supported	0.276	0.402	Large
H2	AP → BP	0.087	0.963	Not. Supported	0.109		Medium
H3	EP → BP	0.174	1.632	Not. Supported	0.020		Small

Note: R2 (combined effect of all components of IE on BP), $P < 0.05$

DISCUSSION AND CONCLUSION

In business environment, global competition, technological advancement, innovation and economic turbulences are recognized as the most important challenges for the survival and sustainability of business enterprises. Traditional business methods and entrepreneurial approach are unable to address the contemporary and forthcoming business challenges. To understand the

importance of the intellectual entrepreneurship Khalique et al (2020) did a seminal work in entrepreneurship field and proposed the theory of intellectual entrepreneurship. This theory primarily based on intellectualism perceptive, academic perspective and entrepreneurship perspective. This study was the first attempt to construct the questionnaire items of the components of intellectual entrepreneurship and to conduct a first empirical research to address the contemporary business challenge

The empirical findings of this study reported that the SMEs of Pakistan has considered intellectualism as one of the most important components for their success and survival. The findings showed that intellectual perspective has appeared as the significant positive contributor in Pakistani SME while academic and entrepreneurial has appeared as insignificant predictors. It seems that the Pakistani SMEs are giving importance only intellectualism development and they are ignoring the importance and significance of others two variables. Theory of intellectual entrepreneurship illustrated that these three components namely intellectualism, academic and entrepreneurship are very crucial for the success and survival of SMEs. This theory argued that the three components of intellectual entrepreneurship jointly perform vital role in order to enhance the business performance and survival of SMEs. Based on empirical findings and in the light of the theory of intellectual entrepreneurship this study contributes in twofold;

First theoretical implications, this study extend the concept and applications of intellectual entrepreneurship in small and medium enterprises in Pakistan and for the rest of the world. This empirical study is a first attempt to test the theory of intellectual entrepreneurship in SMEs. Results reported that the overall intellectual entrepreneurship is significant for the success and survival of SMEs. Theory of intellectual entrepreneurship stated that the organization having these three components, as significant contributors are more capable to compete as compared to those, which possess only a single or few significant variables. Second, practical implications the empirical examination of the results showed that the intellectualism was appeared as a significant variable while academic and entrepreneurship were performed insignificant predictors.

LIMITATIONS AND FUTURE RECOMMENDATIONS

Like other research studies, this study also has some limitations that offer avenues for potential researches. Bigger size of respondents would give clearer picture about the result. The potential researchers can validate the intellectual entrepreneurship model (IEM) in various sectors such as banking, pharmaceuticals, garments, hotels, electronics and other knowledge intensive organizations. In this study, the cross-sectional data were used therefore, the findings of this study may not be generalized to other organizations. Future research can use longitudinal data for getting the better results.

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