

Promoters of Structural Reforming in Higher Agricultural Education to Achieve Entrepreneurial University

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Abstract

The purpose of this study was to analyze the predictors that influence the development of an entrepreneurial university development using structural equation modeling. Through a descriptive correlation research method, the study focused on Ph.D. students and faculty members in the Science and Research Branch, University of Islamic Azad, Iran. Data were collected through a face-to-face interview with the respondents using a researcher-made questionnaire from 255 people through simple random sampling method. The questionnaire validity and reliability confirmed by content, construct and composite test respectively. Data analyzed using SPSS (V20) and LISREL (V8.54) software. The results showed a good fit for the proposed model. Also, the results revealed that “organizational culture”, “knowledge management”, “transformational leadership”, “university's external capabilities” and “entrepreneurship culture” had positive and “organizational structure” has a negative influence on the development of entrepreneurial University. Finally, some operational suggestion provided.

Keywords: SEM, Entrepreneurial University, Islamic Azad University, Iran.

Introduction

The rise of the knowledge-based society and the competitive labor market in both local and global context has made higher education become even more important for individuals and society to survive (Kromydas, 2017; Morris, 2016). Due to the rapidly changing needs of the knowledge-based society and the local and global competitiveness, people's knowledge, skills, and resourcefulness have become increasingly important (Kefela, 2010; McClure, 2015). The competitiveness and rise of the knowledge-intensive economy have posed great challenges to governments in both developed and developing nations to overcome and encourage them to also make higher education (more) responsive to the competitive labor market in the globalized

society. Hence, governments are challenged to enhance the higher education system in order to produce more highly-educated people for social and economic development (Squicciarini & Loikkanen, 2008). The higher education of the twenty-first century are immersed in a process of profound changes (R. Hu, Wang, Bin, & Ye, 2018) which called the “second academic revolution” (Etzkowitz, 2013).

In this regards, all universities should adapt and become more entrepreneurial, meaning that universities should be able to be more financially independent (of the government) as they are expected to seek funds from the external sources through their knowledge exploitation (Ellis, 2015; Guerrero-Cano, Kirby, & Urbano, 2006). Thus, universities are encouraged to act entrepreneurially by finding new sources of income through their activities to secure their place in the knowledge-based economy. In other words, higher education significantly contributes to the skilled labor force and responds to the changing labor market demands in knowledge-based economies (Tritah, 2008). In this regards, the promotion of entrepreneurship from higher education should have another purpose, which is to contribute to adequate job placement of the students. The high figures of unemployment, underemployment and labor over-qualifications shown in Iran’s economy, to which must be added important current emigration of graduates who seek employment outside Iran, must make us consider the matter. The Center for Statistics of Iran (2015) has declared the youth unemployment rate to be 21.8%, which is almost twice the global unemployment rate. In Iran, the unemployment rate of agricultural graduates is about 25%, which was the highest rate among the unemployment rates of the other academic graduates. As unemployment crises might have negative impacts on society, it is important to move away from probable irremediable effects of unemployment. Entrepreneurship assists to achieve this goal and so, it is considered to be one of the most important tools in creating wealth and in the development of a country (Ahmad & Hoffmann, 2008) due to its significant macro and micro-level effects (A. Burke, Hartog, van Stel, & Suddle, 2008). The existing literature on puts forth a strong effort to provide insights about the transformation process of entrepreneurial universities located in developed countries (Guerrero, Urbano, Fayolle, Klofsten, & Mian, 2016; Xia et al., 2018). However, in developing countries, the literature on entrepreneurial universities is somehow limited. Based on that, the purpose is to explain the factors affecting the development of an entrepreneurial university using the structural equation modeling technique in order to contribute a better understanding of the entrepreneurial transformation process in the agricultural faculty of Islamic Azad University of Iran as one of the largest and most prestigious agricultural faculties in the country.

Research Framework

It is necessary that higher education should shift their role from an only producing knowledge to an entrepreneurial university which transforms knowledge to the products to meet the native, regional, and international economic development (Mian, 2006). Another important

factor in the movement of universities toward entrepreneurship is the tendency to commercialize technical results (Gürol & Atsan, 2006). An idea that is known as a motor or pump of knowledge and has created a great motivation for economic policymakers to encourage the development of an entrepreneurial university (Nonaka, 1994). This trend can be seen in developed countries since the late 1980s (Etzkowitz, 2003). Of course, it should be noted that the entrepreneurship of universities is not in contrast to the major programs and responsibilities of the universities i.e. the education and development of educational-research services in the community (Kanter, 1984).

In a nutshell, an entrepreneurial university can be defined as a scientific entrepreneurship that can create a force for economic growth and will make compete in global markets (Guerrero & Urbano, 2012). Willrippoque (1998) considered three factors as characteristics of an entrepreneurial university: entrepreneurship management practices, entrepreneurial members, and entrepreneurial exchanges in the environment. In contrast, (Clark, 1998), after a longitudinal study of some European universities in the mid-1990s, considered five factors as characteristics of entrepreneurial universities, which include a strong command center, extensive development, budgeting diverse, academic mobility and an integrated entrepreneurial culture. In this regards, (Etzkowitz, 2004) considered close relationships between industry and government with the university, having a linkage structure, knowledge and modernization as the main factors of entrepreneurial university development (Farsi, Imanipour, & Salamzadeh, 2012). While (Kirby, 2006) considered implementation, communication, organization, encouragement and support, recognition and rewards, approval and promotion as the main factors of an entrepreneurial university. For Kibry, an entrepreneurial University has a competitive environment with a common vision for the best of all activities (Kibry, 2005). However, there are a lot of researches which has explored the components for development of the entrepreneurial university such as (Clark, 1998; Coyle, Gibb, & Haskins, 2013; Etzkowitz, 2004; García Aracil, Castro Martínez, Jiménez Sáez, & Arroyo Vázquez, 2013; Gibb, 2012; Gibb, Haskins, & Robertson, 2012; Graham, 2014; Meyers & Pruthi, 2011; Ropke, 1998). Despite the differences among the factors in each research, all of them agree on the eight components of “Knowledge Management”, “Organizational Structure”, “Organizational Culture”, “Transformational Leadership”, “University’s External Capability”, “Underlying (context) factors” and “Entrepreneurship Culture Development”. These factors were as follows:

Knowledge Management: Nowadays, universities and organizations that have sustained competitive advantage are achieving a higher success rate on the market (Dalkir, 2013). In this regards, Choi et al. (2008) stated that a sustainable competitive advantage is only achieved by employing knowledge for innovation (Choi, Poon, & Davis, 2008). Therefore, knowledge is a valuable asset to an organization which should be managed. In fact, knowledge management has defined as a structured process for the creation, acquisition, sharing, transfer, and use of tacit and objective knowledge as an organizational asset for encouraging innovation (Gold, Malhotra, & Segars, 2001; Ju, Li, & Lee, 2006). Knowledge management is an approach that reinforces the

organization's knowledge and skills in order to create value and enhance the organization's effectiveness (Gold et al., 2001). Accordingly the following hypothesis was proposed:

H1: Knowledge management affect the development of an entrepreneurial university

Organizational Structure: Academic entrepreneurship is a vast field and involves different levels of the environment, structure, and how to use technology (Mets, 2009). In fact, the organizational structure governing the occupations, systems, and processes that individuals and groups are working to achieve the common goal (Barney & Griffin, 1992; Morton & Hu, 2008). The structure represents those who are responsible for supervising and introduces administrators to the staff they are instructing, also, other organizational structure help to know about the stream of information (Katsikea, Theodosiou, Perdakis, & Kehagias, 2011). An organization-friendly organizational structure can accelerate and facilitate decision-making and appropriate response to the environment and its challenges (Katsikea et al., 2011). The fit between organizational structure and entrepreneurship development has a significant role in organizational performance. Accordingly the following hypothesis was proposed:

H2: The organizational structure affect the development of an entrepreneurial university

Organizational Culture: The flow of innovation and creativity in the organization is considered as an appropriate strategy for adopting organizations to the complex conditions of their business environment (Léo & Bruno, 2010). Therefore, the profound use of organizational culture, as it serves both progressive and revolutionary transformations, is one of the main aspects of innovation management and transformation (Martins & Martins, 2002). An organizational culture can be the source of movement, dynamism, creativity, and innovation, or an obstacle to their development. Hence, it can be said that organizational culture is like a personality of a human being. Therefore, it can be said that organizational culture is like a personality of a human being (Noe, Hollenbeck, Gerhart, & Wright, 2006). When the organization has a strong culture, people are geared towards the organization and its goals so that they see themselves as part of the organization. A strong culture is the main emphasis on the spirit of creativity and innovation (Liao, Chuang, & To, 2011). An organizational culture as a set of shared beliefs and values that affects the behavior of the members and organization can be considered as a source of organizational innovation. Accordingly the following hypothesis was proposed:

H3: An organizational culture affect the development of an entrepreneurial university.

Transformational Leadership: The Entrepreneurial University is essentially an entrepreneurial action in academic strategies and practices. An examination of entrepreneurial literature shows that one of the most important variables in the realization of this is leadership behavior. The role of transformational leadership in promoting an entity to an entrepreneurial organization is so important that some researchers have tried to illustrate this by combining these two variables (leadership behavior and entrepreneurship), using a kind of leadership that is called

entrepreneurial leadership (Franco-Santos, Lucianetti, & Bourne, 2012; Gupta, MacMillan, & Surie, 2004; Tarabishy, Solomon, Fernald Jr, & Sashkin, 2005). Leadership behaviors that can be somehow representative of entrepreneurial leaders are transformational leadership (Chung-Wen, 2008). Accordingly the following hypothesis was proposed:

H4: Transformational leadership affect the development of an entrepreneurial university

University's External Capability: The external capabilities of the university include science and technology parks and the commercialization of research findings. Application of knowledge and excellence in technology is one of the main indicators of the development of societies. In fact, without sufficient attention to the foundation of knowledge-based entrepreneurship, there cannot be a stable status in the field of global competition and active presence in international scientific and commercial fields (Koh, Koh, & Tschang, 2005). In fact, knowledge commercialization is the process of transforming theoretical knowledge in academic institutions in the form of certain types of economic activities. Accordingly the following hypothesis was proposed:

H5: University's external capability affect the development of an entrepreneurial university

Underlying (context) factors: Important underlying factors that can influence the development of an entrepreneurial university are organizational factors, institutional factors and environmental factors (Rajeev, Chan, & Kodikara, 2012). Entrepreneurship Culture Development: One of the goals of educating and promoting entrepreneurship is to stimulate motivation in people who have entrepreneurial characteristics. Stimulating motives such as the desire to earn wealth, success, independence, and so on, which leads the person to be on the path to entrepreneurship. Some people grow up in environments where there are grounds for stimulating motivation and developing features, but most people are not in such environments. Hence, motivating and fostering entrepreneurial characteristics through innovative and creative educational and research programs is necessary (Baken & Woolley, 2011; Greimel et al., 2006; Kim et al., 2011; Yang et al., 2013, Seryasat, O. R., & Haddadnia, J.2018). Accordingly the following hypothesis was proposed:

H6: The underlying factors affect the development of an entrepreneurial university

Entrepreneurial culture: An enterprising culture today is what is needed to ensure that entrepreneurship thrive. Blokker and Dallago (2008) establish that if entrepreneurial and enterprising behavior among young people especially university students is to emerge, more focus must be put on entrepreneurship education and methodologies that encourage “learning by doing” and “just in time learning”(Nwokolo, 2015; Skosana, 2013). Entrepreneurial culture is the instrument that make an individual to act in a particular manner. Thus, the local environment, with its unique mix of cultures, history, and canons, exerts a greater or lesser influence on the entrepreneurial efforts of faculty (Guerrero et al., 2016) due to the peer effect. In (Gungaphul &

Boolaky, 2009), entrepreneurial culture at institutions was more holistically depicted when relations between central management, the department, and the individual, as well as the plasticity of the organization that allowed collective learning, changing rules, and structures, is also considered. Such involvement and commercialization among academics are not restricted to one level but is influenced by the interplay of individual, organizational, and institutional factors (Mazzarol, 2012). The entrepreneurial culture (values and attitudes toward educational programmes) and building/supporting inter-relationships/linkages among entrepreneurs, venture capitalists, business incubators, and other actors (Spigel, 2017). Accordingly the following hypothesis was proposed:

H7: The development of an entrepreneurial culture affect the development of the entrepreneurial university.

Therefore, the following research framework was constructed (Figure 1) and the influence of these seven factors will be assessed based on the following hypotheses on the “Entrepreneurial University Development”.

Research Method

A survey approach was conducted to test the hypotheses developed in this study and to determine the influencing factors on the entrepreneurial university development. The statistical population of this study was all Ph.D. students and faculty members in the Islamic Azad University of Iran (750 people). Using simple random sampling method and based on (Krejcie & Morgan, 1970), 255 people selected as the statistical sample. The research instrument was a fixed-response questionnaire consisting of two main parts. The first part contained demographic items. Eight perceptual factors which presented in Figure 1, were constructed in the second part of the questionnaire. The validity of the questionnaire tested by content and construct validity. In order to determine the content validity, the questionnaire was provided to the panel of subject experts. Additionally, convergent and discriminant validity was established for all constructs. As can be seen in Table 1, composite reliability for all constructs met the threshold of 0.7, which was suggested by (Hair, Black, Babin, Anderson, & Tatham, 2006). Average Variance Extracted (AVE) for all constructs was greater than the threshold of 0.5 (Hair et al., 2006). Therefore, all constructs had good discriminant validity. Also, the Cronbach’s alpha coefficient was calculated, showing coefficients that exceeded acceptable rates for all the scales used in the study (Table 1). Finally, the values of Skewness and Kurtosis did not identify any serious violations of normality, as all the coefficients were below ± 2 . Data analyzed by SPSS Win18 and LISREL 8.54 software.

Results

The demographic attributes of the respondents are provided in Table 2. As seen in Table 2, the study sample included 122 men (60.4%) and 80 women (39.60%) among the Ph.D.

Students, and 35 men (66%) and 18 women (34%) among the faculty members. Based on table 2 more than half of the faculty members were married (77.4%), but only 40.1% of Ph.D. students were married.

A confirmatory measurement model was tested by LISREL software (V8.54) for each construct. As shown in Table 3, several commonly-used fit indices were used to assess the overall model fit (L. t. Hu & Bentler, 1999). The comprehensive goodness-of-fit indices were a Chi-square/DF which were in range of 1.87 to 2.33 (Schreiber, Nora, Stage, Barlow, & King, 2006), The comparative fit index (CFI) value of greater than 0.97, incremental fit index (IFI) value of greater than 0.98, Non-Normed Fit Index (NNFI) value of greater than 0.94, The normed fit index (NFI) value of greater than 0.96, The adjusted goodness of fit index (AGFI) value of greater than 0.90 and goodness of fit index (GFI) value of greater than 0.91 for all constructs, are very good fits to the model according to (L. t. Hu & Bentler, 1999), who stated that for these indices a value of 0.7 and above is satisfactory, 0.8 and above is good, and 0.9 and above is very good. The root means square error of approximation (RMSEA) value of all constructs were lower than 0.07 where an RMSEA threshold in the range of 0.05 to 0.10 is considered an indication of fair fit (MacCallum, Browne and Sugawara 1996, as cited in (Hooper, Coughlan, & Mullen, 2008)). Taken together, The findings indicate that there is a satisfactory fit between each construct and the data. Also, the code which has been used for each construct and variables presented in Table 3.

The research hypotheses of the study were tested by the Lisrel program. The results showed that all fit indices are normal (Table 4). Therefore, the conceptual model studied and the relationships between the internal and external variables are confirmed and the underlying variable of entrepreneurship development is influenced by variables of development of entrepreneurial culture, underlying factors, university external capability, transformational leadership, organizational culture, organizational structure, and knowledge management. The results showed good fitness. Bootstrap and t-test were used to test the hypotheses, the result of which is shown in Table 5.

Table 6. shows the results of testing hypotheses in the form of path coefficients along with the significant level and in relation to the research hypotheses. The values of the path coefficient and their significance are investigated for each of the hypotheses. The values of t statistic showed the path coefficients. If the absolute value of t for path coefficients is greater than 1/96, it is significant at 5% level and if it is more than 2/56, it is significant at the 1% level. According to the result, all independent variables were able to explain 99.5% of variance variations of dependent variables. Also the results of the table 6 Shows that all the hypotheses are accepted.

Conclusion and discussion

The purpose of the present study was to investigate the influencing factors on entrepreneurial university development in the Islamic Azad University of Iran. According to the results, the organizational culture has a significant influence on the entrepreneurial university development with a coefficient of 0.71. This finding is in line with (Al-Swidi & Mahmood, 2011). Organizational culture is a system of shared inference that members have toward the university. In fact, it is a pattern of fundamental assumptions that the team members learn to solve issues in order to adopt leading to the external environment and also internal development (Khatib, 1996). The fundamental mechanism of increasing productivity in common values and commitment lies in the cultural values, therefore through the high commitment system, the organization can achieve good performance. Regarding this issue, considering the influence of organizational culture on the dimensions of entrepreneurship, it can be concluded that any attempt to create and strengthen an effective organizational culture in Islamic Azad University can ultimately improve and develop and leads it towards entrepreneurship. In this regards, managers must analyze their organizational culture, define their desirable organization, and then create the culture and values that support their goals.

The results showed the organizational structure had a negative and significant effect on entrepreneurial university development ($P \leq 0.01$). This finding is in line with (Stewart & Cotton, 2013). The organizational structure included the limits of authority, hierarchy, command levels, and the way in which functions are divided and distributed among units, and also include task descriptions, organizational charts, and organizational posts. It should be noted that as the organization grows and its parts are created (according to the pattern of the life of the organization) and its missions change, its organizational structure must also be changed (Harper, 2015). Therefore, considering the need for higher education in agriculture, the structure of the university should be changed based on the development of the entrepreneurial university (W. W. Burke, 2017). In this regards, coordinate and fit between organizational strategy and structure should be established. Therefore, revision of the hierarchical structure of the university and the removal of existing barriers to facilitate the participation of members in decision making and the promotion and implementation of participatory management culture at the university in order to engage and exploit all the intellectual abilities and capacities should be considered. Also, it is recommended that managers provide a clear vision of the organization's future, reducing employee uncertainty and increasing risk-taking and reducing ambiguity in dealing with risk positions.

The findings showed knowledge management has a positive and significant impact on the entrepreneurial university development. This finding is in line with (Titi Amayah, 2013). The logic of the need for knowledge management is based on major changes in the business environment. It helps the university to focus on its own experiences, knowledge, and insights and

focus its activities on the acquisition and use of knowledge in order to utilize this knowledge in solving problems, dynamic learning, strategic planning, and decision making. Therefore formation of a knowledge center for coordination and the provision of creative ideas and points of view to improve the implementation processes is necessary. Also, providing an appropriate space in which employees can take care of occupational stresses in their workplace, thereby providing the necessary context for transferring and applying knowledge gained should be considered.

Transformational leadership has a positive and significant effect on entrepreneurial university development. This finding is in line with (Cheng, 2012). One of the factors influencing the innovation spirit of faculty members and organizations is the leadership style, which has a direct and indirect effect (Garcia-Morales, Martín-Rojas, & Lardón-López, 2018). In other words, in view of the rapid pace of scientific, technological, social and cultural changes in the modern era, successful universities are able to anticipate these changes and adapt themselves to the environment. Given the fact that universities produce knowledge and technology, these universities should always strive to empower members. Thus, university officials should provide the ground for the development of an entrepreneurial university by matching the goals of the individual and the university. It is recommended the university's management encourage faculty members to work together and to form networks and groups, to increase collegiality among them, and examine issues from the different point of view. The university's external capabilities have a positive and significant effect on entrepreneurial university development. This finding is in line with (Kasim, 2011). The findings also indicated that identifying and investigating various environmental factors affecting entrepreneurship development can be helpful in large-scale planning and policy-making to promote entrepreneurial activities in the country. This is also in line with (Rajeev et al., 2012). In recent years, small and medium enterprises have become generators of entrepreneurship and economic development in developed countries. In this regards, access to credit is one of the issues that influence entrepreneurial activity. This study, therefore, recommends that financial institutions should reduce their requirements such as collateral when offering credits to university students. This study recommends that agricultural universities should have a stronger focus on the skills required by entrepreneurs in the developing world using entrepreneurship training includes the economic and social impact of technologies networking and mentorship by successful entrepreneurs; business education including, accounting, marketing and finance and exposure to potential investors and partners. Also, the government of Iran, as well as universities, should establish businesses encouragement center where youngsters and newcomers meet together to find opportunities, deploy the ideas and discuss their mutual desire in starting a new business venture. It is also a place for sharing stories, getting inspirations and looking for business partners or finding human resources. Furthermore, the government should organize more start-up workshops and competitions or leagues at the national level in order to attract investors and benefactors to transform ideas as

well as innovations from paper into reality. Finally, entrepreneurship culture had a positive impact on the entrepreneurial university development. This finding is in line with (Yang et al., 2013). Indeed, in the transition from the traditional stage to the industrial one, particular attention should be paid to the individual capabilities, the capabilities of entrepreneurs in exploiting resources and utilizing modern technology, because they are using the new methods in the market to prepare themselves for the optimal use of tools and to the achievement of the desired quality of goods and services as the default for the development of the entrepreneurial university.

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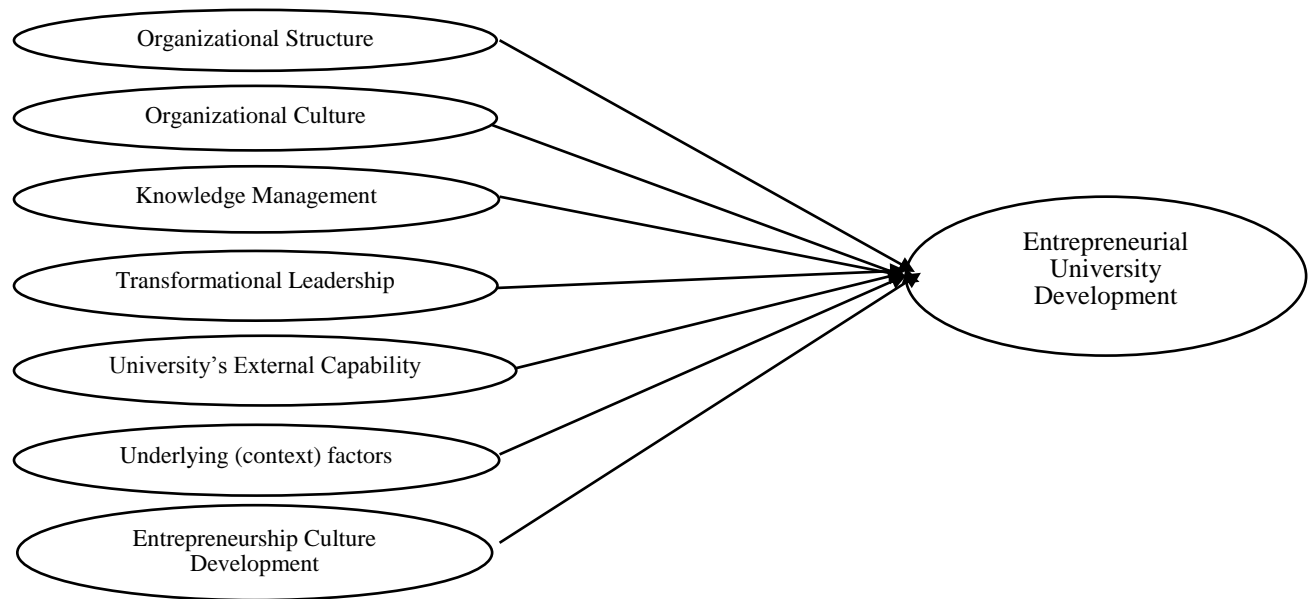


Figure 1: a research framework

Table1. The validity and Reliability of the constructs of the study

Construct	Alpha Coefficient Values	AVE	Composite reliability
Knowledge Management	0.75	0.513	0.839
Organizational Structure	0.80	0.776	0.885
Organizational Culture	0.90	0.720	0.993
Transformational Leadership	0.82	0.661	0.886
University's External Capability	0.90	0.912	0.954
Underlying factors	0.85	0.780	0.914
Entrepreneurship Culture Development	0.76	0.592	0.850
Entrepreneurial University Development	0.85	0.552	0.859

Table 2. The demographic attributes of the respondents

Attribute	Level	Respondents			
		Ph.D. Students		Faculty members	
		Frequency	Percent	Frequency	Percent
Gender	Male	122	60.4	35	66
	Female	80	39.60	18	34
Marital Status	Bachelor	121	59.9	12	22.6
	Married	81	40.1	41	77.4

Table 3. Measures of the constructs fit

Constructs	Variables	Code ¹	Fit Indices							
			χ^2/df	GFI	AGFI	NFI	NNFI	IFI	CFI	RMSEA
Knowledge Management (KM)	Creating knowledge	KC	1.89	0.98	0.96	0.98	0.99	0.99	0.99	0.029
	Knowledge acquisition	KA								
	Refining process	RP								
	Knowledge Distribution	KD								
	Knowledge Power	KP								
Organizational Structure (OS)	Formalization	FOR	2.01	0.99	0.96	0.99	0.99	0.99	0.99	0.026
	Complexity	CO								
Organizational Culture (OC)	Cooperation	CO	2.01	0.94	0.94	0.96	0.96	0.98	0.97	0.036
	Adaptability	AD								
	Prophecy	PR								
	Sustainability	SU								
Transformational Leadership (LT)	Infiltration of the ideal	AI	2.33	0.91	0.90	0.96	0.98	0.90	0.91	0.073
	Mental persuasion	MP								
	Inspirational motivation	IM								
	Individual consideration	IC								
University's External Capability (UEC)	Commercialization of Findings	CRF	1.89	0.98	0.97	0.99	0.94	0.99	0.99	0.024
	Science and Technology Park	STP								

¹Here after we use these codes for showing each questions.

Underlying factors (UF)	Organizational Institutional Environmental	OR IN EN	2.33	0.94	0.94	0.98	0.99	0.99	0.99	0.0037
Entrepreneurship Culture Development (DEC)	Training skills and motivations The culture of understanding change and discovering the opportunity Culture of partnership and creativity Culture of independence and Risk Aversion	TSM CCDO CPC IRA	2.00	0.95	0.94	0.98	0.98	0.99	0.99	0.033
Entrepreneur University Development (EDU)	Leadership and governance Capacity building in engagement and collaboration Entrepreneurial structure of the field of study and beyond Vision, Mission Exchange and transfer of knowledge Internationalization Entrepreneurial Education	LG OC EL VM KS IN EE	1.87	0.99	0.99	0.99	0.98	0.99	0.99	0.028

Table 4. Fit indices of entrepreneurial university development

Indices	Value
χ^2/df	2.02
RMR	0.032
GFI	0.98
AGFI	0.98
NFI	0.99
NNFI	0.99
IFI	0.98
CFI	0.99
RMSEA	0.052

Table 5. The value of ‘Eigenvalue’, ‘t statistics’ and ‘R²’

Construct	Code	Eigen Value	t	R ²
Knowledge Management (KM)	KC	0.811	21.798	0.657
	KA	0.803	22.875	0.644
	RP	0.688	12.894	0.473
	KD	0.584	7.341	0.341
	KP	0.671	7.794	0.450
Organizational Structure (OS)	FOR	0.911	20.019	0.829
	CO	0.779	23.230	0.622
Organizational Culture (OC)	CO	0.869	34.196	0.755
	AD	0.916	65.378	0.839
	PR	0.904	47.064	0.817
	SU	0.832	24.600	0.692
Transformational Leadership (LT)	AI	0.723	11.929	0.522
	MP	0.842	26.582	0.708
	IM	0.855	34.700	0.731
	IC	0.827	32.460	0.683
University’s External Capability (UEC)	CRF	0.956	117.036	0.913
	STP	0.954	106.665	0.910
Underlying factors (UF)	OR	0.925	0.855	0.855
	IN	0.907	0.822	0.822
	EN	0.813	0.860	0.860
Entrepreneurship Culture Development	TSM	0.899	0.808	0.808
	CCDO	0.807	0.651	0.651

Entrepreneur University Development (EDU)	(DEC)	CPC	0.763	0.582	0.582
		IRA	0.572	0.327	0.327
		LG	0.816	0.665	0.665
		OC	0.909	0.826	0.826
		EL	0.749	0.561	0.561
		VM	0.825	0.680	0.680
		KS	0.794	0.630	0.630
		IN	0.607	0.368	0.368
		EE	0.359	0.129	0.129

Table 6. Testing Hypotheses of the research framework

Hypotheses	Eigenvalue	Std. Error	t Value	Result
H1: Knowledge management affects the development of an entrepreneurial university	0.216	0.068	2.816	Accept
H2: The organizational structure affects the development of an entrepreneurial university	-0.211	0.084	2.711	Accept
H3: An organizational culture affects the development of an entrepreneurial university.	0.586	0.068	4.074	Accept
H4: Transformational leadership affects the development of an entrepreneurial university	0.423	0.035	6.810	Accept
H5: University's external capability affects the development of an entrepreneurial university	0.325	0.074	4.343	Accept
H6: The underlying factors affect the development of an entrepreneurial university	0.497	0.055	3.174	Accept
H7: The development of entrepreneurial culture affects the development of the entrepreneurial university.	0.359	0.048	3.230	Accept