

# Role of Organizational Structure in University Entrepreneurship

## A Case Study of Iranian Higher Education

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### Abstract

One of the most important and new issues in the field of higher education is university entrepreneurship. Organizational structure can play an important role in this regard. The aim of this article was to study the role of organizational structure in university entrepreneurship in Iranian public universities. Research method was qualitative based on grounded theory. Data was collected through a semi structured interview which was conducted on a purposive sample of entrepreneurship experts. In total, 36 interviews were carried out in October and March 2012. They were selected through theoretical sampling, and Snow Ball and Theoretical Saturation. Analyzing method included open, axial and selective coding techniques. Results showed that university entrepreneurship requires entrepreneurial structure with entrepreneurial traits, for example, university total orientation toward entrepreneurship, agility, enriched roles, autonomy and flexibility. These are structural requirements for an entrepreneurial university. Moreover, structural mechanisms which are necessary for university entrepreneurship include managerial, legal and communication mechanisms.

**Keywords:** university, entrepreneurship, organization structure, autonomy.

### 1. Introduction

The last decade witnessed a powerful emergence of entrepreneurship research worldwide (Arasti et al. 2012). Entrepreneurship is regarded as one of the best economic development strategies to develop country's economic growth and sustain the country's competitiveness in facing the increasing trends of globalization (Schaper and Volery 2004; Venkatachalam and Waqif 2005). Hisrich, Peters and Shepherd note that entrepreneurship is the process of creating something new with value by devoting necessary time and effort, assuming the accompanying financial, psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence (Idogho and Augustine. E 2011). This, in turn, has increasingly made entrepreneurship emerge as one of the most popular research domains in academic circles (Lee et al. 2005). Policymakers, economists, academics and even university students are talking about it in the seminars, conferences and workshops. They are being organized every year across the world and emphasize the importance of entrepreneurship to country, society as well as individual development (Schaper and Volery 2004; Matlay and Westhead 2005). Gnyawali and Fogel note that a universities, in this respect, have positioned themselves as a hub of entrepreneurship by making substantial contributions in nurturing an entrepreneurial environment that combines factors that contribute to the development of entrepreneurship (Keat et al. 2011). Since late 1970s, entrepreneurship has been considered in many developed countries and their universities have become increasingly entrepreneurial (Mowery et al., 2004; Siegel, 2006a). Iranian higher education and particularly public universities (for example Tehran university, Sharif university, Isfahan University of technology, Ahvaz university, Alzahra university, Isfahan university, Shiras university etc.) have limitedly increased their entrepreneurial activities since 2000s along many dimensions: entrepreneurship education, patenting and licensing, creating incubators, science parks, and university spin-outs, and investing in start-ups. One of the entrepreneurship obstacles is the universities bureaucratic structure. This article presents a qualitative analysis of the role of organizational structure in Iranian university entrepreneurship which organizational structure planners should be aware of that.

### 2. Literature Review

#### a. University entrepreneurship

The literature on university entrepreneurship is rapidly expanding, throughout the world. Universities in developed countries have become increasingly entrepreneurial (Mowery et al., 2004; Siegel, 2006a). The

growing literature on university entrepreneurship has not yet been reviewed in a systematic and comprehensive fashion, it is difficult to assess what is known to date; consequently, scholars have little guidance on how to fruitfully focus their attention in the future. This gap calls for a detailed review and in-depth analysis of the existing literature, in order to better understand the current state of the field and to provide some guidance for future research (Rothaermel et al. 2007). Hisrich & Peters (2002) admit that entrepreneurs are seen differently by the likes of economists, psychologists, business persons, and politicians. Thus university entrepreneurship is best describable with these approaches (Farasatkah 2009). Yadollahi Farsi (2007) believes that university entrepreneurship is the creating and developing innovation among faculty members, commercialization of research results and innovating in human knowledge boundary development. Clark (1993) has identified five common elements of successful universities: (1) strengthened core steering; (2) enhanced developmental periphery; (3) diversified base funding; (4) stimulated academic and (5) integrated entrepreneurial culture. But it must be taken into consideration that universities which have so far acted in a bureaucratic and defensive manner may not easily become entrepreneurial. As Shattock (2003) states universities will not become entrepreneurial if they do not impose their own internal criteria for the allocation of resources, if they do not use creatively a diversified income base, where the Department is developing culture 'rich' and 'poor' earnings as a result of foreign income, or if the institution climate will not turn into one with a tendency to risk.

#### *b. Organizational structure:*

The term structure refers to the way in which organizations tasks are divided and coordinated. The Organizational structure is reflected in the organizational chart, and is shown in the job descriptions, procedures and regulations. The organizational structure provides a framework for governing relationships between jobs, systems, operational processes, individuals and groups that try to achieve the goal. Also, it is a set of methods that divide job into determined duties and provide coordination among them (mintzberg, 1979, 2). Organizational structure is associated with work flow and the given pattern. Organizational chart is a visible symbol of the entire organization's activities and processes. Many scholars and researchers have studied entrepreneurship, organizational structure and university. These studies include: entrepreneurship education and university context (Blenker et al. 2005, Kirby, 2002, Gibb, 2002), organizational structure and entrepreneurial culture (Begley and Boyd 2007, Shirpour et al. 2012), designing organizational structure for entrepreneurship centers (Kordnaeej et al. 2002), organizational structure and organizational entrepreneurship (Mogli, 2012, Alimardani et al. 2007, Rezazadeh, 2002, Etkowitz, 2003, Etkowitz & Klofsten, 2005, Ireland et al. 2006), the impact of Structure on corporate entrepreneurial success (Echols and Neck 1998).

### **3. Methodology of Research**

Research method was qualitative based on grounded theory. The phrase "grounded theory" refers to the theory that is developed inductively from a corpus of data. "If done well, this means that the resulting theory at least fits one dataset perfectly. This contrasts with theory derived deductively from grand theory, without the help of data, and which could therefore turn out to fit no data at all" (Glaser and Strauss 1967). Data was collected through a semi structured interview on a purposive sample of entrepreneurship experts. In total, 36 interviews were carried out in October and March 2012. Sampling was done through theoretical sampling, and snow ball and theoretical saturation. At first, we interviewed two managers of entrepreneurship centers at University of Isfahan and Isfahan Technical University. Then they introduce other experts. Interviews continued until theoretical saturation was confirmed. Saturation of data, meaning that the same themes repeatedly arise in their data (Hesse-Biber & Leavy, 2010). Analysis was done through open, axial and selective coding techniques. Open coding is a part of the analysis concerned with identifying, naming, categorizing and describing phenomena found in the text. Axial coding is the process of relating codes (categories and properties) to each other, via a combination of inductive and deductive thinking. Selective coding is the process of choosing one category to be the core category, and relating all other categories to that category (Strauss and Corbin. 1990).

### **4. Findings:**

[Insert Table 1 about here]

Table (1) shows open coding, axial coding and selective coding. Frequency and percent is also given in the table 1:

- a) In the table (1) first axial category is structural requirements in university entrepreneurship that include
  - 1- University total orientation toward entrepreneurship. Eight interviewees (% 22.2) believed, as Iranian universities become entrepreneurial, university total orientation should be toward entrepreneurship. For example interviewees 9 and 19 stated if our universities are to become

- entrepreneurial, at first they must change their approaches. Interviewees 3 and 21 said that drawing entrepreneurship perspective for higher education determines university direction.
- 2- Enriched roles: six interviewees (%16.6) pointed out entrepreneurial higher education requires enriched roles. In this regard interviewees 11 and 32 believed that enriched roles are crucial in the entrepreneurial organizational structure. Also interviewees 18 and 25 stated, roles with insight and accountability are enriched roles based on which that person try to work based on his/her capacity and ideas.
  - 3- Autonomy: Sixteen interviewees (%44.4) said one of the requirements of university entrepreneurship is autonomy. For example interviewees 3, 16 and 28 expressed that the universities need research and scientific autonomy and that they are basic values in the university social affairs. The interviewee 15 declared that quality of making decision about entrepreneurial policy is depended on university autonomy.
  - 4- Flexibility: Seven participants in this study (%19.4) emphasized on flexibility in the organizational structure. Interviewees 5, 15 and 28 believed that there are different demands in dynamic environments and to meet the needed demands, organizational flexibility is needed. Interviewees 14 and 36 suggested that, flexible structure is an important part of organizational entrepreneurship and it can lead to strengthened initiation, creativity and innovation in organization.
  - 5- Agility: nine interviewees (% 25) believed that an entrepreneurial organization is agile and its structure should enjoy agility. For example interviewees 1,8,17,&29 stated that entrepreneurship implies risk and calculating risks are done through agility. Interviewees 16, 31,32,36 expressed that agility is above flexibility, because it means improved reliability, flexibility, compatibility, adaptability, versatility, adaptation and ability to compromise rapidly and intelligently.
- b) Second axial category in the university entrepreneurship is structural mechanisms that include:
- 1- Management mechanisms: twelve interviewees (%33.3) pointed out that management mechanisms are numerous and different. For example, they stated, confidence making (interviewees1,10,22),discovering opportunities, making opportunity (interviewees9,23,32)and coaching(interviewees3,22,30,34)are essential management mechanisms for entrepreneurship.
  - 2- Legal mechanisms: twenty one interviewees (%58.3) expressed that legal mechanisms are very important before anything else for developing entrepreneurship in higher education. Interviews 51,6,12,27,32,36 said that rules and procedures stand first in this regard Making transparent laws and regulations were emphasized by the participants above all other considerations.
  - 3- Communication mechanisms: ten participants (%27.7) believed that communication mechanisms and utilizing appropriate communication patterns reveal entrepreneurial potentials. Horizontal communication patterns(participants3,7,18), overallcommunication(Interviewees3,7,13&14),networking(participants5,8,11,13,&30) and internal and external communication(interviews3,8,19) were also emphasized.
- b) Selective category is entrepreneurial structure in the university entrepreneurship. Entrepreneurial structure with entrepreneurial requirements and mechanisms help university to move towards entrepreneurship.

## 5. Conclusion

One of the most important topics in the field of higher education management involves "university entrepreneurship". In this research we tried to appraise expert interviewees' attitudes about the role of organization structure in university entrepreneurship. Generally, organizational structure can be either a limiting or a stimulating factor for proactive actions of faculty members and students. In fact, if a university is to become creative, innovational, entrepreneurship generating and transformer of knowledge and technology; it should be an organization totally oriented toward entrepreneurship. In another words, goals, resources, spectrum and programs should be in the direction of entrepreneurship. Enriched and dynamic roles are very important in the structure. The Random House College Dictionary defines enriching as "to add greater value or significance". An added benefit is that provision of novel stimulus which may help faculty members maintain their ability to adapt to change their environment by presenting novel ideas and knowledge. In the contemporary role enrichment, employee activities are based on learning, exchanging views, idea and finding ideas, willing for initiation and creativity. In order to enrich roles, universities need to redefine their mission, vision and activities and replace their traditional approach with a new approach, which by many authors has been called "entrepreneurial approach". One of the most distinguishing characteristics of the entrepreneurial university involves a fundamental change in the role and responsibilities of the individual faculty members to become entrepreneurs

and for the university to support such individuals. Fostering independence at universities help to enrich roles. University autonomy is a necessary condition for entrepreneurship. The best universities according to recent rankings are very autonomous (exceptions in Japan, Russia or China can be explained). Autonomous universities can be proactive and entrepreneurial (Weber 2006). Autonomy offers a formula for institutional development of university in which university defines and determines its independence, ensures diversified financing (and thus decreases its dependence on the state), develops new university departments and activities in accordance with society's demand, and leads to structural changes, which secures better university's capacity in responding to changes. Such flexible structure has the capacity of entrepreneurship. Flexibility is defined as the ability of the entity to proactively, reactively or inherently embrace change in the timely manner through its components and its relationships with environment (Conboy and Fitzgerald,2004). Flexible structure prepares university for environment changes and can be agreeable to changing conditions. Flexible structure development can increase innovation and entrepreneurship at university and thus create added value and wealth for university. Agility is one of the structural requirements. Agile universities and organizations are successful in creating new ways for business, commercialization of research results and technology transfer. In the agile university, faculty members and students form entrepreneurial teams and work together for entrepreneurship and commercialization of knowledge. Goldman, Nagel and Preiss define agility as "A comprehensive response to the business challenges of profiting from the rapidly changing, continually fragmenting global markets for high quality, high performance, customer configured goods and services (Preiss, 2005). Thus agility is dynamic, content specific, aggressively change embracing and growth oriented. Agility is a comprehensive response to new competitive forces that have undermined the dominance of the mass-production system (Erande and Verma, 2008). Three structural mechanisms necessary for university entrepreneurship include managerial, legal and communication mechanisms. Managerial mechanisms are debating about management roles and tasks in entrepreneurial university and they, discovering opportunity, making opportunity, coaching and making trust. One of the legal mechanisms is making transparent laws and regulations. Unfortunately, laws and regulations aren't enough transparent or light and sometimes create difficulties and problems for university entrepreneurs. Entrepreneurs need intellectual property protection and want to be protected by laws. Before anything, training about laws and regulations requires transparency. Such approving and supportive laws are motivational factors and enhance entrepreneurial activities. At entrepreneurial university, the most important Communication mechanism is networking. It helps to move from ivory tower – to the entrepreneurial university. The ivory tower metaphor is the classic portrayal of the sublime institution closed around it, where research and teaching is based solely on internally defined criteria for production of knowledge - and this knowledge primarily spreads to colleagues and students. "The entrepreneurial university" characterizes for some people "a modern university" or a university which, for a substantial part of its activities, has (sometimes for economic reasons) to engage in close cooperation with the world outside the university (Blenker et al. 2005). Overall, the world' top universities with their successful experiences in the field has shown that the development of science, technology development, product development and commercialization and success in the market through entrepreneurship lead to success in the age of competition. Hence successful universities must adopt entrepreneurial organizational structure.

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**Table 1: Extracted categories from interviews context**

Open coding (first)	open coding (second)	Fre. (n)	Per. (%)	Axial coding	Selective coding
Tendency toward entrepreneurship leads to gathering resources with common goals. Entrepreneurship thinking and vision is shaped by common resources for creating added value. Drawing entrepreneurship perspective is basic inspiration resource. Idea and program are needed to be entrepreneur.	Organization total orientation toward entrepreneurship	8	22.2	structural requirements in university entrepreneurship	Entrepreneurial structure
Personal roles are essential and important in entrepreneurial organization structure. Roles enrichment makes them dynamic. Role together with vision and responsibility promise to do individual job tasks based on empowerment and capacity and helps to aim organizational goals based on his/her idea and think. In entrepreneurial university mustn't expect that person do his/her tasks in conformity with predetermined and certain outside. Roles focus on entrepreneurship enriches them. Enrichment roles encourage individuals to do entrepreneurial activities together. Entrepreneurship is a social role. To accept social roles by communications development with different communities will make strong resource protection for entrepreneurship.	Enriched roles	6	16.6		
Autonomy is essential and necessary for entrepreneurial university. All the time scholars and scientists debate about independence and autonomy in university at all the university levels and process. Autonomy in educational and curriculum planning, acceptance system, Testing and evaluation and measuring quality, measuring validity and financial resource allocation evaluation. University autonomy influences making policy and its implementation. Management autonomy can have an effect on the scientific and research Independence. Entrepreneurship needs independence. Independence abandons universities from capitalism. Consideration to selected approach instead of appointed approach.	Autonomy	16	44.4		

**Table 1 Continued...**

<b>Open coding (first)</b>	<b>open coding (second)</b>	<b>Fre. (n)</b>	<b>Per. (%)</b>	<b>Axial coding</b>	<b>Selective coding</b>
<p>Flexible structure is protected against social changes. Flexible structure is an important part of organizational entrepreneurship and causes dynamic function and facilitates creative and innovative process. Entrepreneurial university is flexible and agreeable to existing conditions. In flexible structure ideas is produced, studied and organized and then transform to knowledge, which is delivered to business. Responsibility to demands needs flexible structure. In flexible structure evaluation and development can increase innovation and entrepreneurship. Added value and wealth is compatible with dynamic structures.</p>	Flexibility	7	19.4	structural requirements in university entrepreneurship	Entrepreneurial structure
<p>Agile organizations are successful in entrepreneurship. Agility creates new ways for business. Rough and disturbance environment requires agility in organizations. Agility is above flexibility. Agility must happen on all of the organization dimensions. Agility roles in entrepreneurial teams are shaped based on responsibility, effective communication, personal participation amount and self-renewal. Faculty members and students have collective and cumulative work mentality at university. Traits of personnel in the agile organizations are new techniques learning, open thinking and vision. Agility is appropriate to changes.</p>	Agility	9	25		
<p>Through presenting new ways in management, administrators try to shape new ideas at university. managers must not only discover opportunity but also make opportunity. Making opportunity Managers research eventualities for personnel and their own performance development. At entrepreneurial university, managers act as coaches. For university entrepreneurship, making trust is important. Trust making leads to revealing ideas easily. Making trust has two parts: first: faculty member's confidence about their managers, entrepreneurship ability, second: university constant presence in the business.</p>	Managerial mechanisms	12	33.3	structural mechanisms in university entrepreneurship	

**Table 1 Continued...**

<b>Open coding (first)</b>	<b>open coding (second)</b>	<b>Fre. (n)</b>	<b>Per. (%)</b>	<b>Axial coding</b>	<b>Selective coding</b>
<p>Making clear laws and regulations are control tools. If the laws aren't transparent, a number of difficulties happen during implementation stage. Entrepreneurs and faculty members must be aware of laws and regulations. Faculties and student should know intellectual property and entrepreneurship laws. Training personnel to be familiar with intellectual property rights at university Entrepreneurs. Training courses help to make laws clear. Rules should have supportive role. The rules are equal for all of the employees and persons at university. Entrepreneurship laws approval is necessary to support entrepreneurs.</p>	<p>Legal mechanisms</p>	<p>21</p>	<p>58.3</p>	<p>structural mechanisms</p>	<p>Entrepreneurial structure</p>
<p>Utilizing horizontal communication patterns are more suitable than vertical communication patterns. Overall and vertical communications help free flow of information. Through flowing information freely, academics can actualize their creative and entrepreneurial potentials. Horizontal and overall communication cause sharing knowledge and individuals act in the entrepreneurship teams easily. Networking is horizontal and vertical communication patterns supplement. Networking through <a href="#">distribution of information</a> and not information control make dynamic interaction between university members ,employees and students. In the networking, <a href="#">distribution of information</a> can helps to exchange ideas among individuals together for entrepreneurship. Networking breaks geographic, horizontal and vertical boundaries. Through internal and external communication expert entrepreneurship groups are formed.</p>	<p>Communication mechanisms</p>	<p>10</p>	<p>27.7</p>	<p>in university entrepreneurship</p>	



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