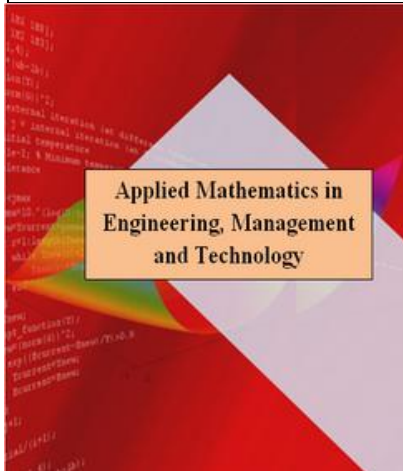


## A process model of Entrepreneur University with knowledge Management Approach

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### Abstract

Due to the challenging world of today, lack of trust is intensified and the life cycle of the products is lowered and the university services as a part of the social system cannot play the role of a calm island in the society but it should play the role of the main columns for the society. So, the universities should provide the conditions in the society and treat the individuals which can save the economy from the crisis and make a better condition for the economy by entrepreneurship.

In the present article, it is tried to define the concepts related to entrepreneurship and Entrepreneur University, differences, knowledge management and introducing a suggested systematic model based on the knowledge creates a proper thinking frame for users of this article.

**Keywords:** Entrepreneur University, academic entrepreneur, knowledge

### Introduction

Although university is one of the richest science and project center and producer of knowledge and technology, it always plays the key role in economic, social and cultural changes of the world around them. However, the universities themselves are significantly affected by the changes in the environment and now at the beginning of the new millennium this effect has been increased and universities are required to modify with the environment and new social, economic and cultural changes. Today the independence of the universities is challenged by the governments and environmental changes. Here, if the [policy makers and managers do not understand the changes and modify with them, the dependence of the university is affected. But today, the universities and governments have to react properly against demands of the organizations (David, 2004, p. 144).

### Literature Review

Academic entrepreneur means developing the technology in the activities and reactions which happen in the academic context so that in order to meet the goal of having an entrepreneur university, the educational and research applications have to redefined. Changes in managing the intellectual capitals of the university (innovations, intellectual ownership, licenses, publications and others) , learners features, transporting technology through creating technology based companies and cooperation of university and industry (Etzkowitz, 2008).

Academic entrepreneurship means solving the scientific problems of the society, government and agencies, creating innovation among the faculty members, giving the results of the academic researches to the market, producing and offering the new technologies in developing the human knowledge (Yadollahi, 2008).

### Emergence of Entrepreneur University

Entrepreneur University includes a wide range of researches in the literature of science policies and after a while different researches studied various dimensions of this phenomenon.

Martin and Etkwoits studied the literature and function of the universities at European level since the middle age up to now and show that how during this time, the social and economic changes are emerged and changed based on the social, economic, functions and structures needs.

#### **Most important dimensions of classical and modern universities**

<b>Characteristics</b>	<b>Old Paradigm</b>	<b>New Paradigm</b>
Strategy	Planned	Entrepreneurial
Structure	Hierarchy	Network
System	Rigid	Flexible
Staff	Title+Rank	Helpful
Style	Problem solving	Transformation
Skills	Sameness	To build
Shred Value	Sameness	Difference
Focus	System/institution	Institution/individual
Source of strength	Stability	Change
Leader ship	Dogmatic	Inspirational

(Sanyal, 1997,p20)

#### **Necessity of entrepreneurship in University**

Teaching the entrepreneurship devoted a huge part of the educational curriculum in industrial and postindustrial countries. Now, there are more than 50 universities in America, over 42 in Germany, 8 universities in Sweden, 4 universities in Malaysia and others which included the entrepreneur education and managing the small economic units in these countries especially among disabled ladies. The aim of these educations is to make the graduate students able to be holders of private organizations and institutes, especially during the last ten years of the government plans; the emphasis has been on the privatization. The Constitution of the Islamic Republic of Iran considered it a must for the government to create jobs and so developing the culture of creating job and entrepreneur to create a proper condition for emergence of the entrepreneurs. So, the relationship between university and work market and industry is the most important issue (Baghersad, 2014, p. 19).

#### **The Third Generation University of Entrepreneur University**

University during the history based on the expectation of the environment and intellectualism have met changes which are shown in table 1. These changes in sum, isolated universities to an organization which is completely related to the industry and society especially in order to recognize and meet the needs of them. It should be mentioned that UNESCO defined the modern universities as below:

“A place where the entrepreneur skills are taught in higher education in order to facilitate the potentials of creating jobs”.

Based on the above definition, university is not a place for learning a series of lessons, and it is not a place for doing science projects but it includes all the goals and has the responsibility of training people and agencies that create business. The graduates of the universities are not a collection of people who have a range of scientific information but they are the ones who innovate in their workplace and see new horizons in every level and have the ability and brave to enter the fields of producing science. This is the fact that is present in the field of growth. In this condition, universities make use of the achievements by their graduates in the market.

#### **University as an Entrepreneur Organization**

Entrepreneur University is where the new jobs are created. The center supports entrepreneurial people. This support includes training support, finance and marketing, so entrepreneurs have access to libraries, laboratories etc. in these Universities facilities are provided for such investors to provide new business centers. They are

also working to anticipate problems and opportunities and thus gained valuable experience in the areas of finance and marketing.

Industrial enterprises that are associated with an entrepreneurial university also utilize the benefits of the technology. So, universities have been completed for scientific and industrial processes. Students in this category must set both the knowledge and entrepreneurship training and facilities that the university puts at their disposal; the educational institutions have to prove themselves for the creation of value. Universities in the world change from a place ((to provide an environment for knowledge)) to a place of ((training people to build large companies)) that needs to be brought to market for educational services; Today, many educational institutions and universities should re-examine their overall goals and strategies. This re-evaluation result of intensive market competition, the academic environment that is painful and a substantial part of it is funded through government sources.

### **Role of Universities in the development of entrepreneurship**

To promote the universities among students following points should be noted: make the University administrators and policymakers interested in the most strategic areas of entrepreneurship education is an important measure. In this context we explain the role and importance of entrepreneurship in the presence of officials including the President, Board of Trustees, Teaching and Research councils.

This can be an effective support for entrepreneurship students to use. One can also have plans to set a course that leads to entrepreneurial skills to be formulated. Increase self-efficacy, self-esteem and independence in students is possible through a variety of events such as craft classes and training courses and assertiveness, as well as holding seminars attended by experts and entrepreneurs.

Familiarizing teachers with entrepreneurship topics so that professors in the teaching process pay attention to the component such as being in search of opportunity, creativity, independence and risk taking among students and make them grow.

### **Entrepreneurial role of universities in regional development:**

As the universities are influenced by environmental changes in the new approach to entrepreneurship, they are simultaneously affect the development of the region and its surrounding environment. Studies of Bertrand Parlada have shown that any change of the basic higher education will help almost immediately on the social and economic structure.

### **Characteristics of entrepreneur Universities**

Although some authors still use the term "entrepreneurial university" with uncertainty, but most experts and scholars in higher education, consider entrepreneurship as the condition for survival and development of universities and higher education.

For example Thunberg said when I was elected as the president of the university, despite having saved a chain of higher education experience gained over many years and with great effort, I felt like I was dealing with a specific problem and new practices and existing solutions, that I did not have a convincing answer for. I thought about it a lot, and the new dimensions that they were moving to resulted which were generally called the Entrepreneurial University. (The new entrepreneurial university, [http // eee.gwu.edu / newentre.htm](http://eee.gwu.edu/newentre.htm)) He wrote an article based on his own conception of an entrepreneurial university. According to him, the main characteristics of an entrepreneurial university can be briefly stated the following five axes:

- entrepreneur University is forced to make and earn money.
- The entrepreneurial university students are as customers
- Modern entrepreneurial university reduces the traditional ceremonial but the level is enhanced.
- Entrepreneurial University faculty becomes increasingly closer.

### **The difference between the academic entrepreneur and the entrepreneurial university**

Entrepreneur university is a social system in which internal organizational units, such as departments, research centers, faculty and school work to his actual needs and the market environment (economic, social and cultural) and to respond to the innovation and also continually act for fundamental changes in their performance. But academic entrepreneurship means development, innovation and engagement in the activities of the university so that, in order to achieve entrepreneurial university, education leads to a redefinition of functions and services. These include changes in the management of intellectual property (patents, intellectual property, licensing, publications, etc.), the characteristics of graduates, transfer of technology through the creation of technology-based companies and the close cooperation between academia and industry he (Hussein, 2013).

### **Process perspective on academic entrepreneurship**

Organizational Entrepreneur is not a single event but a continuous process that can be a part of a series of events (Friedman and Siberman, 2003). It is also felt that to achieve a deeper understanding in the field of entrepreneurship can be possible through academic and develop a model of in a multistep process. This model attempts to identify key players, key activities and operators of business process of innovation. To develop and compile this process model terms innovation and innovation generated by University should be emphasized. For a clearer understanding of this issue innovation should be defined. Invention and technological innovation includes any product, idea or process through which university research is done. According to this definition, we can say that the main idea of the innovation is that academic research may produce new innovations and some of these innovations reach the practical steps leading to building entrepreneurial activity.

One of the major problems impeding the development of an integrated model of academic entrepreneurship lies in the fact that lines between the roles of key actors in the process of corporate entrepreneurship are not always clear and this can sometimes cause problems for the actors.

Due to this problem, the role of the stakeholders associated with the different stages of a process may be performed by one person. One of the main objectives of this research is the role of the main stakeholders which is done in the process model of academic entrepreneurship. Based on this model, although a person may have more than one role in this model, but a role that he plays in different stages can be considered separately and independently. In fact, some researchers have concluded that having people who can play multiple roles reduces the likelihood of success.

For example, Franklin and others (2001) in their study concluded that participation of a representative of the Department of Research and entrepreneurs can play the role of entrepreneurship and be a more appropriate setting for academic success. It is also emphasized that the beneficiary must remain separate and independent.

### **Entrepreneur of models**

#### **Model of Clark**

Clark (1998) studied the five European universities concluded that academies in transition to become entrepreneurs are affected by the decisive factors. These five factors are: guiding core reinforced with an expanded development environment, a diversified financial base, an integrated entrepreneurial culture, and a core academic motivation. The first three factors are formal and the last two factors are informal agents.

#### **Sporn Model**

Sporn (2001) suggested a model for the study of the relationship between higher education and compliance and environmental forces and provide new components of management, governance and leadership. The official causes of his model are: objectives, structure, management, governance and leadership, this model also have an informal organizational culture and a moderating factor in the environment.

### **Etzkwoits and colleagues Model**

Etzkwoits and colleagues (2000) defined the mechanisms and structures for the development of emerging entrepreneurs and explain their model encompasses four basic categories, internal change that includes existing duties reviewing the impact of institutions, projects contribute to stability achieve processes mediation in which a centralized authority, trilateral cooperation effect of the decentralized organizations .

Etzkwoits in his next endeavors offers entrepreneurial university model. The model is the result of his studies on the development of entrepreneurial universities in the United States, Europe and Latin America. His five cases are related to the proposed research. The factors included in the model are divided into two categories: formal and informal. According to the interdependence with industry, government and institutional autonomy is considered as domains of organizational forms, the conversion of knowledge capital and modernization of formal or informal re-factor model.

### **Corby Model**

Corby (2005) identifies seven strategic factors for enhancing an organization. Formal elements are as factors related to the strategic actions of the organization, communication, implementation and participation and informal factors are applied to those with sales promotion, recognition, reward and acknowledgment are associated.

### **Model of Guerrero et al**

Guerrero et al (2006) in their model used institutional economics theory, to focus on formal and non-formal institutional factors affecting the benefit of entrepreneurs. They were divided into two factors. Organizational structure and management of the university, academic standards, support of emerging companies and academic entrepreneurship training programs, official agents and academics tend to entrepreneurship, entrepreneurial university and the subject of role models, examples and academic reward system are the number of informal factors of their model.

### **Model of O'Shea et al**

O'Shea and colleagues (2005) explained the anatomy of MIT University as an entrepreneurial academy and named the success factors as:

- Grant funding to MIT in line with Sciences and Engineering Research
- Cash Flow for Technology Research
- The quality of academic staff
- Culture developed among faculty members at MIT
- Record and tradition of MIT
- Foreign geographic areas where MIT is working.

In their next study, they concluded that four characteristics are important in supporting the splinter companies. These include: individuals, organizations, cultures and environments. He provides a framework for companies of academic branch that is shown in the figure below.

### **Model of Gabe et al**

Alan Gibb, Gay Heskinz and Ian Robertson (2009) observed the effects of previous thinkers and opinion and challenged the higher education institutions in the field of entrepreneurial orientation to the university and proposed entrepreneurial university in the form of an entrepreneurial organization and suggested the framework as below. This framework is designed to assess the challenges to achieve entrepreneurial universities.

Model of Philpot et al

Philpot and colleagues (2010) examined the processes of entrepreneurial universities, and identified a number of obstacles to entrepreneurship. They defined the activities that universities can participate in at a range of soft to hard. They argued that the spectrum of academic activity common to entrepreneurial paradigm, include:

1. Provide highly qualified trained personnel, equip the workforce with educated people
2. Publication of University results: Publishing the books, book chapters and articles
3. Get Cash Granted: Making large-scale research grant funds from foreign interests for fundamental research
4. Consultation: Direct Sales academic expertise to external organizations in order to solve practical problems
5. Training Courses of Industry: Education Technology, this course can be included in executive education.
6. Research contract: doing certain research projects with industry, many of these projects have a strong commercial focus
7. Grant of Patent and License: protection of intellectual property rights, exploration and development of knowledge
8. forming a breakaway firms: firms created based on university research
9. Create Tech Park

Philpot and colleagues believe that the key pressure range is going toward Entrepreneurial change. These pressures include:

- 1 - The growing importance of technology in economic development
- 2 - the legitimacy of economic development as a function of higher education
- 3 - Change the ownership of intellectual property rights related to academic rights
- 4 - Increase University funds that led to supporting the funding gap

### **Model of Nelles & Vorley**

Nelles & Vorley (2010) suggested the organization architecture as a set of interacting internal factors shaping the agenda of entrepreneurial orientation in universities. In their model, the internal factors are divided into five categories: Structures, strategies, systems, leadership and culture.

### **Model of Guru and Urbano**

Guru and Urbano (2010) pointed to the existence of theoretical models associated with the phenomenon of entrepreneurial universities using institutional economics perspective, resource-integration and suggests that it help to understand the relationship between environmental factors (formal and non-informal) and internal factors (resources and capabilities) involved in the transition process. It is worth noting that environmental factors, according to two categories: formal and informal institutional economics and internal factors using an approach based resource capabilities and resources are divided into two categories.

He proposed a conceptual model shown in the following figure. This model is based on four key elements that should be considered in the entrepreneurial university: environmental factors, internal factors, capabilities and resources. These elements will result in entrepreneurial university.

### **Model of Salamzade and colleagues**

Salamzade et al (2011) According to a study done in Iran for clarifying and strengthening the existing knowledge in the field of entrepreneurial university and also seeking to provide a framework for the third generation universities that is entrepreneurs universities.

Their model utilizes a systems approach to input - process - output - outcome data on its agenda After reviewing the literature, twenty-five semi-structures interviews with experts familiar with the scope of proposed the system framework. Respondents among academics, policy makers, professionals in Parliament and the Ministry of Science and presented as the results.

### Model of training entrepreneurship at the entrepreneurial university

The entrepreneurial university emphasize the institutional culture of development, education and work, and to convert research results into innovation and technology are emphasized. Models of entrepreneurship education (magnetize or attract and stretching) and the radial compliance (Jacquet and Catherine, 2002) are followed at MIT.

In this model, the entrepreneurial class is provided by a faculty of the University such as Management but all the university students attend these classes. On the other hand, there is a radial entrepreneurship training model of America Cornell University. The models of entrepreneurship education are spread across all schools and colleges of the university and university can offer courses in entrepreneurship. In this process, the status of each component, such as budget management and administrative infrastructure, faculty members, teaching (including lessons, courses, etc.) student activities, research and other academic activities is crucial to understanding entrepreneurship courses (Streeter et al 2002).

Certainly the relationship between components and academic units is important. In two models listed above in adsorbent model all the ingredients are in place for a college course and radial components of the model are widespread in various departments and can be operated in parallel.

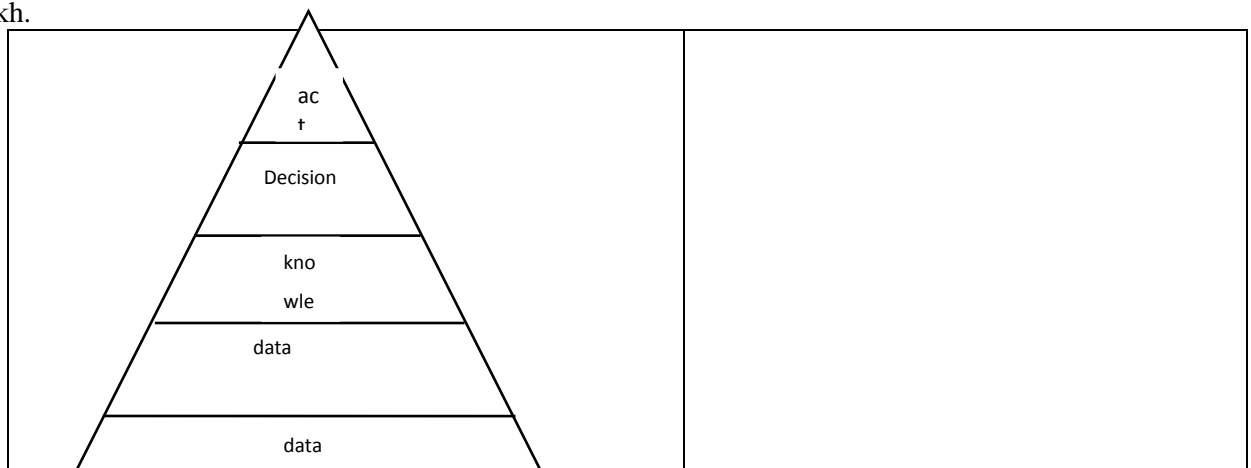
### An overview of relevant concepts of knowledge and knowledge management Data, information, knowledge

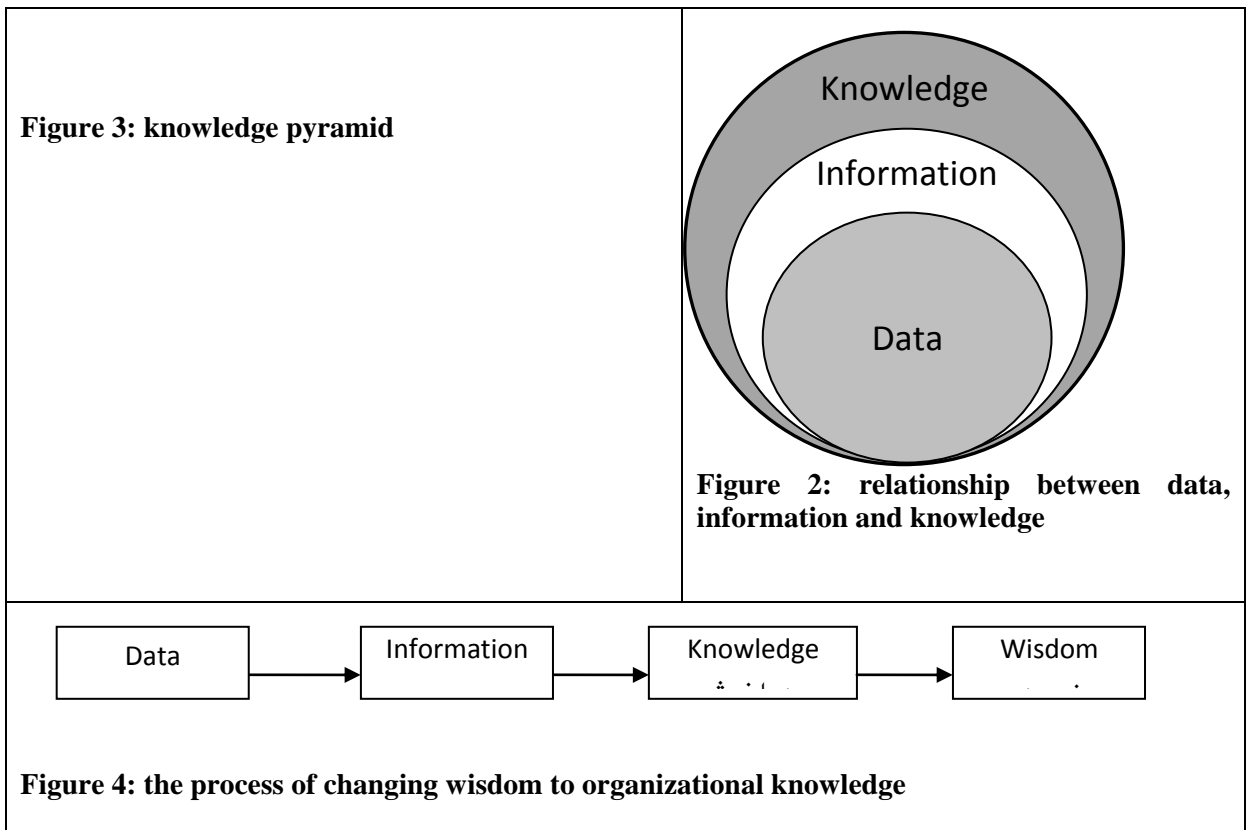
The data source is a form of knowledge, data, facts and figures (Kidwelly, 27, 2000) Information is created by exposure to data in a specific context or environment (Kidwelly, 29,2000) Knowledge is the thoughts and conceptions, understanding and lessons learned over time and a person obtains them through experience, reasoning, insight, learning, reading and listening account.

When people share their knowledge with others and when knowledge is combined with old knowledge, a new knowledge is created. Knowledge is personal in nature, because the values and beliefs of individuals and their perception of the world and others are interacting. Moreover, in the context of interpersonal relationships appears. Knowledge is richer and more meaningful data (Norouzian, 25,2008).

### Explicit and implicit knowledge

North (1991) knows the difference between a successful and unsuccessful due to the difference between explicit and tacit knowledge transfer. Implicit and explicit terms were introduced by Polanyi for the first time but they are popular in today's discussions of the famous book "knowledge-generating institutions" by Ouchi, Nonaka and Takh.





### Functional hierarchy of knowledge

Knowledge can be divided according to functionality. Knowledge can be both functional and descriptive process. In other words, they can be used to describe how an event happens and can also cause performance disabilities and why would explain the occurrence of a phenomenon.

### The role and importance of knowledge

Organizations achieve their objectives with numerous resources and assets. Some of the most valuable resources and assets are the sole and exclusive to gain competitive advantage. ((Student)) of such cases is considered as the ultimate replacement for the production of knowledge, wealth and money capital (Toffler, 2001).

Also in 1993, Peter Drucker said that: "In today's economy of the world ((knowledge)) is not within other sources of labor, capital and land but is the only significant source of the current era "(Nonaka, 833.1996). In fact, it is the result of using a sole source of knowledge, and has not diminished the value of the firms that value is added (Glaser, 1998) and other leading theorists ((Organization and Management)) also believe that investing on an organization's knowledge are done with respect to material and aggregate profits (Davenport, 14,1998).

**Main changes of knowledge in 20<sup>th</sup> century**

	first	second	third
Revolution	industrial	efficiency	management



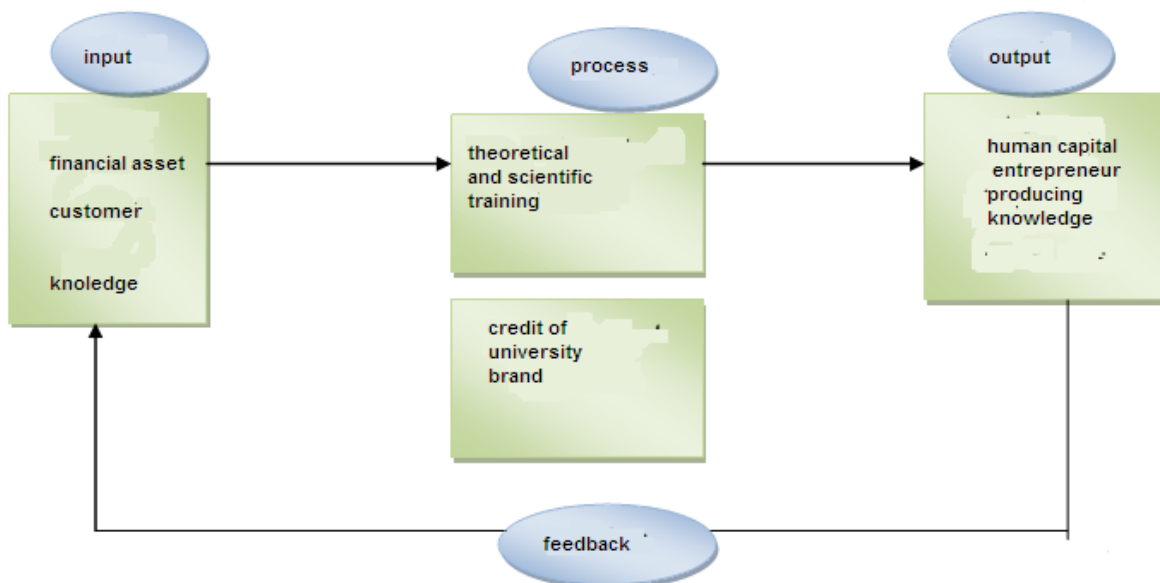
<b>Knowledge usage</b>	Tools, process and products	Work force	knowledge
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### The concept of knowledge management

It is a process through which organizations obtain skills in (self-knowledge) coding knowledge (external knowledge) and the distribution and transfer of knowledge (Malhvotra).

Definition of Knowledge Management

Brooks' definition of knowledge management that is accepted in the American Quality and Productivity Center is: to develop strategies and processes to identify, capture, organize and manage vital skills, information and knowledge to enable the best people in achieving the organization's mission. Brooke's comprehensive definition of knowledge for stable and secure management system can be shifted to the center and integrate its core values, boundaries, vertical, horizontal, external and managing their geographical and appealing to the trust (Long Stephen and Yakouri, 2000, 3-2).



### Results

As it is observed in the article there is a relationship between not ignoring and training the entrepreneur and business creating.

In dividing it into the personal and organizational level, it can be said that the academic entrepreneur is organizational and personal entrepreneur is in creating the business.

Here, the system inputs include the financial capital, knowledge and customers.

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