

**AN OVERVIEW OF PRESENT
RESEARCH RELATED
TO ENTREPRENEURIAL
UNIVERSITY**

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Abstract. *The purpose of this paper is to present main ideas, concepts, theories and practices related to entrepreneurial university. Since the concept of the entrepreneurial university is rather fuzzy we performed a literature research in order to clarify its semantic and operational dimensions. The concept is cultural dependent, and understanding it means to consider its social and economic external environment. Also, it is important to consider a multidimensional analysis, and not to reduce the main idea of entrepreneurship to its financial metric.*

Keywords: entrepreneurial university, higher education, university, university management.

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1. Introduction

The models which we present here do not represent final solutions, taking in consideration the fact that universities have learned to adapt to a dynamic external environment in the past decades (from a political, economical, social and cultural point of view) and to adopt structures according to these. They are mostly working solutions.

The concept of entrepreneurial university was first introduced in 1998 by the American sociologist Burton R. Clark in his study *Creating Entrepreneurial Universities. Organizational Pathways of Transformation*. Later on, the author published other studies to support the thesis and to bring new arguments to sustain it. The first book was based on studies performed in five different European universities: Warwick (UK), Strathclyde (Scotland), Twente (The Netherlands), Joensuu (Finland), and Chalmers (Sweden). Clark later extended his research to: Makerere University (Uganda), Catholic University (Chile), Monash University (Australia). Also, he considered some American universities: Stanford, MIT, University of Michigan, UCLA, North Carolina State University, Georgia Institute of Technology. In a larger perspective, the paradigm of the entrepreneurial university can be considered a part of the following spectrum (Bratianu, 2002): *continental university management paradigm, collegial university management paradigm, market university management paradigm, entrepreneurial university management paradigm, corporate university management paradigm, and the virtual university management paradigm*.

The *entrepreneurial university management paradigm* drifts away from the governmental tight control through financing mechanisms. It gets closer to the universities in Great Britain, The Netherlands and the northern countries, which have contributed to developing the concept and have promoted successful practices. On the other hand, the educational systems in France, Germany and Romania have displayed strong negative reactions to this managerial model (Stanciu et al, 2008). The entrepreneurial universities are looking for new organizational identities, according to the demands of a dynamic market, where the competitive spirit is being strongly promoted. They are convinced that the risk of operating structural, procedural and profound cultural changes is worth taken in comparison to paying tribute to governmental tight regulations.

A conclusive example related to the importance of an open, efficient and proactive university management is offered by the Open University in Berlin. As a recognition of its qualities, *Centrum für Hochschulentwicklung (CHE)* and the newspaper *Financial Times Deutschland* have designated Dieter Lenzen, President of the Open University in Berlin *manager of the year 2008*. The information depicted from the article *Le président de l'Université Libre de Berlin élu meilleure manager* (Magazine *Le letter d'étudiant*, issue no. 929-930, 2008) is relevant as it was for the first time when a university person is granted such a title. The merit of the president

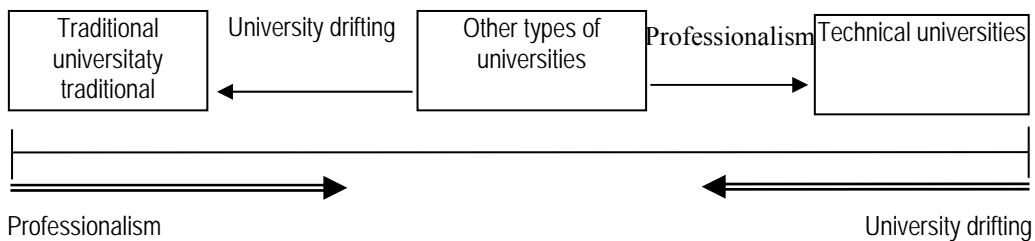
lies in the fact that he succeeded in promoting strategic and quality management in the university, but also to attract the best professors and researchers. Furthermore, he managed to achieve an academic and financial autonomy for the university, by managing its resources based on economic principles and models.

Noticing the antagonistic trends in the evolution of the European higher education, Gilbert (2002) starts from the following question: does the university need to be totally liberal or totally statist? Expressed in its most pure way, the confrontation frequently seems to get a sectarian, abstract and ideological touch, which offers very few chances to get some solid solutions. We ask ourselves the following question: what are the services a university can offer? Obviously, it is about the services related to higher education professional training – licence, advanced training through master programs, and training specialists for research and development through doctoral programs, but also professional reorientation through short term programs. The resemblance between an entrepreneurial firm and a university is acceptable, but what is now not to be accepted (in some milieus) is the idea according to which a university can also generate profit, just as in the case of an entrepreneurial firm. As a reaction to the previous challenge, we can state that the university which manages itself from a financial and institutional point of view, which comes close to the characteristics of an entrepreneurial firm will reinvest its income generated by its departments and laboratories and will ensure the well-being of its teaching, research and auxiliary personnel. In these cases, the percentage of the budget funds received from government will surely be diminished.

2. Entrepreneurial universities

One of the trends which concern university systems and its European leaders at this moment is the *drift of universities*, a phenomenon which caught the attention of Codling and Meek (2006). According to these, the distance between traditional universities and technical universities is enormous. The traditional universities now have the tendency to copy the models presented by the technical universities in their effort to adapt to the environment, while the technical universities, enjoying an elusive advantage (due to the fact that we live in a high-tech era), tends towards the traditional academic recognition. Figure 1, adapted from the above quoted study (Codling and Meek, 2006) highlights these trends. The quoted authors consider that, although this situation can satisfy the needs of an economically developed society, is yet unstable; the traditional universities tend to „move” towards technological study and research programs, gradually abandoning classic teaching lines, while young universities „drift” towards a traditional academic status, in order to acquire prestige. The external environment acts differently on different universities, each with its structure, financing systems and hierarchy, etc. According to Codling and Meek (2006), there are five factors which lead to the mapping of university diversity: environment, public intervention, financing, competition/co-operation and hierarchy (see Table 1).

The underfinancing the public higher education system is a worldwide well-know reality, starting with Australia up to North America. The attempts of universities to find resources in order to survive are also known, as they started becoming obvious during the '70. Although universities, mostly the public ones, are non-profit organizations, they find themselves in the situation of finding resources for sustaining the study programs they have initiated (based on studies of feasibility or not). Therefore, public universities empirically adopt the laws of academic capitalism, phrase introduced by Deem (2001), and head to entrepreneurial forms. Maybe this simple observation is enough to prove that faculty staff develops abilities to find solutions for complicated administrative and management problems, even if their areas of expertise are totally different. In other words, academics prove that they are not afraid of changes, and that it is obsolete to call them anymore conservative.



Source: OCDE, Politiques et gestion de l'enseignement supérieur, Volume 18, nr. 3, 2006, Andrew Codling, V. Lynn Meek, *La diversité dans l'enseignement supérieur: douze propositions.*

Figure 1. Universities dynamics

Table 1

Convergence factors

Factor	Diversity favoured by	Convergence favoured by
Environment	Heterogeneous of the environment	Homogeneous of the environment
Public intervention	A high degree of intervention to sustain diversity	Absence of regularization
	Regularized binary systems	Unitary systems
Financing	Specific financial challenges to encourage diversity	Financial challenges oriented towards certain results
Competition/ co-operation	Competition in periods of low demand and crisis	Competition in periods of high demand and economic growth and co-operation
Ranking		Tendencies of isomorphism lead to setting hierarchies

The forms of adaptation and the new university models are diverse. Donald E. Hanna (1998), quoted by Sebastian Pintea (<http://unescochair.ubbcluj.ro/articolsp2.htm>), describes seven models of non-traditional high education institutions: *extended traditional universities, pro-profit oriented universities focusing*

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on adult students, universities based on technology and distance learning, corporate universities, university-industry strategic alliances, organizations centred on diplomas and competence certificates and global, multinational universities. In the same above paper, James J. Duderstadt, quoted by Pintea highlighted nine models of universities capable of exploiting the expediences of the new environment: *the global university* (targeting students and teachers all over the world, financed by international sources), *the heterogeneous university* (adapted to serve an ethnic, racial, cultural, geographical and economical heterogeneous population), *the creative university* (focused on new elements: new occupations, new teaching methods, new alliance partners), *the integrative university* (where borderlines between specializations tend to disappear, leaving space for integrative disciplines), *the virtual university* (offering educational services to anyone, anywhere and anytime), *the university for adult students* (focusing on academically and emotionally advances students), *the omnipresent university* (symbol of public culture) and *the laboratory university* (focusing on researching, experimenting and testing).

Examples of entrepreneurial universities which offer entrepreneurial courses are numerous. Thus, under the headline „10 Universities – Entrepreneurials of Entrepreneurs”, the *Fortune* magazine presented a list of 10 American universities presenting some of the most innovational programs for business apprentices. I have chosen to describe this aspect, in order to highlight the fact that the preoccupation for entrepreneurial education is in full accordance with the preoccupation of those universities of being entrepreneurial themselves. Entrepreneurial education means developing specific attitudes, behaviours and abilities on an individual level, which can have different expressions in an individual’s career and also creating long term benefits for the society and economy. The quoted universities are the following:

- *DePaul University* in Chicago, where students, graduates and businessmen learn to develop new business concepts, their teachers being experts in creative thinking.
- *Florida International University* stands out due to the international commerce courses.
- *Harvard University* in Cambridge has 17 chairs of entrepreneurship. The 900 master students must attend an entrepreneurship course starting with the first semester. *Harvard University* uses classical methods, with one exception: the CEOs of top companies are invited as guest speakers.
- *Howard University* in Washington, where students, among other things, learn about financial self-discipline.
- *Simmons College* in Boston, which is the only business school for women.
- *Sitting Bull College* in Fort Yates, which launched an entrepreneurship pioneering program destined for Amerindians.
- *Arizona University* in Tucson, which offers extremely tough entrepreneurship training programs, where only 100 students are accepted every year.
- *Colorado Boulder University* is a leader in the ecological “green entrepreneurship”.

- *Austin University* in Texas offers students technological and counselling areas in the „business incubator”. Out of the 62 companies born in the „business incubator”, 4 are listed in Nasdaq. The university houses an international business plan contest, the grand prize being 183.500 \$.

- *Rochester University* has introduced entrepreneurship courses in every department.

Entrepreneurial education can help promoting an entrepreneurial innovative culture by changing values and basic conceptions. The major difference between Europe and USA regarding entrepreneurial education is due to the dynamics of the social systems (OECD, 2008). The Europeans are used to social protection policies derived from state conception of well-being, which offer them a considerable economic safety, thus determining them not to take high risks. This attitude is doubled and strengthened by universities, where students are ensured and prepared for relatively safe jobs, thus the opposite of entrepreneurship. Meanwhile, the globalization, the fast development of technology and the low costs of transport have totally changed the nature of work. Universities must prepare their graduates to work in a dynamic environment.

Carl Schramm, president and CEO of the Kauffman Foundation noticed the fact that there is a significant difference between Europe and USA regarding the entrepreneurial education. In the USA, entrepreneurship means growing oriented companies, while in Europe, the term is equivalent to small and medium sized companies. The problem is highlighted by a recent study (OECD, 2008): European small and medium sized companies are oriented towards extension and development to an extent of 3%, which means that the impact on the dynamics of the economy is low. Also, teaching attitude and approach are different in Europe in comparison to the USA. The entrepreneurial education is strongly connected to the business environment in the USA. The professors frequently have a solid experience in developing and management of *start-ups*. Some of them are graduates of the universities and also entrepreneurs. Interactive approaches, usually based on projects are also used in Europe, but most of the entrepreneurship courses are taught according to a classic method, and these professors do not have any entrepreneurial experience.

3. Models of different organizational structures

In the context of state underfinancing education, universities are forced to choose between more gradual solutions: to be consistent to their traditional approach with a weak organizational design and formal (minimum) connections with the tutelary authority; to accept standardization instead of a dynamic behaviour, of continuous mutual adjusting to the external environment; to promote decentralization instead of centralization, which means weakening of the connection with the tutelary authority. According to Jones (2007), the organizations (among which are the universities) are subjected to an enormous pressure coming from the external environment to choose one of the structural variants presented in Table 2, adapted from the quoted source.

Table 2

Mechanicist vs. Organic structure

Mechanicist structure	Organic structure
Strict individual specialization: employees work separately, in strictly defined fields in order to achieve the objectives of the organization	Multidiscipline specialization: : employees work together, combining their efforts to achieve their objectives
Simple integrational mechanisms: the hierarchy is strictly defined, the authority is respected	Complex integrational mechanisms: work tasks are taken over by multidiscipline specialized teams
Centralization: the control over the activities is performed from upper levels to lower levels, and the communication is performed vertically (decisions – from upper to lower level, informations – from lower to upper levels)	De-centralization: the control authority is given to those in the centre of the action on each level, while the communication flows horizontally
Standardization: the processes take place as planned, according to norms, rules, standards etc. Decided by the management and have predictable results	Mutual adjustments: processes take place based on discussions between managers and employees, the effect are relatively predictable

Furthermore, the mechanicist and the organic structures are substantially different from the way they approach and manage uncertainty. Figure 2, adapted from Jones (2007), presents the main differences between these two approaches.

On the other hand, the people working in these different structures, meaning the ones recognizing their *patterns*, display different approaches. Figure 3, quoted from Jones (2007) is probatory in this respect.

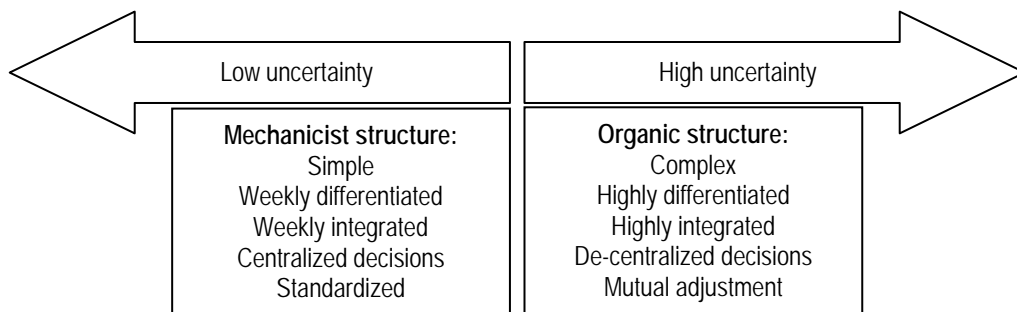


Figure 2. Low and high uncertainty structures

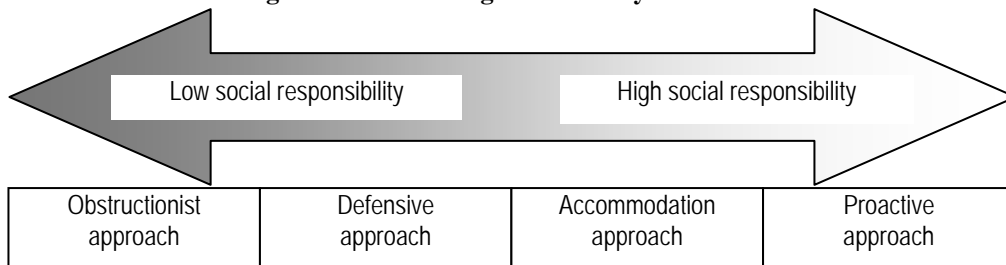


Figure 3. Low and high social responsibility

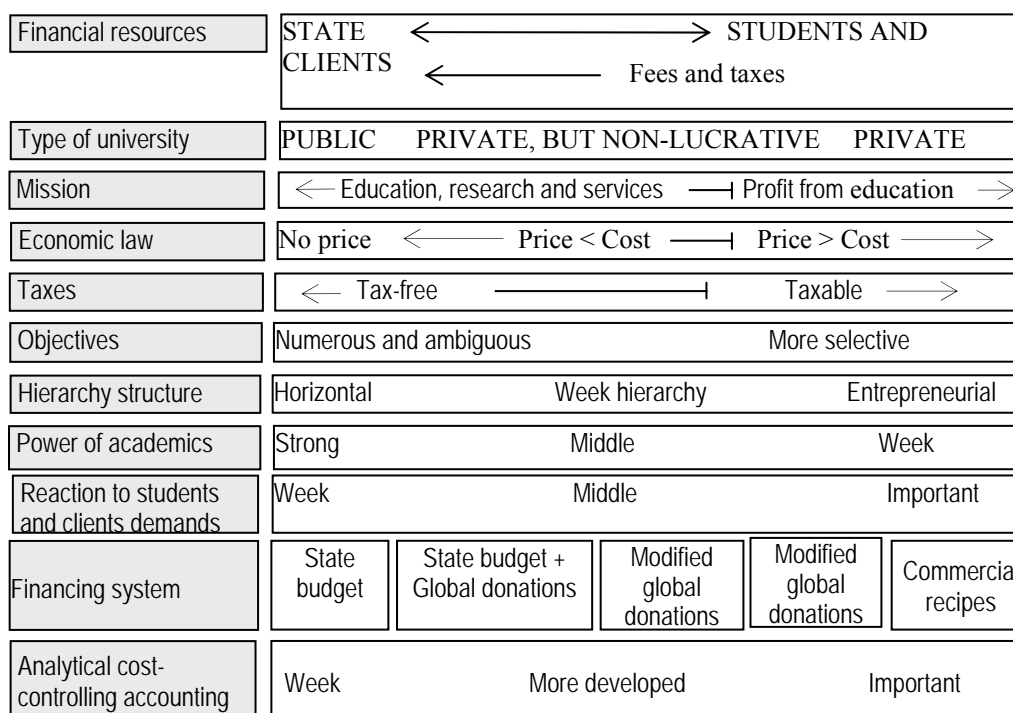
In order to familiarize the obstructionists and the others displaying a defensive approach with values of a culture of change, of entrepreneurship, leaders must adopt segregated strategies. Furthermore, they need to concentrate on the general, institutional orientation, as suggested in Table 3, adapted from Jones (2007).

Table 3

Institutional vs. Individual orientation

Institutional orientation	Individual orientation
collective	personalized
formal	informal
sequential	random
fixed	variable
block	disjunctive
Collective investiture	individual investiture

Figure 4 presents the range of university types with their advantages and disadvantages. Also, middle-sized universities must also be considered here, with their important market opportunities, due to state financing.



Source: OCDE, Politiques et gestion de l'enseignement supérieur, Julia Antonia Eastman, *Recettes et réformes organisationnelles dans l'enseignement supérieur: quelques aperçus du Canada*, Volume 18, nr. 3, 2006.

Figure 4. Mapping universities

4. Dimensions of entrepreneurial universities

According to Burton Clark, the word „entrepreneurship” is a characteristic of social systems (Clark, 2000), also having the quality of an „enterprise”, as a deliberate and continuous effort of institutional construction, which involves special activities, a considerable energy consumption and some risks taken. An entrepreneurial university is consciously introducing new practices, it is innovational from the organizational, technological and financial point of view. Entrepreneurial universities are actively trying to innovate their activity, to operate important changes in its organizational structure, by opening more promising perspectives for the future. They assume the role of an enterprise, being aware of the difficulties of their approach, and trying to develop their competitive advantage.

Clark also focuses on the semantic adjacency between the term „entrepreneurship” and the term „innovator”. He finds the first term to be more generous, as it expresses in a more complex manner the process of institutional creation, but its resources are connected to the high adjacency between this and the milieu of profit-oriented businesses. However, our view is that the financial dimension should be considered only as a mean to innovation and not as a goal of the whole academic activity. Academic entrepreneurship should not be reduced to profit making and financial mechanisms. Gareth Jones (2007) speaks about “creative destruction” when referring to the entrepreneurship in the economical environment and, accordingly, the university environment. Furthermore, when speaking about entrepreneurship as a development solution, he reminds of the correct balancing of the weight of centralization and decentralization, of standardization and flexible programs, but also of mechanic and organic structures. From this point of view, the connection to the requirements of the external environment is extremely important.

The mission of the innovative entrepreneurial university is that of preserving and enriching national and universal culture, its target is training and forming specialists and its objectives are correct and clear reactions to the requirements of the society they are part of. Away from dirty business, the entrepreneurial university is the place where people innovate on the educational and research level in order to exist and develop. The financial dimension of a university is highly important, but equally important are the material, informational and human resources, the latter following its vocation of contributing to fulfilling the assumed mission. The mutual characteristics of entrepreneurial characteristics are the following (Gjerding *et al*, 2006):

- In the center of the entrepreneurial university lies a strong decision organism, capable of quickly adapting to the requirements of the expanding and developing market. The decisional center can launch in a market competition those structures which, based on their reputation, resources and competences, can actively respond to present requirements, by promoting required study programmes, by creating pilot structures.

- The entrepreneurial university is based on what we usually call centers of excellence. We mean those entities well endowed from a technological point of view, having competent specialists, specialists who are receptive to new elements and able to tackle new research themes. Their remarkable achievements are immediately assimilated by the market, and their obtained financial and material incomes make them even more independent and strong. These entities are governed by decentralization and delegation, they are flexible and quick in their research process and educational offer. Furthermore, the external knowledge transfer and their reputation offer them financial and decisional independence.

- The entrepreneurial university has significant financial resources, able to cover studies which do not lead to positive expected results. In other words, the university can sustain researches which do not produce income. It skillfully accepts and manages risks, which are perceived as regular events. Furthermore, the entrepreneurial university can bear the fluctuations of the external environment it exists because it relies on its cooperation with third parties, especially with the private milieu, with associations of graduates and on the capitalization of the intellectual achievements of its members, the intellectual copyright being an important support for them.

- The central structures of the entrepreneurial university display and transmit an exceptional entrepreneurial spirit. They are able to make solid connections with entities from the external environment, in order to sustain and develop university structures which are not yet familiar with the advantages of the entrepreneurship.

- The entrepreneurial university promotes that state of mind which leads to accepting changes. The use of new working methods, new (temporary) structures, the culture of becoming is being promoted.

- Gjerding (2006) states that articles published in the past years describe increasingly the profile of the commercial organizations worldwide. He mentions this process as being imperative and purely financial. The opinion presented above is much too trenchant, much too liberal; it needs slight nuancing, by taking in consideration the mission and vision of each university. Otherwise, we can start from a homogeneous, traditional educational system and end with a new one, where commercial aspects would be of utmost importance, causing the university to lose the trust of its public and to become vulnerable. Slaughter and Leslie (1997), quoted by Gjerding (*idem*) discovered that the process is an evolutionary one in Australia, Great Britain and USA, that it started in 1970, since „public power gave less and less priority to research”, especially to fundamental research, combined with a drastic cut of study programmes expenses. Thus, „commercial activities” flourished in all university departments. The experience of the Romanian universities is not to be adjudged under these circumstances. Slaughter and Leslie state that the process chosen by the universities in distress, a process characteristic for the academic capitalism, offers the advantage of being able to grant resources for the study and research programmes, but have the disadvantage of drastically limiting university autonomy.

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Paradoxically, universities lose their autonomy, serving the first one to offer a research theme!

According to Clark (2004), there are even more difficulties for universities with complex structures, with issues that cannot be reduced to a common denominator and to different financial states for different understructures. There is one optimistic solution, according to Etzkowitz (2003) quoted by Gjerding (2006), which involves orienting the university towards achieving „social and economical development”. Thus, the university structure will serve the market needs, thus sustaining underfinanced academic training processes, while the university research centers will work as semi-enterprises. This is “ the second university revolution” (*idem*), according to Etzkowitz, the first one being the addition of research to the traditional process of university training, meaning the enlargement of the university mission. Thus, according to Etzkowitz, an entrepreneurial university can be characterized by:

- capitalization of knowledge;
- interdependence between universities, enterprises and public power;
- institutional independence;
- diversification of the forms of organization in order to achieve a balance between dependence and independence;
- accepting the change, and reflexiveness.

A much disputed issue is connected to the internalisation of the new values the university chooses, which means an obvious drifting away from the traditional ones (Slaughter and Leslie), a mild drifting (Etzkowitz) or one we will call “reasonable” (Clark).

The study of Gjerding, Wilderom, Cameron, Taylor and Scheunert (2006) offers the conclusion according to which the main characteristics of an entrepreneurial university are:

- the conjunction between innovation and entrepreneurial spirit;
- the importance of earning money;
- the proportion between internal and external entrepreneurship.

The last characteristic is, in our opinion, important, as it leads to the connection between internal and external organizational communication. In other words, entrepreneurship makes sense if it finds ways of expressing itself both on an internal and on an external level, in order to be coherent and offer psychic comfort to the persons making this effort. Also, Gjerding, Wilderom, Cameron, Taylor and Scheunert highlighted (2006) the importance of the history and culture of the university, the fact that the spirit of entrepreneurship is not homogeneous and does not display the same intensity in all the structures of a university and underlined the fact that the idea of becoming an entity with commercial valences must be clear and must draw the line between business and an external cooperation. We support this opinion, taking in consideration the results of the study one of the present paper’s authors made (Stanciu, 2008). According to this, the Romanian university milieu rather accepts the idea of establishing partnerships with the external environment than transforming the

university into an economic organization. Recent publications underline the fact that by university entrepreneurship we must understand an academically innovative transformation, an embracement of flexible structures, of minimal hierarchies, of fundamental and applied research, etc, apart from the minor acceptance related to market, commerce and money.

Favorable elements for an entrepreneurial university are the organizational culture favorable to taking risks, the flexible organizational structure, the practically applied strategies (especially for recruiting specialists) and strategic co-operation with the external environment. The entrepreneurship can be placed in the parameters of the triple helix – a model suggested by Leydesdorff and Etzkowitz (1996, 2000), which means a cooperation between the university, state and economic organizations.

The scheme we present in Figure 5 suggests this structure, where U stands for university, S stands for the state, and O stands for economic organizations.

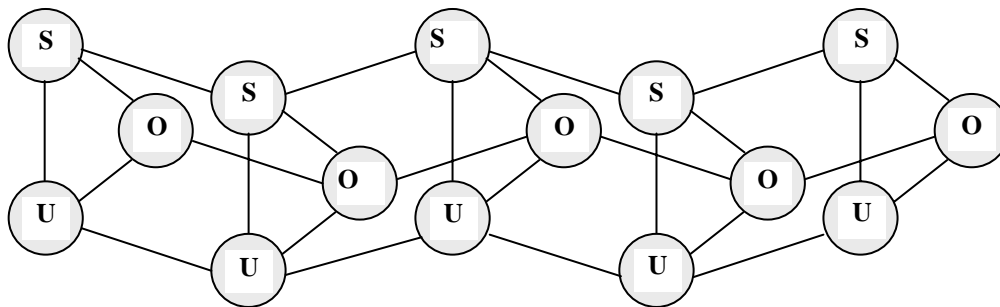


Figure 5. The triple helix structure

The transformation of the university cannot be performed in an abrupt way, cannot be an accidental event, it must be accepted as a natural process, despite negative reactions coming from some of the actors; it satisfy meet needs, aspirations and, most important of all, the belief of the academics. The antagonism to change has its own grounds, actors and risks. Universities can sometimes be considered to be „rebel”, they are subordinated to national or international norms to a minimum extent, they are permanently looking for new didactic recipes, for new management formulas in order to answer to the society they exist in and survive with dignity. Mohamed Bayad and Christophe Schmitt (2005) state that a university can move from a traditional state to a real entrepreneur state if it can proceed according to the schematic presented in Figure 7.

The institutional transformation of a university cannot be forced top-down, it cannot be accepted over night, it can only be the result of an internal turmoil of those living the university reality on a daily basis. Innovation is expected from them, also solutions and re-establishment of confidence that the universities will always be poles of education, training and research, despite any tides. Universities tend to be decentralized institutions, they subject themselves to orders coming from the field center only to the extent to which they agree with the beliefs of those directly

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involved. Otherwise, absenteeism, zeal crisis and abandonment appear as day-to-day realities. The directions of the university transformation are clear, according to Clark (2000): a well founded decisional centre; an extended dynamic periphery; a varied financing basis; a well stimulated academic nucleus; an integrated entrepreneur culture.

The well funded decisional centre represents a desideratum of any organizations which is structured according to the model of professional biro racy. Universities wit personality, strongly sustained by the state can be satisfied with a conservative management, but most of the universities are fighting to avoid being pushed aside and to survive, and rarely for development. These need a strong decisional centre, which should impose a certain rhythm, despite objectors and conservatives. These universities “are forced to become more agile, more flexible and especially more efficient in meeting a continuously growing and changing requirement”. These institutions accept (or consider) the fact that a powerful decisional centre can find the optimal solutions for the present or future crisis. We consider that we cannot come out of the crisis unless there is a strong academic and administrative decisional centre which is complementary and able to find opportunities for the university’s educational offers, to identify material, financial and, in our opinion, especially informational resources.

Situation no. 1 ABSENCE OF ENTREPREURSHIP IN THE UNIVERSITY	Situation no 2 CONSTRUCTION (according to the assumed mission) Education Research Transmitting Effort to create knowledge knowledge
Situation no 4 INTEGRATION (according to the assumed mission)	Situation no 3 CONSOLIDATION (according to the assumed mission)
Education Research Capitalization Transmitting Effort to Effort to apply knowledge create knowledge knowledge	Education Research Capitalization Transmitting Effort to create Effort to apply knowledge knowledge knowledge
↓ ↓ ↓ BUSINESS INCUBATOR	

Source : Mohamed Bayad, Christophe Schmitt, *Université et entrepreneuriat: La diversité des modes, in Université et entrepreneuriat. Une relation en quete de sens*, Christophe Schmitt (coord.), L’Harmattan, Paris, 2005.

Figure 6. Patterns of core competencies

An extended dynamic periphery represents in Clark's opinion the second important dimension of an entrepreneurial university. It is well known the fact that a mature enterprise created a complex structure, with multiple functions and different services offered to its public. Being in a crisis, this organization can cut those products or services which are not required by the market and orient its personnel to more profitable activities, thus ensuring its continuity with the perspective of future development. This scenario is only possible if the organization has previously consolidated strong subunits (departments, services, programmes, centres of excellence, etc). It is their task to become the salvation financing source during the crisis of the high education institution. The management of the university must create and sustain those programmes and substructures which are possible to achieve high performance, and which can become a solution for the future. The peripheral condition is not easy to accept, but the chance of being promoted, acknowledged especially in difficult moments, is highly motivating. What is truly important is the fact that the university substructures can achieve development connections with partners from the outer environment, which can represent an opportunity for the present and especially for the future.

Clark (2000) says that these are structures „which work in the filed of knowledge transfer, in industrial co-operation, in the process of intellectual property development, in the field of continuous education, in obtaining financial resources or even in the area of the relationship with the graduates.” We must admit that such structures were often pushed aside, they were filling in the organizational chart, but noone considered it to be important to invest in their programmes. These are the entities which can save and help the development of the universities they are part of. The competences they have achieved, the practices they have depicted, the relationships they have founded are as many grounds which legitimize these substructures to contribute to the salvation or development of the university they belong to. Dynamic periphery often possesses valuable resources, powerful enough to contribute to the re-establishing a balance between different structures of the university. The research centers in contact with the external environment can identify unique development directions and can essentially contribute to safeguarding the university going through a process of change.

The dynamic periphery which Clark refers to can be the key for many of the problems of the universities going through a change. Let us note that its units are in permanent contact to the external environment from where they are nourished and which they serve to the same extent as they serve their mother university. Entrepreneurial universities, just like any other university, must have enough “peripheral” departments able to maintain the connection to the external environment, so that they can take over a part of the difficulty caused by the change processes.

The multidimensional financing basis represents, in our opinion, the most important energy factor for the universities of this turbulent economic environment. The Romanian national regulations are not perfectly open to free financing of the universities; these are subjected to control of the field ministries, which causes a lot of

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losses for the institutions which have identified economical profitable partnerships. The extension of the financing basis of public universities is a priority, taking in account the fact that this also means cutting down the state financial effort, that the major beneficiaries of university competencies are private companies. It is their task to contribute to the financing of the higher education system. Traditionally speaking, it is the university's task to enhance their financial resources by capitalizing the results of their applied researches, the results of the fundamental researches being taken over and financed by the state.

A somewhat new practice, weekly capitalized up to the present moment, is researching in the benefit of the third parties. These can be industrial organizations, suppliers of goods and services, but they can also be public institutions looking for practical solutions to needs related to their area of activity. The advantages of the cooperation with a third party are obvious: a direct connection to the economic, social, technologic and cultural environment and also a feed-back is ensured, which means that the university is okayed when it is re-formulating education and study programmes; the university is orienting the graduates towards the organization it collaborates with; the partner organizations can offer positions for practice for the university students the transfer of technology is easier in both ways: the university offers, aside from the results of the research, necessary didactic technologies necessary in the process of training the employees of the partner organization, while this transfers equipment necessary to the research laboratories of the university; the partnership contributes to the improvement of the image of both entities; the economical advantages are obvious, the organization ordering the research benefits from its results, while the university consolidates materially and financially. We consider that the universities can obtain important sums of money by capitalizing their exceptional products, meaning the intellectual products it can offer the organizations and persons, thus benefiting from the intellectual property rights. Numerous Romanian universities have created computer programmes, have enriched research methodologies, have created computing models, have patented e-learning platforms, etc. All these can be immediately capitalized on the markets the universities come in contact with. The main advantage extra-budget financing sources bring to the universities is clear; they can be used without the approval of the hierocratic system they are part of, simply by operating an internal financial control. The acquisitions which can be done with this money allow an operative satisfaction of the needs of the universities, including the payment of the wages of the academics.

The situation that constitutes a barrier for the state universities to become financially autonomous, which also protects the universities in countries with central educational systems, is state financing to a large extent. One of the difficulties is connected to the constitutional stipulation according to which education is considered to be free. Moving towards a financing system based on fees and projects may lead to the appearance of tensions in the social environment.

The well stimulated academic nucleus seen by Clark (2000) as being one of the pillars of the entrepreneurial university is formed of experienced academics,

although conservative, but also of assistants and researchers who are not connected to traditional practices. The tension between experienced professors and newly entered academics is felt in all universities. The seniors are conservative; they need stability, ensured resources and clear regulations. Young academics are exuberant; they consider that regulations rather slow down their work and that university autonomy must be extended. It is difficult to motivate all these people, it means knowing their needs and satisfying them differently.

We consider that the balance between old and new generations in the university systems is the same as the one between management and leadership. The first component ensures present functioning, the second ensures development. Thus, universities must have both traditional teaching substructures, and research substructures. Of course, the European regulations recommend that universities be categorized: some will only have teaching roles, others mostly research roles and others will have them both. If we are to admit this taxonomy, then the whole financing system needs to be reconsidered: the first have to be financially sustained from the state budget, the ones in the second category should be mostly financed from own resources, while the third category should find different finance resources. This means a reconsideration of the laws governing the high education system, redefining the concept and practices related to university autonomy, creating adequate motivation systems for the academics and researchers in the university environment.

The well stimulated academic nucleus Clark mentioned can be, in our opinion, extremely different from one university to another, in relation to their options: this means universities which have decided that they are capable of transmitting knowledge – teaching universities, universities with a miscellaneous role, universities which have decided that effort is their main role. Decisional centres have different structures in this type of entities.

The integrated entrepreneur culture is the fifth dimension attributed by Burton Clark to entrepreneurial university. The quoted author considers that a powerful culture is based on a set of principles and consistent practices. He states that an institutional perspective is needed in order to promote a new culture and to integrate it to a new structure. Thus, an entrepreneurial approach is radical: the university adopts other regulations, it restructures, it admits the change of the profile of the academics and research personnel, it adopts new cultural values borrowed from the private economic environment, etc. The drama of this process can only be understood by those involved in the processes assumed by the university. The tension felt by elder academics is enormous. They do not find their places in an environment they had been previously working for years (see the average age of Romanian academics in another section of the present study), they are not familiar with the symbolic of the new trend, they feel pushed aside. Young academics are enthusiastic, the values of the entrepreneurial culture fit them, they consider the innovative university to be their home. This leads to a separation, to a socio-professional breach and to a major difficulty in applying management in universities which have not systematically practised academic and management innovation before.

5. Some final remarks

The concept of the entrepreneurial university is still rather fuzzy and cultural dependent. Universities developed differently in different countries and have different visions and missions, coming especially from their historical tradition, and from their different social and economical external environment. However, this concept brings some new features that contribute to a better development of the university in the 21st century. Our point of view is that the entrepreneurial university must not be reduced to a simple financial metric and profit making managerial culture. Entrepreneurship should enhance the mission of the university such that it becomes more powerful to withstand the new turbulent economic environment and increased market competition.

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