
INNOVATION AT THE UNIVERSITY OF TOMORROW: THE MANAGERS AND RESEARCHERS' DIFFERENTIATED VISION

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ABSTRACT

The university institution arose in the Old World, at the moment at which the Europe of dogmas and feudalism began its course in the direction of the Renaissance, whose mark was the knowledge and scientific rationality evolution. It was, therefore, contemporary of transition from Mercantilism to capitalism. In Brazil, the University emerged in the 19th century, with the arrival of the Portuguese royal family who settled in the country and took as a model the German university proposed by Humboldt. During the last two centuries, the Brazilian University has experienced significant changes, especially from the Constitution of 1988 and measures adopted by the Government in the second half of the decade of 1990. The opportunity of creation of new institutions of higher education and the reorganization of those ones existing in the form of University Centers and universities, the financing of courses for the least privileged population socioeconomically, programs that increased the vacancies in public universities were responsible for the expansion of access to higher education. To meet the increasing number of students, the Brazilian universities had to organize its management system and proceed to the adoption of new pedagogical technologies. This work, developed in the second decade of the 21st century, has as its objective to analyze the expectations of managers and researchers from Higher Education Institutions (HEIS) regarding the Brazilian and American innovation which will mark the future of these institutions in the next 10 to 20 years. An exploratory research was performed, which had as an instrument of data collection an open interview, in which these subjects expressed their point of view. The interviews were recorded, transcribed and their content encoded, defining categories that guided the results analysis. Regarding to the planning and vision of the future, it seems that the Brazilian Higher Education Institutions are concerned with the inclusion of new students and the promotion of resources to promote learning, while in American universities, the proposal is focused on research, which shows a close relationship with the business community and whose results support the teaching and extension. Regarding innovation, the Brazilian and American institutions emphasized the technological innovation, both in digital teaching practice as well as in management, pointing out, among other resources, the financial control via artificial cognitive intelligence. It is also verified, that both in Brazilian universities as well as in the U.S., the active methodologies were considered important for research production and dissemination. It was also possible to verify that the internationalization represents a dominant trend both in Brazil and in American universities, and derives from the economy globalization process, which demanded the knowledge universalization.

The survey, which studied a small number of institutions, can be complemented with studies that address a larger number of managers and researchers from different units.

KEYWORDS: Universities, higher education institutions, organizations of the future, innovation, new management models, technologies for learning.

1. INTRODUCTION

The University, an institution which arose in Europe in the late 11th century, had Italy as a cradle, specifically the city of Bologna (1088), which already had a center of culture thank to the "School of Liberal Arts". From this development, there were other monastic, episcopal and private schools, not only in the Italian territory, but also in other countries. The University of Oxford (1096) also had its beginning in the late 11th century, being the second university to be created. The University of Paris arose at the beginning of the next century, stimulated by geographical location, by the presence of the royal administration and the participation of great masters. The corporation, name that was given to the University, in 1150, and in the 12th century acquires the title of General Studies, where theology is the most important of all the subjects. In the 13th century the universities arose of Cambridge in England (1209), Salamanca (1218) in Spain, of Montpellier in France (1220), Padua (1222) and of Naples (1224) in Italy, Toulouse (1229) in France, Al Mustansiriya (1233) in Iraq, Siena (1240) in Italy, and Valladolid (1241) in Spain, Rome (1244) and Piacenza in Italy (1247), Sorbonne in Paris in France (1253), Murcia (1272) in Spain, Coimbra (1290) in Lisbon - Portugal and Madrid (1293) in Spain (SIMÕES, 2013).

From the 14th century, there was an expansion of universities throughout the European territory, being created several units in different countries. In the middle Ages, the concept of "university" was presented as prestige related to education of the society of the time. According to Minogue (1981):

“Medieval men seem to have designed the university in the same way that a poor artisan considers a bright child, for whose education he makes sacrifices, and they bequeathed resources for universities with the same generosity that they made donations to the immense gothic cathedrals of Europe. [...] they were impressed by the mystery of the wisdom contained in the books, since for the uneducated each book has the romance of the secret. (MINOGUE, 1981, p. 17)”

In this context, the University started to be the instrument of the knowledge creation that would serve in the New World, and that helped the capitalist liberalism consolidation (BUARQUE, 1994).

Constituting itself as a key institution to the knowledge development, the University emerged giving special emphasis to research, from which two other purposes derive - teaching and extension, placed as

resources to bring this knowledge to those who continue to produce it and those who need to be informed about it.

In the United States of America, of English colonization, the model adopted by the universities of England predominated, being the first universities created in the 18th century (1636), Harvard, Yale (1701) and Philadelphia (1755). During the two World Wars, the country received as exiled European researchers who had relevant actions in their universities, bringing contributions to the studies on management and for the enterprises development.

In Brazil, the higher education schools were created from 1808, when the Portuguese royal family settled in the country and it was necessary to train qualified personnel for the government organs. However, the Brazilian University only settle down in the 19th century, with its headquarters in Rio de Janeiro and subsequently in other states of the federation (CUNHA, 1983).

According to Nogueira (2008), the University is reflected on all the features, advantages and adversities of historical epoch and the concrete societies in which it is inserted. It is therefore evident, the reason by which the University assumes different interpretations in different societies.

Political, social and economic transformations in society have led universities throughout the world and, in particular, in Latin America, to review their actions, in the search for higher and creative standards for their operation. Thus, the Universities were experiencing changes and it can be argued that the second half of the 20th century was a period of greater growth of the university institution.

In Brazil, there was a growth in the number of universities and other Higher Education Institutions (HEI), at the same time, the massification occurred in the number of students and the need for the professors and managers' professionalization. Professors became responsible for the courses provision to a large number of students, while managers became defenders of institutionalist interests.

Ristoff (1999) observes that it is lived nowadays a moment of University discussion and redefinition and how it can contribute to the human being formation in its entirety. The author emphasizes that to assume the world of new ideas, it is necessary to be clear that all social transformation is possible only by means of education, and this needs to be a constant process of teaching, creating and learning about the culture and human beings.

In the first decades of the 21st century, the University, involved by unstable environment in function of the discontinuous evolution toward the future, lacks the redefinition of its role. It can be inferred, therefore, that the University management, in the coming years, will face all these challenges, which

will require of their staff competence and flexibility never seen before. In this sense, the present work deals with the Higher Education Institutions' challenges in Brazil.

Aimed at the reinterpretation of the University meaning and its importance in the coming years, this work had as objective to analyze the perception of some managers and researchers from Brazilian and North American universities about the expectations and the innovative character of the university in the next 10 to 20 years.

2. THEORETICAL FOUNDATION OF WORK

Nogueira (2008) records that the university exists to produce knowledge, generate critical thinking, organize and articulate the knowledges, form citizens, professionals and intellectual leaders. The author emphasizes that the performance of these functions, however, is not something that will be resolved in the abstract plan and, in the same way as the other institutions, the university is always historically determined. Built from the average age in the European continent, the University has experienced a long historical evolution, marked by its development in different countries. According to the author, throughout this process the institution was consolidated as an aggregate of people endowed with certain qualities and nations by "mission" to produce and transmit knowledge, collect and disseminate critical thinking, educate people, young people especially, as citizens, professionals and intellectual leaders.

Still according to the author, the University is interested in everything that is human in different historical epochs and the various social structures and this paper gives a dynamic and socially referenced existence, so that its movements as an institution follow the society's demands and expectations, although they do not submit themselves passively to them.

Therefore, underpinned by the principles of autonomy, freedom of expression and disinterested reflection, the university is an institution that stands before the world as simultaneously active and reactive subject. On the one hand, it absorbs varied social demands and expectations, which must respond, while on the other hand acts to propose guidelines and schedules, contributing to the social self-consciousness construction, expand cultural boundaries and submit to criticism of the reality, the social structures and domination relationships.

In the first decades of the 21st century, before the world's crisis, the University, involved by unstable environment in function of the discontinuous evolution toward the future, lacks the redefinition of its role. It can be inferred, therefore, that the University management, in the coming years, will face all these challenges, which will require of their staff competence and flexibility never seen before. In this sense, the present work deals with the Higher Education Institutions' challenges in Brazil.

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work had as objective to analyze the perception of some managers and researchers from Brazilian and North American universities about the expectations and the innovative character of the university in the next 10 to 20 years. However, this text depicts only a brief historical analysis of this institution in Brazil.

Evolution of the University in Brazil

When reaching the Brazilian land, the Portuguese recognized Brazil as a territory focused exclusively for exploitation; therefore, it was not interesting the creation of educational institutions, mainly because they did not want to give any kind of autonomy to the colony (SANTOS and CERQUEIRA, 2009). At that time, the education was only made available to the Clergy (AZEVEDO, 1963).

ValnirChagas, educator and member of the Federal Council of Education (CFE) in the period from 1962 to 1976, analyzing the evolution of Brazilian education, observes that, in the struggle for the deployment of the university in Brazil, three major periods may be identified: the first, in which "there was already the university, although we did not have the institution"; the second, in which "there was the institution but we did not have the University"; and the third, "characterized by a constant search of authentic standards of operation" (CHAGAS, 1967, p. 15).

This first period goes from the beginning of the colonization until 1759, and refers to the work carried out by the Jesuits in their colleges, especially the College of Bahia. Although recognized the high character of these studies, comparable to those which at the same time worked at the university level in Mexico and Peru, it has not been possible to raise the College of Bahia to the category of University.

After the expulsion of the Jesuits and the consequent collapse of their educational work, the idea of university reappears transiently in the Inconfidência Mineira movement and on the occasion of the transfer of the royal family to Brazil. The first efforts to offer higher education only happened from 1808, when the whole court moved to Brazil, aiming to escape the Napoleonic invasion that put under the France dominion of European territories and colonies exploited by them. With the Portuguese court settling down in Brazil, public bodies and the security and health services began to require persons duly prepared, and imposed the need to prepare these professionals. In these periods establishments of higher education were created eminently professionalizing, with the aim to meet the immediate court's needs. The creation of Medicine, Engineering courses, the Military Royal Academy, the Academy of Fine Arts and the legal courses as isolated vocational schools, was a "model" which still remains rooted in the Brazilian higher education structure.

Thus, even in 1808 the course of surgery was born in Bahia and the course of Surgery and Anatomy in Rio de Janeiro. (GHIRALDELLI JÚNIOR, 2008). Two years later, in 1810, the Military Royal

Academy was founded, which later became the Central School and later on the Polytechnic School, becoming, later, the Federal University of Rio de Janeiro (GHIRALDELLI JÚNIOR, 2008; SANTOS; CERQUEIRA, 2009). From then on several schools had been created over the years, being that about thirty attempts had been made - projects of creation, official speeches, free institutions creation, aiming to introduce the Brazilian university unsuccessfully though. According to Santos and Cerqueira (2009), between 1889 and 1918 56 new higher education schools were created. However, only in 1920, through the Decree 14.343 of September 7th, three colleges existent in Rio de Janeiro were transformed into "university".

The Brazilian University was marked by the disjointed, individualistic and professionalizing character of the higher education institutions existing at the time of their foundation. In this sense, the counselor ValnirChagas observed that, in the second period there was the institution, but not the university. The institutionalization of the university in Brazil by law, without the real correspondence of a university structure, conditioned the formation process of this university over one of the dichotomies that have characterized the Brazilian education: while the higher education grew at an accelerated pace (in terms of courses, school units and the number of students), also grew, in the middle of Brazilian intellectuals considered more progressive, the dissatisfaction with this same University. It is, therefore, a return to the old debate the quantity versus quality, perfectly applicable in the country, from the elementary school education to higher education.

Brotti and Colossi (2000), considering this framework, highlight the importance to discuss the real goals of the university, their international, national, regional vocations, their academic and administrative structure, systems of access to university education, the gratuitousness of teaching, the definition of research lines, the quality of teaching, the legal organization of the university institution, the teaching qualification, wage policy and the funding of the university, the suitability of the product for universities to the needs of the labor market and their interactions with the organizations and society environment.

Nogueira (2008) stresses that, upon receiving from the State ethical, education and politics roles, the university must be free, secular and autonomous to fulfill its role. At the same time that is required to comply with certain legal parameters, follow general guidelines for education and follow governmental guidelines, as well as to reproduce certain technical and operational requirements, common to all complex organizations.

The University in the bulge of the Brazilian Educational System

The Brazilian educational system, in its various levels, is traditionally exclusionary, reflecting the economic inequalities, social, political and cultural aspects of the country. In the case of access to

higher education, much has evolved since the creation of the first Brazilian universities, but there is still much to be done. Santos and Cerqueira (2009) remind that there were struggles for democratization to access and guarantee of permanence in the Higher Education Institutions until the current scenario is reached. To understand the situation in contemporary Brazil, it is worthy making a brief report on their historical trajectory.

In the course of the years between the decades of 1940 and 1960, the number of educational institutions expanded and between 1946 and 1960 18 new public universities and 10 private were created most catholic and Presbyterian (SANTOS and CERQUEIRA, 2009).

It is worth remembering, however, that the student movement in the second half of the decade of 1950 brought to light the need to increase the number of vacancies in public and free of charge universities, as well as the associate teaching research, focusing on the country's development (SANTOS; CERQUEIRA, 2009).

“The Law of Guidelines and Bases of National Education (LDB), voted in in 1961, met the concerns of private and conservative sectors, which ended up legitimizing and enlarging the existing system. LDB cared basically to establish mechanisms to control the expansion of higher education and the content to be worked (SANTOS and CERQUEIRA, 2009, p. 5).”

During the period of the military government, different from what occurred in other countries in Latin America, political repression promoted both public and private higher education. "The number of enrolments, over twenty years, went from 95,961 (in 1960) to 134,500 (in 1980). The years 1968, 1970 and 1971 were those that presented the highest rates of growth" (SANTOS; CERQUEIRA, 2009). According to Pilletti (1996), in the decade of 1970 there was a great expansion of university education in Brazil, and to assess the candidates, in 1971 the single classificatory vestibular exam was created, taking advantage of a new technology for evaluation.

In the decade of 1980, however, it was verified that in Brazil an increased supply of evening courses, which resulted in an increase in the concentration of students in private institutions that offered courses in this time. In 1986, 76.5% of enrolment in higher education focused on the private sector, because the federal universities resisted the implementation of evening courses. This meant that, in the next five years, the number of institutions of higher education institutions increased (SANTOS and CERQUEIRA, 2009).

The year 1980 was marked by significant transformations in the worldwide political and economic scenario, arising from the globalization of the economy, the emergence of new organizations models

and, in particular, the resulting need for qualified people for the attainment of development goals. Companies that have spread throughout the world, including in Brazil, required not only advanced technologies, but also professionals capable of ensuring their productivity. It was defined therefore, the demand for a better qualification of professionals, either engaged in high levels of management or in different areas of these companies (GOULART and GUIMARÃES, 2002).

Tanegutti (2014) points out that before the growth of various economy sectors, the demand for skilled professionals became greater, which increased the need for academic training to a higher level. In addition, the Federal Constitution of 1988 emphasized the need to give access to a larger contingent of the population to higher education.

But it was in the middle of the decade of 1990 when occurred the greatest transformation of higher education in Brazil. Until this decade, the higher level courses were taught in their great majority in public universities, especially federal, there were few private institutions that offered higher level courses (TANEGUTTI, 2014).

During the first term of President Fernando Henrique Cardoso - FHC - from 1995 to 1998, some measures were taken to reform the education scenario in the country. It was proposed the reformulation of public policies in the education sector, which culminated with the approval of the Law of Guidelines and Bases for National Education - LDB (Law no. 9.394/1996). According to Stallivieri (2007, p. 11-12), by means of LDB, the educational institutions began to be identified according to their academic organization, i.e.: Universities, University Centers, Integrated Colleges, Institutes and Upper Level Schools and Centers of Technological Education.

Having assumed the Ministry of Education, Professor Paulo Renato Souza, who had been the Dean of the University of Campinas, found that higher education in the federal universities had high cost and that private institutions found it not easy to operate at this level of education. On the other hand, the opportunity of access for students to courses offered by the federal universities was reserved for those who obtained good result at the vestibular exam, what was possible if the basic course of the candidate had been qualified, which represented greater opportunity for students from more disadvantaged socioeconomically layers.

Measures were then deployed that favored the expansion of private higher education, allowing the organization of colleges and facilitating the procedures for authorization, recognition and accreditation of courses and the opening of new institutions of higher education institutions. In addition, isolated colleges were able to organize in the form of university centers and universities (TANEGUTTI, 2014). New programs were created also in public universities to create opportunities for access to higher

education for socioeconomically disadvantaged people. At the federal universities the quotas for black people were created, students from public schools and other groups and programs such as the program of restructuring and expansion of Federal Universities (MET) were implanted. For the upper education schools of the private network lines of funding were created such as the Student Financing of Higher Education (FIES), created in 1999, which had access to students who achieved good results in tests applied at the end of basic education in the National High School Education Examination (ENEM).

In this context, what is observed is that since 1995 the Brazilian higher education has been undergoing an accelerated growth. Annually, the National Institute for Educational Studies and Research Anísio Teixeira (INEP) conducts the Census of Higher Education, which has as its purpose the data collection that allow to submit the institutions leaders, educational policies managers, researchers and society as a whole different detailed information about the current situation of educational institutions (INEP, 2003). Faced with this growth, it became necessary the implementation of measures to assess the teaching quality. This resulted in the adoption of evaluation systems in the second half of the Fernando Henrique Cardoso government and more widely in the LuizInácio Lula da Silva government (CUNHA, 2003; SANTOS e CERQUEIRA, 2009).

Monteiro and Braga (2004) consider that the lack of an adequate education model is possibly the greatest obstacle so that a country has equal opportunities, income and greater stability and social integration. Education in general, and in particular higher level, is a determinant factor of access to job opportunities and higher income levels. The knowledge, in turn, is still the only path to sustainable growth.

Initiatives to increase the possibility of access to universities can be verified in a clear manner. While in 1980 it was recorded the ingress of 356,667 new students; in 2001 this number jumped to 1,206.273, which represents an increase of 238% (PORTO and RÉGNIER, 2003). According to the Census of Higher Education in 2013, the number of institutes of education has also increased considerably in the period from 2000 to 2013, totaling an increase of 102, 6% and 108.2% in the private network Upper Education Institutions and 71% in Public Upper Education Institutions (BRAZIL, 2013).

In the midst of this constant growth in the number of higher education institutions, it can be said that, despite the growing demand for jobs, there is an increase in competition among the Higher Education Institutions in the search for new students (TACHIZAWA and ANDRADE, 2002). As in other sectors of the economy, it is necessary that the private network Upper Education Institutions are positioned in competitively in the market, developing new relationship forms with the students, aiming to allow their permanence in the courses, the structuring of negotiating mechanisms and financial management to avoid the risks represented by the delinquency, and, in a general way, to build value differentials for

specific segments of the market (MONTEIRO and BRAGA, 2004).

Technologies in Education

During the evolutionary process of the institutions, it is possible to verify an increase in the use of Information and Communication Technology (ICT) in the Upper Education Institutions (AURAY, 2000; MARTINS, 2008a). The ICTs are used to collect, distribute and share information, as for example: Web sites, computer equipment (hardware and software), telephony, information kiosks and automated services counters (MENDES, 2008; DORNELES, 2012).

Parcianello and konzen (2014) observe that the use of technological tools in the educational institutions aims to help teachers in the teaching-learning process, whereby, however, the Professor is liable to identify which one to use, when and how it should be used.

The internet has enabled the emergence of the courses in distance learning (ODL), allowing greater interaction with students in different locations without the need of displacement, democratizing, even more, the higher education in Brazil. According to Ribeiro, Mendonça and Mendonça (2007), in EAD the existing technologies are tools used with the objective of facilitating the teaching and learning process and to stimulate collaboration and interaction among participants. These tools are also necessary for the pursuit of new areas and new audiences.

Ribeiro, Mendonça and Mendonça (2007, p. 5) mention as benefits obtained with the use of the Virtual Learning Environment (AVA): interaction between the computer and the student; possibility to give individual attention to student; possibility for the student to control his or her own pace of learning, as well as the sequence and time; submission of material for the study in a creative, attractive and integrated mode, stimulating and motivating learning; and the possibility to be used for mutual evaluation.

The transformations in the institutions dedicated to higher education, then, shall have as its objective "to overcome the concept of education as a mere transmission/accumulation of knowledge and information. This makes the crisis of education, in large part, a crisis of the traditional pedagogical model" (BORGES; MÖNICKIRCHEN, 2012, p. 2).

It is also verified, that the technology achieves currently also management, creating complex organizational architecture models and capable of continuous assessment. It is necessary to adapt the management models to make a difference and act in the new market (TACHIZAWA and ANDRADE, 2002).

The universities, since their creation, are considered institutions dedicated to teaching, research and extension activities, and through these actions it is expected that they will return to the creation, production of knowledge, and the pursuit of knowledge.

In Brazil, the research production by professionals who work in higher education has always had as locus public universities, a fact that is due to the existence of PhDs in the faculty of these institutions. Until the year 1980, these professionals performed their doctoral courses in European and American universities, and brought the mark of their experience abroad.

From these considerations, it can be inferred that the university is an important role for national development, since the beginning of the research it becomes a scientific production systematizer and gains importance in the knowledge production, in addition to become an indispensable source for the public authorities formation.

A theme that gains special relevance in this second decade of the 21st century is the innovation and it binds directly to studies on the knowledge production and dissemination, an aspect whose accelerated growth is expressed as a phenomenon, both quantitatively and qualitatively: the disciplinary knowledge to knowledge arising from complex problems and that, therefore, involves different knowledge areas. Thus, it is unquestionably the close link among the university, the production of knowledge and innovation, which the observation by Silva fits herein (2011, p.193): "The university is the only institution that has the equipment and brings together the range of skills necessary [...]" that can promote conditions of possibility for scientific development, economic progress, social justice, sustainability, conservation of the environment and innovation.

According to Nogueira (2008), the moment of transition that the world has been facing in the early decades of the 21st century poses in boiling the functioning of the different institutions and the university, despite the diversity and relative autonomy that has, is involved with a redefinition of its role and seeks a new and better social insertion. To position in this new scenario, in relation to the management models adopted by the Higher Education Institution, what is happening is the emergence of new organizational architectures, and thus there is a greater professionalization in the administration of the same (Cunha, 2000). This meant that the mergers and acquisitions of teaching

ISSO FEZ COM QUE AS FUSÕES E AQUISIÇÕES DE ENSINO

3. METHODOLOGICAL PROCEDURES

In order to achieve the objective proposed for this research, a qualitative approach used, since that it is intended to analyze the expectations, strategies and actions defined by managers of higher education institutions and researchers of these institutions both in Brazil and in the United States of America for

the next 10 to 20 years.

The option for qualitative research nature is justified to analyze perceptions, individual points of view, expectations, situations in which the researcher is dealing with subjective aspects, personal interpretations of a reality, whose quantification is impracticable. (GODOY, 1995, p.21)

Flick (2009), in his turn, observes the relevance of qualitative research in the study of social relations, its accelerated changes and its complexity, due to this type of research enables analysis of the subjective meanings of the experience and everyday practice. The author puts as its main aspect the possibility of analysis from different perspectives in the knowledge production.

The meanings are essential in qualitative research, according to Triviños (2011, p.127), because "they manifest themselves through verbal productions of the people involved." The choice of a qualitative approach is justified, therefore, for the need to identify personal interpretations about the strategies defined by managers and researchers.

Regarding the purposes, the research is classified as descriptive, taking as "primary objective the description of the characteristics of a given population or phenomenon, or, alternatively, the establishment of relationships among the variables" Gil (2010, p.42).

As to the means, the present study is characterized as an exploratory research, since in addition to having little scientific production on the theme, the results obtained will serve as a starting point for further research to be carried out and also to define guidelines that may be useful to the institutions management dedicated to higher education.

The research universe is composed by higher education institutions, some of which are located in Brazil and abroad, selected by accessibility on the occasion of the survey. The selection of the research subjects was done by choice of those who have shown innovative ways of conducting the actions related to the Upper Institutions' management and the knowledge production in Upper Education Institutions inside and outside Brazil. Managers and researchers who constitute the sample are linked, therefore, to the following institutions: ANIMA Group Education and Centro Universitário Newton Paiva, both in Brazil; University of Arizona and the University of Florida, in the United States of America. Thus, this is a non-probabilistic, intentional sample, for accessibility, once the subjects were chosen according to their relationship with the subject of research. (LAKATOS; MARCONI, 2010).

For the data collection instrument it was adopted as a structured interview guide, composed of open questions, which could give participants the opportunity to extend their explanations about their vision of the future of higher education institutions.

Once defined the preliminary interview guide, the same was applied to 3 managers/researchers with characteristics similar to those of the study subjects, so that they can assess if it was clear what is expected as a response. The pre-test was aimed at better understanding and adequacy of the target population, as proposed by Lefèvre and Lefèvre (2005). Made the revisions suggested, and set the script to be used, it was made contact with the subject by telephone, e-mail or personally and was presented to each manager and/or researcher a technical research, so that they take knowledge of the objective and what is expected of their information.

It is noted that those who were in Brazil were heard in their place of work and those who were outside Brazil, gave the interview by Skype. The interviews were recorded, transcribed and organized for later analysis of content.

The interpretation of the statements contained in the interviews was done through analysis of content, in the form of narrative analysis, a technique that has been privileged and allows the definition of a reality from the points of view of different subjects. Upon answering open questions, individuals organize their life experiences and construct meaning about themselves; analyzing these narratives, it is possible to achieve and deepen intelligibilities about what happens in social life.

Pre-theoretically, Biar (2012) defines the narrative as the speech built into action to tell stories in everyday or institutional contexts, in spontaneous spoken situations or in a situation of interview for social research. Theoretically, the narrative analysis has been mentioned by Mishler 1999; Riessman 1993, 2008; Ochs and Capps 2001, as an area which adds both structural and interactional approaches of narrative in discursive perspective.

Taking as a basis the themes emphasized by the interviewees, categories of analysis were established, which allowed to translate the interviewees' perception about the Upper Education Institutions strategies. Below are the results of this analysis.

4. 4-ANALYSIS AND INTERPRETATION OF RESULTS

The methodology adopted in this research made use of open interviews with managers and researchers of national and foreign universities, who were selected either by the knowledge that the author of this work had on the innovative performance of these professionals as well as accessibility, since it was possible to contact them and obtain their consent to the data collection.

The characteristics of the five subjects are the following: four are post-doctors and one of them is a master: the subject 1 (S1) is the innovation director of a Brazilian Upper Education Institution group; the subject 2 (S2) is a researcher and director of innovation and internationalization of the University of

Arizona - USA; the subject 3 (S3), who is a master in Electrical Engineering is a researcher and manager of digital transformation and innovation of a Brazilian Upper Education Institution ; the subject 4 is a researcher at the University of Florida, USA; and the subject 5 (S5) is a researcher, manager of an higher education institution in Brazil and consultant.

As the stimulating issue was opened, it was possible to each interviewee place emphasis on what is more valued at the University in which he or she operates. The speeches were organized by categories, which were identified from the enunciations analysis.

Category 1: Planning and vision of the future

Subject 1, who operates as the Director of Innovation of a Brazilian institution, starts his comments criticizing the proposal of higher education adopted by the Higher Education Institution:

“The institutions are committing an error of teaching to the educational parameters and not for life. It is perceived that the current emphasis of the Upper Education Institutions is greater in content; the protagonist is the professor and should be the student. (S1).”

He also added:

“In 20 years the current structure will not exist. The educational institutions will have to seek a new academic process. The Higher Education Institutions will probably be hybrid and operate with blended learning. (S1)”

The point of view of this interviewee coincides with the Parcianello and Konzen’s vision (2014), mentioned in the theoretical framework of this study, that points to the need for higher education institutions to adopt technological tools able to assist the teaching-learning process. We can conclude that, even taking advantage of more modern instruments, the emphasis remains the domain of the content taught and not the skills development that can solve future situations.

When we speak of planning and vision for the future of an American university, the vision is quite different. It is centered on the Community expectation it is governed by a government plan, as evidenced by the speech of the interviewee 2, who serves as an executive director of the University of Arizona, responsible for internationalization and innovation.

“The University where I work is public, executives are appointed by the Government, but society requires knowing where the money has been spent. There are hearings for that. The executives are aware that they will be charged. This will be charged publicly. This is the New American University - has a definite plan until 2025 and beyond. (S2)”

This executive clearly defines the project for the future of the university in which has been developing its activities and realizes that the proposal is underpinned by a strategic planning, which has well-defined objectives, which are approved by the Community, since they aim to meet social needs. The two representatives of American universities emphasized the participation of the private sector in the definition and monitoring of this planning.

“The Institution’s President responds to a board chosen publicly and is appointed by the state governor. The vision is to be debated and adopted by the population. As part of the funds handled by the organization are of public origin there is community participation in its planning. (S2)

The public university is managed by a collegiate of recognized entrepreneurs. The dean responds to this group, which is selected in the job market. Unlike Brazil States where the managers of public universities are politicians. (S4)”

The research appreciation produced in the academic environment is recent in Brazil and during the 59th meeting of the Brazilian Society for the Progress of Science (SBPC), held in July 2007, the manifesto was drafted in defense of public universities and of the knowledge production committed to society. In Brazil there is no still a market for doctors in addition to the universities and there are few research centers that employ them. There is, also, a lack of policies that encourage the knowledge production and it is not common for the company-university involvement.

The great emphasis in Brazil, especially from the last decade of the 20th century, has been the expansion of opportunity for access to university education to students from more socioeconomically disadvantaged groups.

S3, who is a researcher of a digital transformation company and acts in a laboratory of advanced technologies for a private university, directs a group of startups and acceleration. Upon addressing the importance of the universities planning, he stated that considers that the greatest difficulty faced in the preparation of the Upper Education Institution’s planning concerns the unpredictability of the market in coming years.

Category 2 - Innovation

Currently, in the globalized world in which we live, innovation is a highly enhanced value by modern companies, and presents itself as a process that aims to transform opportunities into new ideas and put them widely in practice. Some of the interviewees highlighted the importance of innovation at the University, through the attempt to introduce a novelty, to make something new.

To the director of innovation for a North American university there are still difficulties of institutions in establishing clear definitions about innovation.

“The concept of innovation is still poorly understood. All search for improvement encompasses the innovation. However, innovation must be in the university’s routine, and should not be treated by a specific area (S2)”

The manager of innovation in the Brazilian university reported that to have an innovative project it is necessary that the institution change the focus, taking into consideration not only what is taught, but mainly the apprentice’s life project.

“Innovation should be one that will improve the learning process. The university education should seek the life project and the student’s career and the professor will be your his or her mentor. The difficulty will be to create a base of professors, mentors (S1).”

This manager enhances the performance of a laboratory of technologies, attached to the university, where students develop startups under a mentor’s guidance

S2, who operates in Arizona, also points out the role of innovation when it comes to learning:

“To innovate, it is necessary to work the socio emotional skills - there are two types: Hard skills, techniques content, etc.) and soft skills (socio-emotional, not cognitive, etc.). The brain structure should be worked and not in content (S2).”

It is necessary to observe that innovation in a university is not restricted only to education, but also to research and management. Identified as the vision for the future of the University of the future, the group of higher education organizations’ manager points to another innovative aspect of the proposal of these institutions, after having pointed out the four pillars of planning:

“The financial management will be performed by artificial cognitive intelligence. The management will be performed by computer (ex: the Watson system, in which the machine will tell you what to do, what course to launch in Barreiro, in order to meet the local society. The management will be made of “platform management “(S1).”

As highlighted by Nelson and winter (1982), the concept of innovation is based on the implementation of changes in products, services, processes and management systems that may be new to a local context, and not necessarily new to the world.

Distance Education - EAD - widely used nowadays in Brazilian universities, has been an innovative feature, mainly by methodologies that adopts - forum, chats, exchanges between canceled and follow-up by monitors. The manager of a Brazilian university and consultant in the area of management observes:

“A tendency of the university is the standardization and transfers the learning obligation for the student. As far as possible, the objective is to automate the learning process. I believe that in the next 15 years will be reversal of the current model: while we currently have 1 million students of Upper Education Institutions in EAD and 6 million in person, over the coming years we will have 6 million in EAD and 1 million in person. (S5)”

It is opportune to recall the observation recorded by Hammer (1997), who draws attention to the fact that it is necessary imagination, flexibility and commitment with the results, offering agile answers, produced for each new situation. In this sense, it should be noted that an important thing is not to pass on to the students so much content, but prepare them to offer response to the challenges that arise.

Category 3 - pedagogical practice and methodology

From the second half of the decade of 1990, when the inclusion of a large number of students in higher education institutions began, a concern of the university administrators has been the adoption of more dynamic, innovative, pedagogical practices which facilitate the learning.

The innovation manager of a Brazilian institution recorded the following observation:

“The active methodologies were already used with other names: learning based on time, in problem in project, inverted classroom and instruction by peers. Today we speak of peer instruction, gamification, Design thinking.... In these strategies the student becomes the protagonist and the professor a mediator. The teacher's role has to gain a new meaning. He has to become a coach. (S1)”

The point of view presented is consistent with the observation of Borges and Tauchen (2012), according to whom the transformations in the Upper Education Institutions shall have as their objective "to overcome the concept of education as a mere transmission/accumulation of knowledge and information, which leads to the criticism of the traditional pedagogical model.

The innovation manager of a North American university corroborates with the introduction of innovative methodologies but makes caveats regarding its use.

“The concepts of gamification and design thinking are an integral part of the learning models of the future. However, it is worth noting that it is important to create the courses with these concepts and not

to insert them later. (S2)”

Observing the reality of higher education institutions nowadays, it is noticed that increasingly the Higher Education Institutions of the private network assume the undergraduate education and the tendency that seems to install points to a novelty: the concern of public institutions has turned to the research and post-graduate students, while the private network Higher Education Institutions focus primarily on teaching, as reported by the manager interviewed.

“The concern for the private institutions will be increasingly the undergraduate and graduate for the public ones. The overriding concern will be to deliver cost reduction and mergers will continue in this group of private institutions. The use of EAD and blend learning will be imposed increasingly in order to cheapen the cost. (S5).”

Category 4 - Research

The conception of University has been characterized by the teaching, research and extension activities, and it is hoped that producing knowledge (research) they be equipped to promote quality education and also extend to the community their discoveries (extension). It should be noted that the research production by professionals who work in higher education has always had as a locus public universities, where PhDs have had the opportunity to work.

By analyzing the interviewees’ narratives,, it was possible to verify that those who act outside Brazil (in the case of North American universities) place significant emphasis on the research production and emphasize that it must respond to the society’s needs and emphasize the link between the actions of the university, the social expectation and the government project.

“The charter (mission) has a focus to serve those who are not included and the professionals of the university are responsible for the people’s success. All this must occur without any reduction in the number of new entrants in the institution.

Another point pursued by the institutions is the advancement in research with value to the Arizona’s public / society. (S2)”

Also the researcher from the University of Florida highlighted this aspect:

“A significant part of the resources of the institutions are from research and universities involve teachers in obtaining funds, either federal or private. The university is very aggressive in patenting products and solutions discovered, since they ensure the livelihood and future investments. One of the

recent examples from the University of Florida is the Gatorade drink patent. (S4)”

In Brazilian universities, however, only more recently, professors are encouraged to produce research and are evaluated in relation to the involvement with such activities. The practice has been the research groups to organize and present the projects of interest to the funding agencies, such as the foundations for research support.

“The expectation to obtain money varies in accordance with the course. The expected contribution to medicine is obviously greater than for other areas. (S4)”

Currently, some public and private universities already stand as poles of scientific production and are recognized nationally and abroad. The Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq, identified in 1996 more than 8,000 research groups, concentrated in the states of São Paulo, Rio de Janeiro, Rio Grande do Sul and Minas Gerais.

This concern with research, which is quite recent in Brazil, confirms the observation of Faria (1981), according to whom the institution for scientific activities is, without doubt, the university, where the professionals from all areas of science live. In the same line of reasoning, Bernheim and Chaui, in the Forum of UNESCO in 2008, intended to discuss measures for Latin America and the Caribbean, drew attention to the central knowledge role in production processes.

Category 5 - Internationalization

In American universities, it became clear that planning and research already turn to the problems resolution beyond its borders, as evidenced by the executive of the University of Arizona when mentioning the institution’s goals:

“To be a global center of interdisciplinary research until 2025; to improve the overall impact, i.e., answer the questions that go beyond the country’s limits. (S2)”

The researcher from the University of Florida also mentions that internationalization is one of the main institution’s foci.

“It is very emphasized, there are areas focused on exchange programs, mainly for Americans leave the United States. There are subjects that are internationalized by nature for having equipment only in other countries (ex: particles accelerator, etc.). (S4)”

In Brazil, the concern with the internationalization has been installed and despite the failure of programs such as the "Science without Borders", executives of Brazilian universities are opening up new fields of research and partnership abroad, as mentioned by the innovation manager of Brazilian university:

“I have been in universities in various parts of the world. I made a trip to India and China, to assess the issue of scale and I saw virtual reality, augmented reality, virtual laboratories, the cream of technology.

d. (S1)''

This is not a simple installation process of activities that are based on internationalization. It is necessary to invest in the researchers' preparation, frequent contacts with other universities, which represents a high cost to the higher education institution that has this goal and still ensure the level of dialog among researchers, so that Brazilians are not only at the level of the receipt of the scientific production or quality education. This investment, which now becomes necessary for the Brazilian university, has been gaining space and it is expected that the technological resources such as video conferencing, skype and other make this reality closer.

5. FINAL CONSIDERATIONS

The main objective of this study was to analyze the expectations, the strategies and actions defined by managers and researchers from higher education institutions as resources that allow the management of the same within the next 10 to 20 years. For this, it was sought to listen to people involved what has been outlining as the university's role in the coming years, so that it will organize for the coping and solution of current and future challenges. The research sample involved managers and Brazilian researchers who work in national institutions and Brazilians who occupy positions of manager and researcher in American universities.

Initially, it was sought to describe the current moment of Brazilian university organizations, contextualizing them in relation to their history and development of this kind of institution in Europe and the United States of America. In a quest to sites of Capes Portal and Scielo, it was found that the Brazilian University, created in the 19th century, had as units almost exclusively education organizations created and maintained by the federal government, taking into account especially the economically more favored classes until recently. From the middle of the last decade of the 20th century, significant changes have occurred, thank to the increase of the federal education institutions, programs of vacancies extension in these institutions and also the measures taken by the Ministry of Education to facilitate the opening and the reorganization of the educational institutions of the private network. Thus, there was an increase in the number of students in all institutions, and to ensure the education quality provided, the government institutionalized evaluation programs of education developed by these units. However, the research production remained restricted to public universities and the funding of this work continues to be of governmental agencies and foundations for research support. It is not still practice in Brazil the company's involvement in the demand for research and financial participation of the same.

The identification of expectations, strategies and proposals for actions mentioned by managers and researchers from Brazilian and North American Institutions was achieved by conducting interviews with five professionals who work in university management and in performing research.

It was possible to verify that the concern with the research was more evident in American universities, where Professors have as a priority action the knowledge production. It has also been observed that the involvement of companies in research demand and financing is a usual practice in universities that were units of analysis, the teaching even in public universities is paid and the government's investment in this funding is reduced. The research subjects also emphasized the possible continuity of these priorities in the coming years.

In Brazilian universities, the opportunity of a larger contingent of students have access to higher education has guided the mobilization so that measures are adopted able to serve them effectively. In one of the institutions surveyed, which belongs to the private network, there is significant investment in active methodologies - *peer instruction, gamification, design thinking* - for students to absorb the best way the teachings that they have been given.

Also in an institution of private network emphasis has been given on innovation and for this a laboratory of creation and acceleration of startups was created. This Lab has been developing its activities thank to research institutions funding, companies interested in applying advanced technologies and financing components of the Ministry of Education.

It has also been observed that an investment in distance education, modality of teaching that has more dynamic methodologies, considered innovations capable of promoting learning. This strategy has been used in Brazil in both public and private universities, with greater emphasis on the latter.

To justify the relevance of this research, one must take into account that the knowledge-based economy increasingly requires human capital as a condition of creativity in the use of information, increased efficiency in the segment of products and services and also as a condition of employment for the subjects who seek their training at a higher level. The higher the training level, the greater the ability is to transfer skills and cognitive abilities in constant recycling processes required by the new economy.

To ensure their survival, universities have to be at the service of three main ideas - the information society, the knowledge economy and innovation management and for this reason they themselves must be transformed within by means of information technologies, communication and new types of management. In order to cope with the challenges of the coming years, the university administrators need to have a vision of economic and political scenarios of the current world to substantiate the activities planning. In this space is where the emphasis lies on the research production, to offer alternatives.

Buarque (1994) stated, still in the 20th century, that if the university, wants to participate in the social modernity construction subordinate to ethics and sustainability, it must change. To be university of ethics subversion it will need first, to subvert itself. To help overcome the scares of the 21st century, it will need to scare itself; for this it should, initially, to eliminate the prison of illusion, which does not even allow it to disturb itself. This author believes that whatever the path of humanity, it passes by the

university, and this will have to react and change itself seeking agility and flexibility for the development of a quality education in which integration and solutions for society and organizations, are the fundamental criterion for this millennium.

Currently, the University has been transformed into a real "Discussion Forum" on the innovative way to administer the knowledge that it will have to transmit to potentiate the human being in his or her preparation for a future increasingly unstable and complex (BROTTI and COLOSSI, 2000). In this context, the moment in which this work was performed, extensive and intensive discussions have been held in society, about the university, its organization, structure, product, its reason for being, and consequently, its future.

It is in this circumstance that the relevance of the prospect of future scenarios is inserted as a new administration denominator, because they help to modify and break the paradigms and mental models in force, allowing to dream and build a new network of knowledge and strategies for coping with these unpredictable challenges.

In this context, it is undeniable the close link between higher education, more specifically between the university, the knowledge production and innovation. According to Silva (2011, p.193, "[...]The university is the only institution that has the equipment and brings together the range of skills necessary [...]]" that can promote conditions of possibility for scientific development, economic progress, social justice, sustainability, conservation of the environment and innovation. That is, the university can build environments that favor the development of a culture of creativity and innovation.

Although the university constitutes itself as a condition of possibility, there are countless criticisms of the conservative character that accompanies it historically (MOTA, 2011; BERNHEIM and CHAÚÍ, 2003): curricular rigidity and discipline, lack of integration between the levels and university activities, separation between production and knowledge application, fragmented knowledge, education restricted to disciplinary conceptual content, among others. Therefore, the World Declaration on Higher Education in the 21st Century (1998, p. 34) highlights that the current changes seek to "overcome the concept of education as a mere transmission/accumulation of knowledge and information. This makes the crisis of education, in large part, a crisis of the traditional pedagogical model"

Lucareli (2000, p.63), upon addressing the innovation in education considers that "when we refer to innovation, we do it in association with teaching practices that changes, somehow, the unidirectional relations system which characterize the traditional teaching". In other words, an innovative classroom always implies "[...] a rupture with the didactic style imposed by the positivist epistemology, which communicates a knowledge closed, finished, leading to a didactics of transmission which, governed by the technical rationality, reduces the student to a subject intended to passively receive this knowledge" (ibid., p. 63).

Upon completing this work, what is intended is to emphasize that the university cannot stick itself to

teaching. It needs to recognize the research as essential for the knowledge production and resume the extension, extending to the Community part of what has been developed in its space.

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