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MASTER THESIS

MANAGEMENT OF RESEARCH IN HIGHER EDUCATION INSTITUTIONS IN KAZAKHSTAN

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РЕЗЮМЕ

Исследовательский Менеджмент является основным инструментом модернизации в Высших учебных заведениях (ВУЗ). Так как объем и глубина исследования увеличиваются, все фигуры, вовлеченные в процесс (государство, университет, индустрия, исследователи) играют фундаментальную роль в управлении, продвижении и развитии исследовательской деятельности.

«Закон о Науке» Республики Казахстан задает рамки и бросает вызов именно в случае исследования в ВУЗах данной страны. Целью данной диссертации является изучение, анализ и оценка шагов, сделанных в последнее время в сфере исследовательского менеджмента в Казахстане. В ней будут рассмотрены как усилия всего академического общества, так и темные и светлые участки этого желания актуализации и интернационализации, которые предполагается исследовательским менеджментом. Так как экономическая стратегия государства основана на сильном секторе исследования и разработки, а также на твердом высшем образовании, точка соприкосновения этих двух подходов является ключевым фактором развития.

Казахстан обладает очень высоким потенциалом развития исследований, концентрируя свои усилия на ВУЗах по всей стране. Конкретный способ, благодаря которому все академическое сообщество увеличивает и расширяет усилия, должен быть аккуратно пересмотрен. Эта роль управления научными исследованиями может следовать принципам, предложенные правительством в Законе «О науке», в частности, в соответствии с характеристиками исследовательской деятельности, интеграции в науку, образования и промышленности, а также приоритет научной деятельности, должны быть четко усилены.

Для анализа настоящей ситуации в ВУЗах страны были выбраны четыре основных университета. Целью проведенного изучения являлся анализ собранной о них основной информации и основные открытия, которые эти встречи могут предоставить с точки зрения исследовательского менеджмента.

Так как приблизительность данной работы качественная, то она предлагает исследователям и экспертам разъяснения, дабы понять, как институты и частные лица производят действия, и, таким образом, увидеть имеющиеся возможности. Взгляд качественного исследования является описательным, натуралистичным, изучающим, интерпретирующим и (почему нет?) субъективным, будучи сам исследователь основным инструментом.

Во время написания данной диссертации были сравнены различные случаи. Во всех них были проанализированы эти концепции. К тому же были изучены основные стандарты аккредитации, чтобы выяснить, насколько они влияют на стремление к совершенству касательно исследовательского менеджмента. На сегодняшний день эти системы являются синонимами хорошей работы, профессионализма и высшего качества.

ТҮЙІНДЕМЕ

Зерттеу менеджменті жоғары оқу орындарын (ЖОО) модернизациялаудың негізгі құралы болып табылады. Зерттеу көлемі мен тереңдігі өзгеріп отыруына байланысты үдеріске қатыстырылған барлық фигуралар (мемлекет, университет, индустрия, зерттеулер) зерттеу жұмысын басқаруда іргетастық рөл атқарады. ҚР "Ғылым туралы заңы" шектеулерді белгілеп, осы елдердің ЖОО-нда зерттеу жасау керек болған жағдайда шақырту жасайды. Берілген диссертацияның мақсаты соңғы уақыттарда Қазақстандағы зерттеу менеджменті аясында жасалған қадамдарға талдау жасау және баға беруді қарастыру болып табылады. Онда академиялық қоғамды күшейту, сондай-ақ осы саланың зерттеу менеджменті көздеп отырған оң және теріс жақтарын өзектілендіру және көпұлттандыру сияқты қалаулары қарастырылады. Елдің экономикалық стратегиясы мықты зерттеу секторы мен оны құруға және берік жоғары оқу орнына негізделген болғандықтан бұл екі нүктенің түйісуі оны дамытудың кілт факторы болып табылады.

Қазақстан елдегі жоғары оқу орындарына бар күшін салу нәтижесінде зерттеудің жоғарғы потенциалы болып отыр. Академиялық қауымдастықты ұлғайтушы және кеңейтуші нақты тәсіл тиянақты қарастырылу керек. Ғылыми зерттеулерді басқарудың бұл рөлі белгілі бір ұстанымдарға сай атқарылады, мемлекеттің "Ғылым туралы заңында" көрсетілгендей зерттеу жұмысына берілген сипаттамаға сәйкес, ғылым, білім беру және өндіріс салаларын интеграциялау, сондай-ақ, ғылыми қызметтің басымдылығы нақты күшейтілген болуы тиіс.

Берілген жағдаятқа талдау жасау үшін елдегі төрт ЖОО таңдалынып алынды. Зерттеудің мақсаты олар туралы жиналған негізгі ақпараттарға талдау жасау және зерттеу менеджментінің көзқарасын білдіретін негізгі жаңалықтар ашу болып табылады.

Берілген жұмыс шамамен сапалы орындалған, онда ол зерттеушілер мен экспортшыларға институттар мен жеке тұлғалар бұл әрекеттерді қалай орындайтындығын түсіндіріп береді және сол арқылы туындаған мүмкіндіктерді көрсете алады. Сапалы зерттеу жасау көзқарасы сипаттамалы, натуралисті, танымдық, зерттеуші өзі зерттеудің негізгі құралы бола алатындықтан интерпретациялық және субъективті (неге олай емес?) бола алады.

Бұл диссертацияны жазу барысында түрлі жағдайлар салыстырылды. Олардың барлығында осы концепцияларға талдау жасалынды. Сонымен қатар зерттеу менеджментін жүзеге асыруға ұмтылуға қаншалықты әсерлері бар екендігін білу мақсатында аккредитациялаудың негізгі стандарттары қарастырылды. Бүгінгі күні бұл жүйелер жақсы жұмыстың, жоғары сапа мен кәсібиліктің синонимдері болып табылады.

CONTENT

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LIST OF DEFINITIONS

Higher Education: means programs of study, training or training for research at the post-secondary level provided by universities or other educational establishments that are approved as institutions of higher education by the competent state authorities, and/or through recognized accreditation systems;

Research: within the context of higher education, means original scientific, technological and engineering, medical, cultural, social and human science or educational research which implies careful, critical, disciplined inquiry, varying in technique and method according to the nature and conditions of the problems identified, directed towards the clarification and/or resolution of the problems, and when within an institutional framework, supported by an appropriate infrastructure;

Higher Education Institutions: means universities, other educational establishments, centers and structures of higher education, and centers of research and culture associated with any of the above, public or private, that are approved as such either through recognized accreditation systems or by the competent state authorities;

LIST OF SIMBOLS AND ABBREVIATIONS

ACBSP: ACCREDITATION COUNCIL FOR BUSINESS SCHOOLS AND PROGRAMS
EFDM European Foundation for Management Development
SAR Self Assessment Report
R&D Research and development
BERD business enterprise sector
GDP Growth Domestic Product

INTRODUCTION

The Higher Education Institutions play a crucial role in the development of science, as long as they usually provokes, maintain and encourage the research production among their teachers and researchers. A deep understanding of research on itself and its management allow to realize the importance of this field in the process of internationalization of the Higher Education Institutions. It brings tools to measure the effort of these Institutions all over the world to acquire a higher status in terms of quality, and make them able to fulfill one of their first objectives: transference of knowledge to the community.

Precisely the *research management definition*, the analysis of the main measures applied by the institutions, in the effort to monitor and manage it, and the way different countries carry it out, show the conditions of possibility of improvement and depth development of this activity, in the new global and changing environment, the one that the Kazakh society is facing.

According to the most widely accepted definitions of internalization of Higher Education, it can be considered as "the process of integrating an international/intercultural dimension into the teaching, research and service functions of the institution" (Knight, 1994, Knight & de Wit, 1997) [1]. The implications of this definition, and the particular policies and projects that can run this process on, are complex and wide. Also, this seems to be relevant in the case of Kazakhstan, as long as the young country is facing a transformation process in its Educational System. For all the players involved in the course of this change (Academia, Governmental institutions, research agencies, teachers and managers) the research management proposes a practical tool in planning, organizing, leading and controlling the achievement of the goals and objectives of the very organization.

When looking at *literature about this topic*, there are some divergences in the definition of the concept. Neave, for instance, asked himself: "*Managing research or research management*?" (2002) [2]. That simple change in the sentence, meaning a complete redefinition of the question, gives a measure of the current situation in the literature referred to this topic. As Bernardo suggests (2010) the word *research* means the study and the search for knowledge; management refers traditionally to the process of reaching particular goals by working with and through people and other organizational resources. This plain definition throws three characteristics: It is a process (that means series of continuing and related activities), also it involves and concentrates on the pursuit of reaching organizational goals, and it reaches these goals by working with and through people and other different organizational resources. According to that scheme the four basic management functions that run the management process are planning, organizing, influencing and controlling (Mortana & Charnov, 1993; Stoner & Freeman, 1995, as quoted in Bernardo) [3].

Merging both concepts and attending to the sources we consulted, research management could be resume as the planning, organizing, leading and evaluation activity of systems, people, and resources to facilitate the discovery of knowledge (Bernardo, 2010) [3].

Because of this sensitivity of the term in itself, we decided to analyze the literature regarding: the role of research in the HEI, the research management on itself, the general situation of education in Kazakhstan, and more properly, the research management in the country.

Taking into account the recent independence of Kazakhstan, which took part in 1991, the perspective of changes and challenges that the young country had face is enormous. It permits the researchers of the country, and not only, to focus on the activity of the HEI in impulse the research, and to become the main character of this activity. In modern literature there is some but scarce presence of studies and approaches to the problem. Most of them assume the relevance of the topic in the general approximation of both aspects: the research in itself (objectives, characteristics, rules, and ways of promotion) and its management in HEI in the country.

The findings refer to the existence of real awareness in the researches agenda about the global situation of this theme, and the necessity to go beyond, in order to find a real and productive path for the development of this important tool. As show in the literature review, researchers from different countries (Kazakhstan, the USA, United Kingdom, the Netherlands, the Philippines, Spain, and much more) dedicated their studies to the situation of research management, the influence of this subject in the development of HEI, its role in the process of internationalization, the accreditation processes, and much more consequences.

The *object of this study* are the different universities that in Almaty city lead the educational panorama. The author has decided to analyze universities of this city having in mind the important role that it plays in the general situation of the country. Almaty, situated in the south of the country, is the former capital of the state. Until now it is considered the commercial, economical, educational and cultural motor of the country, in despite of the current capital, Astana, which run that status since 1997. In Almaty are situated some of the most important universities of the country, the ones with more tradition in research and also the ones with more experience in managing modern systems of teaching, researching and merging both activities. An approximation into some of them: their mission, values, perspectives and research policies could give us a good estimation of how these institutions understand and manage their research objectives.

The *subject of the study* is the research management styles in Kazakhstan: during the development process of the HEI in the country, the position of this field has changed and evolved. An objective perspective in the analysis should answer to the question, which are the most important challenges that this process is facing in the country.

According to these perspective, some tasks have been design in studying this topic:

-to study the theoretical approaches of research management and international experience in research management;

-to analyze managerial practices in the promotion of research in HEI of Almaty;

-to identify problems in the HEI managerial system of research;

-to make some recommendations for improvement of research management

The *general goal* of this study is to bring a tool for the improvement of the research management in the HEI in Kazakhstan. I wanted to study this subject because of the enormous influence that this activity has in the quality of education in any country, and with more reason in Kazakhstan, a young country with a lot of possibilities, energy and also problems and challenges. The potential discoveries of this study can help future researchers and different agents to improve the quality and intensity of this necessary link about general management in the HEI and their inexcusable role as motor of research.

Particular goals represent also the approximation to the main problems that researchers face in working in these institutions, and also the taint to give solutions and alternatives. The general objective of the study is to focus, determine, and analyze the most important problems on the management of research in HEI in the Eurasian country.

In the literature review made for this study there is no evidence of *previous approximation* to this problem, in at least three points: the perspective: research management considered in the HEI in Kazakhstan, as the object of the research; the method: the approximation to different levels of managerial positions in some of the most important universities in Almaty is a novelty; the point of view of the author: a foreign master student, sited in the country for a long period, with international work and academic experience, and potentially considered both an insider and an outsider of the educational system in Kazakhstan.

In order to get closer to the reality of research management in the country's more important universities, a qualitative method is proposed: interviews with seven managers and researchers of four universities: Kazakhstan Institute of Management, Economics and Strategic Research (KIMEP), Kazakh-British Technical University (KBTU), Almaty Management University (ALMA-U), and Al-Farabi Kazakh National University (KAZNU). All of these universities have a long tradition of research and innovation, according to the situation of the country and having into consideration that the nation is young and the universities also.

In the interviews the managers had the possibility to share with me their particular vision about research, the way their own HEI manage, promote and encourage research, and the way this research inspires and improves the teaching style and effects.

Very practical results can be predicted for this study. It can be influence the way on which many managers understand their own work. The possibilities that research involves for the improvement of the quality in HEI is huge. The practical significance of this study appears much more relevant when looking at the necessity to promote particular reforms in the managerial system that allows the agents to lead a new process of development of sciences in Academia.

Two previous articles has been published on this topic, by the author of this dissertation: "*Advances and challenges in Research Management in Higher Education. The case of Kazakhstan*", Collection of articles by Master Program Students, ALMA-U and "*Managing research in Higher Education Institutions, definition and worldwide experience*", Republican Scientific Conference for Young

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1 THEORICAL APPROACHES OF RESEARCH MANAGEMENT

1.1 Research management: concept and principal factors

In order to get closer to the research management definition, and how it is linked with the measurements offered in different countries, a brief description about the history of this concept should be given. We will assume that management research implies "any activity instigated at the level of the institution which seeks to add value to the research activity of staff, without being part of the research process itself" (HEFCE, in Bernardo) [3].

This first approximation around the term "research of management" already gives us a wide vision about the role and the characteristics of the management of research on itself. It is a crucial tool in our knowledge society. It is directly linked with highly intensive executive dimensions, as, for instance: the quality of the research on itself, the impact on development of measures of promotion and control of the research process, the promotion of a more linked education with research and, at the end of the day, to the role of research in the HEI. This factor could not be sub considered, as long as it is crucial for the construction of a based-on-excellence research system.

During the process of improvement and modernization of the Educational System that the country is running out, some other criteria has been considerate by the HEI in Kazakhstan. Very often these are the standards gave by the accreditation agencies, measured in criteria and benchmarks. According to this scheme, first of all our goal should be to summarize the way of understanding of the research on itself, some principles about its management, and how it affects the process of internationalization.

The responsibility of this process is undertake by the educational leader. With this term we refer not only to those who occupy the top managerial positions, but also the academic leaders and those, last but not least, the administrative-service. All of them should be sure about their responsibility in understanding research. In this sense, they should differentiate what and how to produce, but also the importance of the broader educational schemes, as well as the factors that encourage and support it.

Another approximation to what research implies is offered by the Eurostat office, together with another close concept which is the experimental development of an institution of group. Usually, these two concepts are referred together by Research and Development, or just R&D. This implies and comprises the creative work undertaken on a systematic basis, to increase the stock of knowledge, (including knowledge of man, culture and society). But also it refers to the use of this stock of knowledge to devise new applications. Research and Development expenditures, when show as a percentage of the Growth Domestic Product of a country include all expenditures for research and development goals performed within the business enterprise sector (BERD). It always have into consideration those expenditures on the national territory, during a particular, given period, and according to the source of funds. Because of that, and in order to be clear and give a robust indicator, the research and development expenditure in the business

enterprise sector is shown as a percentage of the growth domestic product and it is called Research and Development intensity.

What about the factors to be considered, in talking about Research Management in HEI? Some process should be undertook by the research manager, and translate in different activities. The Scottish University Research Policy Consortium (1996, as cited in Mopas, 2007, quoted by Bernardo (2010)) [3], mentions 13 elements of research management. We summarized it in Table 1.

Table 1- Different Elements of Research Management

	Research management element	Task/ Activity
	1	2
1	Institutional research strategy	Refers to the strategic plan of University to strengthen their research function
2	Collaboration	Addresses the need of institutions to share research resources to complement each other's strength and minimize weaknesses
3	Accountability and research	Establishes the delegation of responsibility of any research activity
4	Funding issues	Tackles how an institution divides its financial resources into to two major dichotomies—teaching and research
5	Teaching and research	Communicates how both functions complement and support each other, and how academic personnel should be rewarded for being able to perform both functions
6	Staff policy and research training	Refers to what training the institution can provide to improve the research capabilities of its academic personnel
7	Postgraduate and research	Recommends how post-graduate students can be trained to fully maximize their research capabilities

Continuation Table 1- Different Elements of Research Management

	Research management element	Task/ Activity
	1	2
8	Scientific integrity	Establishes what personal conduct should be practiced and what is the nature of scientific misconduct
9	Publication and Research ethics	Discusses what areas to be addressed in publishing of research outputs and the importance of the code of ethics to guide research practice
10	Academic freedom and research	Discusses nature of academic freedom and its vital role in creating a research culture
11	Protection and commercialization of research	Explains the importance of upholding intellectual property rights and the need to promote research outputs beyond the University
12	Risk management	Addresses what factors can slow down, degrade, or totally inhibit research outputs
13	Publicity and Promotion of Research	Addresses the need of the University to inform the public and advertise its research potential
Note - compiled by the author on the basis of sources [4]		

This list can be considered prescriptive in looking for a good research management practice. The presence of these elements determines the extent by which research management is applied in the HEI. The development of all these elements cannot be just forced or imposed but takes a long process, requiring tremendous resource and most of all, a leadership that promotes transformation.

Because of that a definition of each of the concepts should be analyzed to understand the relevance in managing these measures.

1) Institutional research strategy: it refers to the strategic plan of University to strengthen their research function. It need to focus the institutional implication at a managerial level, to check in which measure the top organizers stockholders involved in the process are able to translate these efforts into a realistic and effective plan. All of the HEI that look for an internalization process should define these important characteristic in their paths, that is, the pursuit of a real researching

activity in all of their activities. Only with a compromise as this, all the subsequent approaches, policies and efforts will be conducted to an effective development of research activities.

In this sense, the institutional research strategy collects, warehouses, analyzes, and disseminates data about the HEI priorities in terms of research. Along with this measure, this factor ensures that any institution has consistent and relevant statistical information for official reporting. The institutional research outputs provides support for the HEI's decision-makers (as usually, we refer not only to the very managers, but also all the stockholder involve in the process: the administrators, trustees, deans, teachers and chairs) in planning and assessment the research process.

2) Collaboration: addresses the need of institutions to share research resources to complement each other's strength and minimize weaknesses. Considering the faculty of a HEI as a whole, the efforts of every single researcher should be connected, as immersed in a bigger reality, which at the same time should be promoted and encouraged as a group. There is no way for individualistic approaches in this definition: the managers should promote real interdependence among the participants of the research process: teacher, administrative staff, students, etc., to promote interdisciplinary studies. The richness and deepness of these kind of projects directly and positively influence the entire research process.

In a wider sense, the HEI is always committed to collaborate and exchange knowledge with another important fields, as the industry, the public sector and society are. Why? Because knowledge exchange and collaboration with society in an open understanding (industry and the public sector) can offer a wide focus of different forms, which vary in intensity and formality. Always should be take into consideration that the main focus should be on teaching, research, or any form of strategic collaboration. And the examples of such activities are very different and include, for instance, constant and systematic involvement of external stakeholders in teaching, collaboration on internships inside the industry companies, continuous learning and further education programs, which includes a very big supply of courses, seminars and conferences, joint research initiatives with the support of the entire community, contract research in order to promote a network that could enforce the transmission of knowledge into very different possible spheres, and a wide spectrum of different forms of technology transfer. In this moment some of the most popular forms are licensing, selling of prototypes, spin-offs, start-up and much more.

3) Accountability and research: establishes the delegation of responsibility of any research activity. Most of the times the system should stablish particular measures to ensure that the research is more than just a goal in the papers, but a real effort of all the characters involved in the process. It is clear that globalization requires greater HE accountability all over the world, but at the same time the role and importance of accountability are not the same everywhere. Public and private bodies should provide support to these institutions in charge of research, in return of a detailed account of the use of funds, but also according to the immediate provision of goods or services or, in an extreme case without requiring anything specific in return [5]. The relative weight and balance between these three types of links among

higher education and society are influenced by the socio-economic environment and the specific features of precisely the HE systems.

Anyway, it is important to remark that accountability has advantages and disadvantages. On the one hand, accountability supposes a regulatory device, a constraint on the corruptions of power, which a dangerous always real, and a powerful incentive to raise the quality of performance of the research activity, by strengthening the legitimacy of colleges and universities, the principal characters involved in this process. At the same time, external accountability, presuming is a real alternative to trust, but unfortunately, at the cost of institutional and individual autonomy and confidentiality.

4) Funding issues: tackles how an institution divides its financial resources into to two major dichotomies— teaching and research. Because of that the funding for research in HE higher education can be administered under a dual support system, which provides annual funding for institutions in the form of a particular quantities and providing funds for specific research projects and programs. All the funding support for the HEIs research infrastructure should enable ground-breaking research in maintaining alive their mission.

Sometimes is also considered the quality-related research funding. This is a measure that distributes the majority of the funds for research on the basis of research quality, and takes into consideration the volume and relative cost of research in the different areas in which the research is promoted.

This system could be called a quality-related research funding, and represents a very good tool in assessing the quality of research for funding purposes. This is because the funding bodies run a periodic assessment exercise. For instance in the United Kingdom this is revealed in the Research Excellence Framework (REF 2014) [6].

There is also a very positive approach to research in the institutions that provide funding to cover infrastructure costs necessary for the research activity, for instance the Investment funds, the national research libraries, and so on.

5) Teaching and research: Communicates how both functions complement and support each other, and how academic personnel should be rewarded for being able to perform both functions. This link should be always promoted and encouraged, as long as research helps in expert and contemporary knowledge to be passed onto the student. In much of the institutions and disciplines, it is crucial for students to experience being at the cutting edge of their field. This is a relationship in which the excitement of engaging with the development of the knowledge base of the discipline itself contributes to student implication. Also, there is evidence about how textbooks may not be current in many rapidly developing areas, as long as our world is changing faster and faster. That is why lectures, as active researchers, should be aware of the newest perspectives in their own field: many times this will be the first point of contact for students who are always looking for novelty and the latest developments. Additionally, very often the results from the own researcher's activity can be used to update, clarify and indeed amend the teaching of a topic.

Every HE student can potentially benefit (depending on her/his attitude) from exposure to the methods and attitudes associated with new and well-developed

forms of scholarly activity, based in new discoveries, by developing the attitude of inquiry, the use of data to check theories and ideas, and all the possible and transferable skills of critical analysis and presentation of findings that usually comes as based on evidence. There are evidences about how active researchers are much more effective at, for instance, instilling an active critical approach, rather than a passive acceptance of theories. And all those facts are valued by students, who also appreciate teachers who present research that have actually conducted. This provides sense of authenticity to the studied material that clearly differs from presentations by teachers who are just discussing the others' work, with which they have no active involvement. Research clearly leads to credibility enhancement, as long as students have the desire to learn from people respected in their fields: that is a natural feeling of professionality. There is an important responsibility in helping institutions to attract, reward and retain high caliber staff, related to research, but also who might, otherwise, not be available for undergraduate teaching.

Another advantages of this relationship suggest how successful research can increase lecturer confidence, and this always lead to a better classroom performance. Teaching can be particularly usable for young researchers as long as it can reinforce their ability to expound, explain and clarify their thinking. Directly related, teaching provides a right stimulus to individual academics. Very often, discussions in class may produce ideas for further and deeper research. Some student projects may produce interesting data, which could help into published research or grant applications. Also there are evidences on how the process of teaching a subject matter of a discipline induces academics to clarify the bigger picture into which their specific research specialization run, providing a positive impulse for their research. Last nut no least, the preparation of teaching materials can elude gaps in the academic's knowledge base.

6) Staff policy and research training: refers to what training the institution can provide to improve the research capabilities of its academic personnel. The public authorities responsible for HE should ensure the framework for a sustainable, well-funded support of the HEI, in order to improve the quality of both teaching and learning. Every institution will develop and implement a strategy for the support and improvement of the quality of these activities, devoting the necessary level of resources to this task, and integrating this priority in its global mission, giving teaching due parity with research.

HEI might encourage, welcome, and take account of the student feedback which could find problems in the teaching and learning process early on and lead to faster, effective improvements. All staff teaching in HEI in 2020 should have received certified and concrete pedagogical training. Continuous professional education as faculty and teachers should become a compulsory requirement for teachers in the sector. In this sense the academic staff entry, progression and ultimate promotion decisions should take according to an assessment of teaching competence and other factors.

7) Postgraduate and research: recommends how post-graduate students can be trained to fully maximize their research capabilities. In order to evaluate the importance of this factor, should be considered how professional doctorates and

practical doctorates are both advanced programs of study that should been designed to meet the needs of specific different professions. Because of that their structure is significantly divergent from the original PhD model and could include taught elements, which could be usually incorporated already from the first years of doctoral study. Terms of credit-rate, emphasis on the development of high-level professional and research methodological skills are compulsory in speaking about these programs. Precisely the thesis of PhDs provides an opportunity for every student to situate their professional experience and knowledge already acquired and developed over time within a theoretical and useful academic framework. Typically PhDs can be undertake part-time, and the research being conducted in the person's workplace, and involving or at least affecting the professional practice of the employer, this is a sensitive factor to be noted. For the goal of the thesis research, the term Professional Doctorate (PD) refers to both types of PhD: the practice-based and the professional doctorates. The research anyway should be designed with different methods study, and activities in three directions: desk research, survey of institutions, and qualitative research with a particular sample of institutions and programs.

8) Scientific integrity: establishes what personal conduct should be practiced and what the nature of scientific misconduct is. This is not easy to define this factor, as long as the complexity, variability, and nature of the very scientific inquiry, but also because the concept of integrity in research can be elusive. Its value cannot be easily measured or assessed. From an outside point of view, science is a quest for truth about the natural world and its rules. Scientific truth is always, by its own nature, tentative. The means for testing it involve repetition, sharing of information, disclosure and competition. Usually scientists understand that truth and fact are based on the weight of scientific evidence. But at the same time facts hold on only until they are successfully challenged by evidence, after which they could be modified or interpreted in another way. Research usually proceeds from a lot of hypotheses, mixed among themselves and also results based on previous experiments and knowledge. New results could and may support the proposed hypothesis, but in fact they can never prove a general hypothesis or theory.

In this progression toward the truth, researchers will try to be objective, and here is when integrity plays a role of crucial importance. Prior knowledge, or opinions, or personal biases can already influence the previous selection of hypotheses and study design, or the same conduct of the research, and interpretation of the results. These preconceptions eventually can inform and improve research, but at the same time, the existence of such biases can also cause investigators to stretch, and sometimes exceed, the limits of their own acceptable behavior. According to all these factors (recognition of preconceptions, the need for integrity in the research process, but also the biases) is essential to maintain scientific excellence and the public's trust. Integrity in research embodies above everybody, and the researcher's commitment to intellectual honesty and personal responsibility, but also the institution's commitment to create an environment that promotes responsible conduct is a must.

9) Publication and research ethics: discusses what areas to be addressed in publishing of research outputs and the importance of the code of ethics to guide research practice. Some principles also guide this standard: unless otherwise is negotiated among the counterpart, the products of any research are intellectual property of the faculty or researcher. Because of that some agreements should be developed within institutions to clarify and define precisely a set of intellectual property issues. This has a lot of consequences, because implies that should be determined full or partial ownership of the products of research, (including inventions, royalties, patents, and copyrights) through collective bargaining processes. Where the faculty or the researchers do not have the protection of collective bargaining agreements (which happens quite often), their rights shall be stablished and negotiated subject to the governance process of the HEI. Classified research (in terms of exclusivity) and restriction of publications are subject to guidelines developed by each of the HEI faculty and relevant professional organizations.

So raises very clearly the necessity to set out to questions that encourage the debate and make suggestions on how HEI might develop their own approach to ethical matters. This tool can help to identify reasons and articulate ethical principles, explore potential ethical dilemmas, and suggest how HEIs might develop an ethical policy framework for its own organization, and how to put a framework into practice [7].

10) Academic freedom and research: Discusses nature of academic freedom and its vital role in creating a research culture. A clear definition of academic freedom has been suggested in the Sections VI and VII of the Recommendation concerning the Status of Higher-Education Teaching Personnel adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris on 11 November 1997 [8]. The definition can be applied by any HEI when making decisions under the procedures agreed in the statutes of the institution and detailed in Ordinances more rules. The scope of this agreement can be apply to staff in the academic job families and to support the staff who is engaged in research, as an independent researcher or in teaching.

The HEI should maintain the academic freedom of staff that undertakes academic and research activities. This means the following rank of freedom in research activity and teaching: discussion, freedom in carrying out research, in and disseminating and publishing the results of that research, in be object of institutional censorship and to participate in professional or representative academic bodies.

Always the HEI should maintain the right of its staff in undertaking academic activities, according to their terms and conditions of employment, also to fulfil their functions without discrimination of any kind, to teach without any kind of interference, but subject to accepted professional principles including professional responsibility and intellectual rigor. This agreement suggest how teacher should not be forced to instruct against their own best knowledge and conscience, or be forced to use curricula and methods contrary to national and international human rights standards. Of course this should be apply to guarantee that they carry out research without any interference, or suppression, in accordance with their professional

responsibility, but at the same time subject to nationally and internationally recognized professional principles of intellectual rigor, scientific inquiry and research ethics. They researchers and the faculty should have the right to publish and communicate the conclusions of the research in which they are authors or co-authors.

11) Protection and commercialization of research: explains the importance of upholding intellectual property rights and the need to promote research outputs beyond the University. The purposes of this policy should be accurately and clearly defined and should provide a mechanism for placing in the society the fruits of research, while safeguarding the interests of the HEI and the researcher. It should also provide procedures to evaluate the significance of inventions, research materials, discoveries, and works, but also the opportunities by which such creative advances may be brought to the point of commercial viability. In any case it should provide adequate legal protection for the intellectual property of the researcher, including when necessary, patent, trademark, and copyright protection for inventions and works. According to this factor, should be established principles for determining the rights of the HEI and the researcher, and also to provide greater incentives for pursuing and commercializing intellectual property by the faculty. Further, it will imply to assist the researcher in realizing tangible benefits from the intellectual property. This also needs to satisfy requirements of certain research grants and contracts, and be able to provide a basis in establishing institutional patent, copyright, and trademark agreements.

12) Risk management: addresses what factors can slow down, degrade, or inhibit research outputs. These are some examples of what might be an ethical issue or risk in research. This is not an exhaustive list – you may identify other issues in your own research project. You need to explain how you will deal with each of the issues or risks you identify. And real and serious risk could raise for the researcher, matters around subject-matter, about participants in the research process, about the rest of the researchers involved in the process, because could be a conflict of interest for the researcher. Also matters around recruitment of participants, or the nature of the participants, or risks or hazards to participants or researchers. Also important could be the risk related to the location of participation, or confidentiality issues. All these risk should be properly managed by the managers of the HEI in order to promote a proper atmosphere for the development of research in the institution.

13) Publicity and Promotion of Research: addresses the need of the University to inform the public and advertise its research potential. Not only the researchers, but the very managers of the institution should look for a proper publicity and communication of the research results to the community. In these sense, there are a lot of measures that guarantee that this process is real and vivid. For instance, a responsive website design, which is able to create intuitive and easy to navigate websites that can be viewed on multiple devices and platforms, in which links to the publications of the researchers are available and easy to find. The HEI also can search engine optimization. Most of the times the institutions offer niche programs, but it is very important to ensure that these programs include the results and trends of their staff research.

According to these current definitions, these factors offer a set of useful methods to analyze and guarantee that the management of research in nay institutions is a real and measurable reality. Because of that, when talking about improvements in the managerial systems of the universities and research centers, these thirteen perspectives should mark a path of improvement and pursuit of quality and excellence. Only this way, and looking for a proper management, an optimal allocation between the efforts, the funding and the goals of the research that the HEI are called to run could be implemented.

1.2 Standards and international accreditation systems and its relevance in research management

During the elaboration of this dissertation, different experiences have been compared. In all of them these concept were analyzed. Also the principal accreditations standards have been studied, to realize in which extension they influence the pursuit of excellence also in terms of research management. Nowadays, these systems are synonymous of well-doing, professionalism and top quality.

In analyzing the role of research management, some accreditation system has been studied. First of all the ones that operates in Kazakhstan, as follows:

- Independent Agency for Accreditation and Rating (IAAR).
- Independent Kazakh Quality Assurance Agency for Education (IQAA).
- Ministry of Education and Science, Committee for Control of Education and Science.

But also some of the most important accreditation system worldwide:

- ENQA (European Association for Quality Assurance in Higher Education)
- ENIC Network (European Network of Information Centers)
- NARIC Network (National Academic Recognition Information Centers)
- INQAAHE International Network for Quality Assurance Agencies in Higher Education.
- ACBSP Accreditation Council for Business Schools and Programs
- BAC British Accreditation Council

Taking into account that quality in Higher education implies a multi-dimensional concept, this have into account all the functions of this sphere, as for instance: teaching and academic programs, staffing, research and students, scholarships, buildings, equipment and facilities, and all the services to the community and the academic environment. For a clear and qualitative evaluation of all these functions, there is need of internal self-evaluation, but also of external review.

In this programs standards are stated for each broad area and also these are further explained by the criteria, depending on the different areas, specialties and type of universities they are designed for. However, the degree of emphasis on the questions and the types of answers will vary for different types of programs. The interpretation of these standards or criteria and depend on the different accreditation system, the country, the environment, the degree of development, and a lot of other

different circumstances to be studied in each of the cases. In this sense, quality assurance is described as the systematic, structured and continuous attention to quality in terms of maintaining and improving quality. More specifically, quality assurance in Higher education can be defined as systematic management and assessment procedures to monitor performance of HEI.

Accreditation implies granting an institution or program a quality mark that indicates that certain and measurable standards have been meet. This system usually have some factors into account, as it is showed in figure 1:

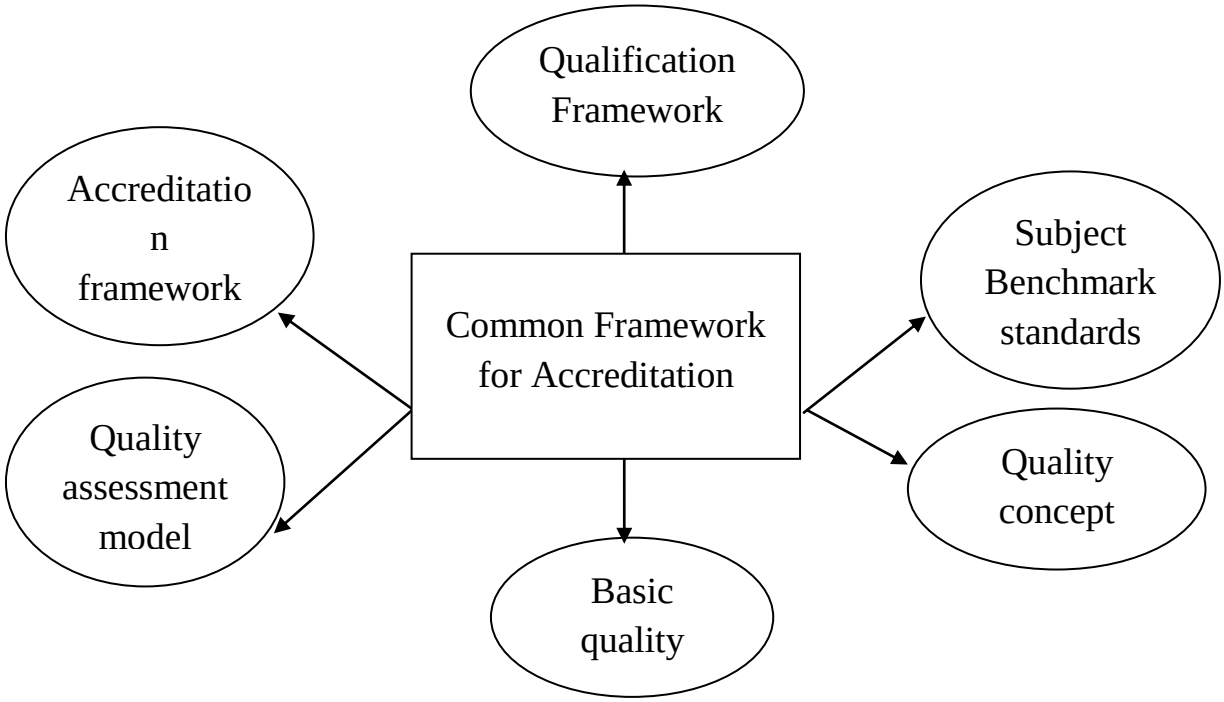

Figure 1- Factor of common framework for accreditation
Note - compiled by the author on the basis of sources [9]

Some of the major quality assurance networks, higher education networks and other regional networks connected to higher education, for instance the International Network for Quality Assurance Agencies in Higher Education (INQAAHE) or the European Students' Union (ESU), have come up with their own definitions of Quality Assurance. In any case the listed above mention always that quality assurance is a process of evaluating whether or not predetermined standards or requirements are met.

Anyway we should remark that the concept of quality is different in the INQAAHE definition, because is more oriented towards a more customer satisfaction or value for money approach. Another accreditation system are primarily looking at fitness for purpose. That implies that the person defining quality, the cultural context and the concept of quality used are just a few of the factors that can explain why certain institutions, nations or even regions define quality as they do. Some researchers consider that quality assurance is limited to

national borders, so there is no problem with definitions of the quality, standards and methodology applied.

Quality Assurance systems always supposes not only what quality is, but also how it looks. There is no only one approach to quality in Higher Education and because of that a lot of differences can be founded between the functions and methodologies of quality assurance. The variations in quality assurance can be attributed to a number of factors. It can differs according to the different agencies, or to the voluntary or compulsory nature of participation, and also from the focus on research or teaching to the disciplines and HEI themselves, and from the way of reporting to the range of follow-up activities. And all these variations exist at the end of the day because quality assurance is situated within a cultural context, which could be national, regional or global.

For instance, in the standards and criteria for demonstrating excellence in Baccalaureate/graduate degree of schools and programs, published by the Accreditation Council for Business Schools and Programs, in its first original edition of December 2010, and its revision of June 2014, already refers to this term precisely in the general Mission Statement of ACBSP. There it is explained how research could be considered as a tool to facilitate and improve teaching. In those standards it can be rode how "Institutions are strongly encouraged to pursue a reasonable, mutually beneficial balance between teaching and research".

Evidence of the importance of Research Management is also referred in the European Foundation for Management Development standards. There, some ideas related to research management are suggested to the managers of the HEI. For instance, it is submitted how, to teach a specialist Master's program, as a Masters in Finance or in Marketing, almost all faculty should hold a relevant doctorate and be active in research publishing. In form of clear questions, some concrete measures are imposed, as follows: Do the faculty undertake sufficient scholarly activity (e.g. research, case writing and/or consultancy) to underpin the academic development of the program?

Also, there are references to the SAR in the particular form of a table listing faculty members, teaching in the applicant program, by grade/category, age, gender, qualifications/doctorates, degree of research activity, international background, corporate interactions and its students, which means a particular and robust way of control and promote research among the faculty.

In this accreditation system there are also some requirements about academic depth and thorough. In the questions for this area, for instance, we can find a suggestion about how the design of the program incorporates an appropriate level of depth and rigor, precisely relative to the qualification being awarded. Also, it questions how the design draw on current research literature in the field of study. Another example, how the design promotes an appropriate blend of theory with business practice. All these are examples of how the international accreditation system is looking for much more deepness and extensiveness in the organization and promotion of research in the HEI, precisely in a way that suggest a good merge between research and teaching.

In the same trend, this document present performance measures for research activities. These include journal publications, funded projects, and conference publications, per faculty and per year, and indicate the percent of faculty awarded excellence in research award. As we saw before, these are concrete measures to ensure that managers in charge of research are providing an effective promotion of this activity.

There, it can be find particular measures of the number of high quality graduate students, research assistants and Ph.D. students. Regarding the publications in standard bibliographic format, a list with earliest date first should be provided. It also point out that manuscripts accepted for publication should be included under appropriate category as, in this case, in press, to avoid ambiguous references with no clear statements.

The criteria to segment the list of this publications is really extensive. Some of the used standard headings are, as follows: Articles published by refereed journals, books, scholarly and / or creative activity published through a refereed electronic venue, contribution to edited volumes, papers published in refereed conference proceedings, papers or extended abstracts published in conference proceedings, (refereed on the basis of abstract), articles published in popular press, articles appearing in house organs, research reports submitted to sponsors, articles published in non-refereed journals, manuscripts submitted for publication, (include where and when submitted).

In terms of particular measures, in this standards are provided percentage of the indicators, and these figures show the weight of every factor. For instance the research according to volume, income and reputation, should represent the 30 percent. The reputation survey represents the 18 percent. The most prominent indicator in this category it is the university's reputation for research excellence among its peers, based on the responses to an annual Academic Reputation Survey, which measures precisely how the competitors in the field realize the work complain by the HEI.

Another value is the research income. It sizes 6 percent and is scaled against staff numbers and adjusted for a measure which is called the purchasing-power parity (PPP). In fact this usually is a controversial indicator because it can be influenced by national policy and economic circumstances, and nobody can reflect that sort of conditions. But at the same time precisely the income is a crucial tool to the development of world-class research. Taking into account that because much of this research income is subject to competition and judged by peer review, experts of these agencies usually suggest that it was a valid measure. At the same time, this indicator is fully normalized to realize the university's distinct subject profile, and reflecting in the fact that research grants in science subjects are very often bigger than those awarded for the highest-quality social science, arts and humanities research.

The research productivity, about the 6 percent in this scale, also represents an interesting indicator in managing the research activity. In these accreditation systems usually it represents the number of papers published in the academic journals indexed by Elsevier's Scopus database, per scholar and scaled for

institutional size and normalized for subject. This is a very sensitive measure, because it gives a sense of the HEI's ability to publish in quality peer-reviewed journals.

Another international accreditation point of view is the one offered by The Association of MBAs, an international authority on postgraduate business education, created in 1967, and with a clear objective to encourage the management education at postgraduate level. Its accreditation service is a global standard for MBA, DBA and MBM programs. They accredit programs in two hundred twenty business Schools and are considered as one of the few professional membership association that connects MBA students, graduates, accredited Business Schools and MBA employers all around more than 70 countries. They publish the AMBA accreditation guidance for business schools, directed to the leaders of those institutions who look for accreditation of MBA, MBM or DBA general programs.

The following design, figure 2, shows the interactions between all the activities of the HEI, and the way all these actions create different directions in the development of the whole activity of the institution.

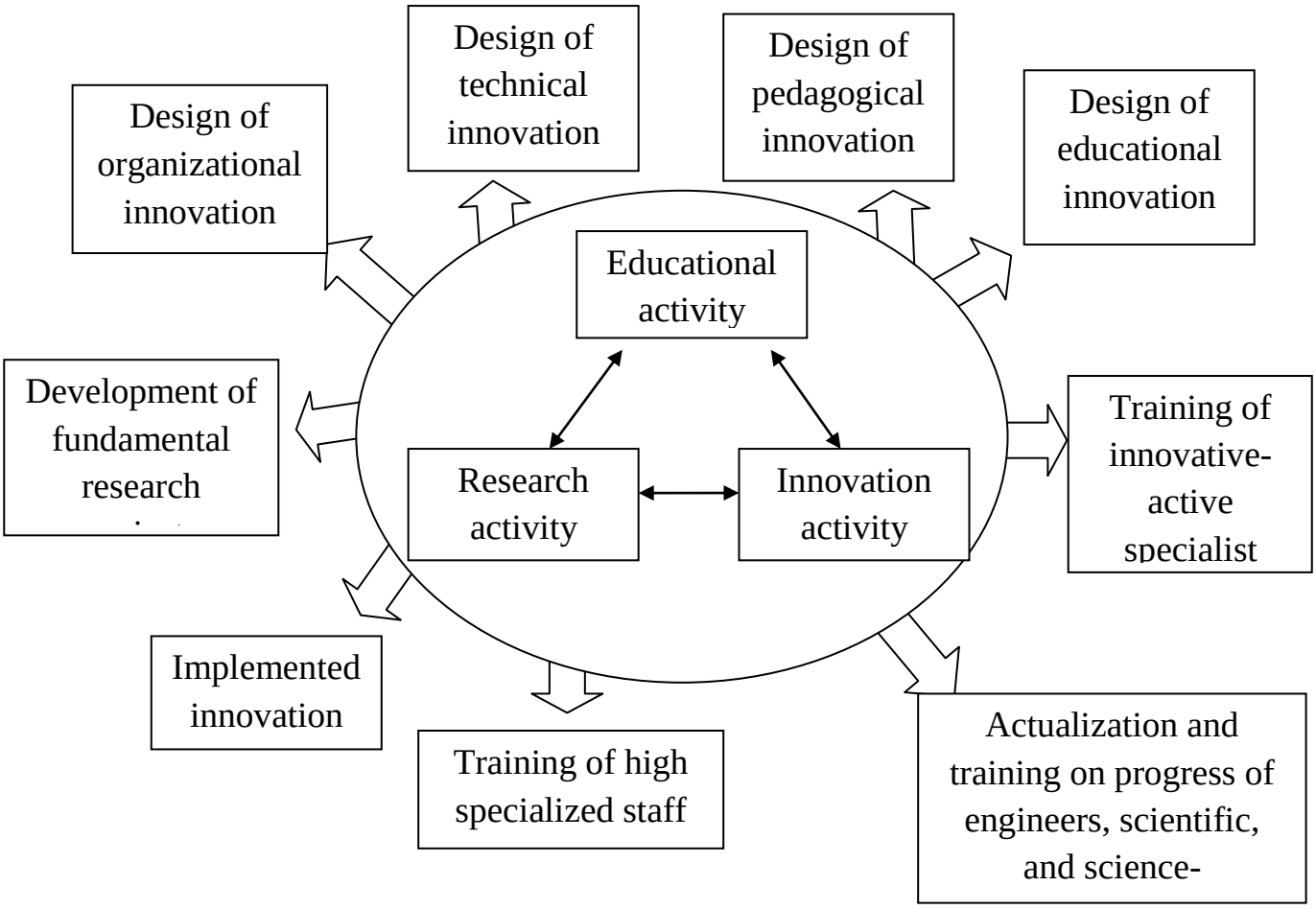

Figure 2- Basic directions of management in an innovative university
Note - compiled by the author on the basis of sources [10]

In this figure appears very clear the mutual dependence of the whole university activity in the three fundamental principles that should vehicle its activity. Of course the factors that are influenced by this triad could be much more than the ones that we showed here. But it is also true that these elements could be simplified, in the case of, for instance, a medium profile research university, which could have a plan to implement this research tendency not in a short term, but looking at the real possibilities and achievements of a medium term process.

As managers they asses the researchers' work, their grant applications, and their teaching practice. It would therefore seem a simple task to ignore or subvert the question of impact or quality when we come to assessing those same grant applications, journal submissions, teaching reports. There is nothing forcing them, as reviewers, to live by the standards set by national research councils or accreditation system; especially considering that they contribute with their time almost for free and with little return. Another positive and useful approach to the managerial process in which the HEI can develop the research activity is suggested by the imperatives that the modernization process is imposing in the universities.

There, and regarding the faculty, some clear requirements are imposed, as follows: "Faculty teaching at Masters Level must be appropriately qualified and credible. At least 75% of teaching staff should have a relevant postgraduate degree, and the majority of faculty should hold a Doctorate. Research should be of a high quality in all areas of activity and show some evidence of an international dimension" (The Association of MBAs, AMBA accreditation guidance for business schools, 2015). Regarding the use and influence that all these accreditation systems implies for the universities of Kazakhstan, there is also a concern about the increasing standardization of HEI, because there is no doubt that these process raises concerns about the loss of independence and autonomy in the pursuit of science. At the end of the day, the standards are not problematic in itself, but the way the managers use it is. What matters is how they decide according to those standards, how they assess those standards, and how they reach consensus on what those standards are.

In Kazakhstan the development of the country in an industrial-innovative way will lead to fundamental changes, not only in science but also in education. That is the reason of the recent intensification in pursuit of the transformation of the national universities into innovative ones. In order to ensure high-quality and multi-level education, which can generate trained and good professionals, should lead the transformation process of the universities, into an innovational and entrepreneurial ones, based on implementing a single cycle: starting from fundamental and exploratory research projects, looking for development activities, training, production, logistics and technological base, and the release and implementation of high technology products and services.

The main elements of this cycle should be the development-oriented innovations and their implementation in the various spheres of product life; the preparation of innovation-oriented professionals; retraining and advanced training for middle and senior managers, scientific and pedagogical staff; and an effective

system of innovation, including the commercialization of domestic development and transfer of high-efficiency foreign technologies, and so on (cfr. Figure 2).

We assumed that this innovative universities need to provide mass training of specialists who will be able to combine a complex research, design and business. This can be achieved only on the basis of formation and development of innovation infrastructure of HEI, the creation of a network of small high-tech manufacturing and engineering companies, universities, integration with scientific organizations and enterprises.

In this sense, interdisciplinary activity remains as a key success factor in the knowledge exchange process. In the modern world and educational environment the interdisciplinary knowledge exchange activities are an effective tool to promote collaboration within the HEI. But also, it offers to external partners a varied set of knowledge and skills. In any case, institution-wide interdisciplinary activity is not a simple or easy task to run out, precisely because usually the HEI have only limited experience of research activities and/or interdisciplinary reaching.

Knowledge exchange activities can be promoted as a secure benefit from internal coordination. Different structures and mechanisms can be proposed to enhance the coordination as a different type of knowledge exchange activities. For instance, centralized approaches, as the one that a central knowledge transfer office could be run in looking for of commercialization of the research results (owned by the HEI) could be work well just for activities that imply a certain amount of administrative support.

However approaches like that would be less effective if the only collaboration possible is based on individual contacts or is mainly in specific activities, like for instance the collaboration with external of Academia experts in teaching.

Another principles to be considered in terms of international experience is the uses in funding the research are the ones based in the quality-related funding. It allocates funding selectively, according to robust judgements of research quality, and of course funding research of the highest quality wherever and in whichever discipline it is found, in line with a liberal funding.

Any system should guarantee that the allocation process is robust and transparent, clearly based in defined criteria and avoiding any complexity. Also, any method for calculating research funding, should stablish a high degree of research stability and independence, not provided by other funding sources.

A method is stable when the results of the research assessment are used over a long period. It promotes independence in the institutions because they can do whatever they want with the funds and it is not directed to particular research programs.

It also ensures that universities promote innovation and respond flexibly to changing needs and demands in the markets as autonomous institutions. They can invest in new and emerging areas, and proportionally grow and support new talent in any situation, and protect important research areas.

The flexibility of this funding methods provides HEI with the necessary resources to support the needs in increasing knowledge, sustain responsive research and world-class research environment, as long as develop people and skills.

All those are very useful finding to take into consideration when speaking about the necessity to adapt the Kazakh scenario in the wavelength of the standards and accreditation systems. The HEI in the country usually had a very structured system of organization and promotion of research. But the focus now is changing, as long as precisely these new models are offering, not only to Kazakhstan, but to the entire Higher Education community, all around the world, an exceptional possibility to adapt their systems to the new ones that a common experience is demanding.

When all these accreditation systems ask for measurable standards, they are offering a challenge, but also a pull to their clients, that is, the different HEI in pursuit for international recognition. In this case, we would like to remark an ultimate risk. Sometimes managers could capitulate in front of the requirements of these processes, looking not already for the quality that accreditation system is called to notice and certify, but just to obtain a paper or recognition that "is supposed to guarantee that quality". With this appreciation we are making a call for maintain always the critical capability to distinguish between the very accreditation system in itself, or either the title that it implies, and the pursuit of excellence and quality that every educational institution should pretend to become as a sign of real service to the community.

In Kazakhstan this vocation could be recognized as more urgent and necessary, as long as the heritage of the soviet times most of the times is precisely to over valuate the weight of titles, designations and official recognitions, as if the presence of a paper with a lot of stamps already represents a guarantee of quality. I would like to add my personal experience living in the country for almost a decade. Having into account my European background, it always supposes a cultural shock to realize the importance give to certificates, diplomas, credentials, as if they automatically imply the presence of particular virtues or capacities. This is the kind of formalism that managers should avoid in looking for a real characterization of quality in the higher education sphere.

In this sense, could be very useful, but it get away the purpose of this study, to analyze the current accreditation system that in the country are produced and managed. As we mentioned before, there are some agencies in the country, for instance the Independent Kazakh Quality Assurance Agency for Education. They produced an accreditation scheme which has some common points whit the one emitted by international agencies as the ACSP or the EFDM standards. Both the Kazakh accreditation standards offer a European approximation to the accreditation process: all the references are from the European point of view.

Anyway should be considered that the formulation of the accreditation is original in the Kazakh version, according to a very formal and regulated form. The Kazakh accreditation shows much more regulations in terms of requirements from the ministry, references to official laws, policies and governmental standards.

Also a lot of American standards have correspondence in the Kazakh version, with more or less connection. The general structure is quite different, as long as the criteria from the ACBSP are few, very clearly defined, and distinct ones. In the Kazakh standards, every single ACBSP find correspondence in several criteria, with different intensity.

Although there are some important lacks on the Kazakh accreditation, considered by the EFDM as essential criteria (these are “international aspects”, “corporate interactions”, “ethics, responsibility and sustainability”, and “Alumni”) in a general analysis the standards are similar.

1.3 International experience in research management

The way in which different institutions in a variety of modern societies, understand and promote this research, throw out clear and certain values to have into consideration in defining the path of development of a strategic plan of research. This element should be analyzed, comprehend and adapt in Kazakhstan, a young country which is located nowadays in a crossroad of self-awareness about its own way of promoting research in the University. Moreover, these tools can provide certain measures of the achievement of a real quality Higher Education System, based in the three roles of the University: teaching, research, and service to the community in transferring knowledge and technology (Noll, ed. 1998; Gustan and Keniston, eds. 1994) [11].

Only according to an international experience, a quality, based-on-excellence university system could provide the optimal environment for research, which should be linked with the improvement of the teaching activity, and be able to apply the new knowledge in a global environment.

What about the international experience on this field? How the more committed societies use to manage this strategic tool? What plans, objectives, policies really work? How the Universities in Kazakhstan can learn from the international situation? For this purpose, a brief analysis is offered in looking at the case of some countries with difference experiences in management of Higher Education Institutions: in Europe we analyzed the United Kingdom, Spain, and Italy; in Asia Japan and Indonesia.

Why we decided to analyze these countries? In fact, several factors have motivated this decision. The list of countries which a rich experience in managing research could be very exhaustive, and exceeds the purpose of this study. We considered because of that only few examples, but with a clear variety of experiences, which supposes virtual and potential good examples for the case of Kazakhstan.

In Europe always have been considered as different experiences the ones from the north and from the south. In fact, the United Kingdom could be considered an optimal reference of this management, because of its wide, deep, and various experience. In this sense, Italy is also a good example of a follower of that kind of improvements, because its late adaptation shows incredible good results, and research in the southern country is already a paradigm in terms of innovation, professionality and excellence.

That is also the case of Spain, but this country offers to Kazakhstan an additional lesson. As long as the arousal of such activities in the country is considered quite recent, the environment that the country faced in the process offers

to the Eurasian young nation a very similar scenario, from which some lesson can be learned in making the process not only easier, but much more faster.

Regarding the Asian countries, the scheme could be translate without too many difficulties. Japan presents a paradigm in the development of research management, as long as the country faces it already some decades ago, with a deep and ancient understanding of the same concept of science. And in Indonesia the advantage of compare a young and recent experience is always appealing, as long as it present scenario that seem really nearby and useful.

Let's start our route with the United Kingdom. In the islands there are certain institutions which coordinate, monitor and promote the research management that Higher Education Institutions run out. One of these is, for instance, the Higher Education Funding Council for England, which, according to the Research Excellence Framework assets precisely the quality of research in the United Kingdom HEI. These policies are applied in all over the space of the United Kingdom, dependent from the HEFCE on behalf of other funding bodies across the space of the country, and with ability to inform the selective allocation of the grants for research they respond of, to the particular institutions they decide to fund.

In a practical approach, they also assess, in terms of accountability, for the public investment in research to be public and clear, by evidencing the benefits of that investment. This assessment also produces useful information which establishes well considered standards and principles, for the stockholders to valuate the HEI sector and it is also considered a useful tool for the public information.

All these tools helped the HEI managers to realize about the difficulties and contradictions, in observing the role of research, and the best way to manage it. Sometimes senior officer realized how difficult is to manage research, at least in a theoretical point of view. But at the same time it is clear that, in practice, research is managed.

Maybe there was a misunderstanding in the same concept of this management. At the end of the time they considered that research is of such importance to the HEI that it permeated all aspects of management (Taylor, 2006) [12]. According to that experience a clear distinction should be emphasized in distinguishing between encourage, support and monitor, by one side, and direct and control, both the last action that should be considered as against the research freedom.

The case of Spain is also significant, taking into account that the research activity in this country have ultimately arrived to the University in the last period of its history, after the Transition of 1978. In that moment, and according to the current trend from the United States, a new model of comprehensive and innovative organizational system arrived in Europe: the University department. Only in the seventies this structure appeared to be promoted by the state in Spain.

Now, the potential or capacity of Research and Development (R&D) of the Universities can be checked by some certain indicators: scientific and technical production, R&D contracts with enterprises, competitive projects on R&D approved, and proportion of success of these projects.

The CSIC (High Council for Scientific Research by the Spanish acronym, Centro Superior de Investigaciones Científicas) is one of the organisms in charge of the promotion and evaluation of the quality and extent of the research in Spain [13].

The case of Italia gives us also a very good example of a positive trend of development of research management according to current necessities and demands that society, Academia and faculties are demanding.

Already in the early 1969 an Italian Interuniversity Consortium was founded, the CINECA, to support HEI. Also, the Italian Ministry of University and Research started then to give support to all the key sectors of Information and Communication Technology: this includes, for instance, IT services for the Italian Ministry of University and Research, administrative applications and IT services for HEI supercomputing and research applications. Nowadays CINECA is formed by 43 members: 40 Universities, 1 research institute, the CNR (National Research Council) and the Italian Ministry of University and Research.

Since HEI have unique organizational models, sometimes very different each from other, but also in comparison with other business realities, CINECA tries precisely to develop information systems to support the specifically needs of the HEI.

According to the experience and close collaboration that CINECA has with the university world in Italy, they have identified and understood the principle lines of development that guide the management of research activities and processes in the universities of the country. These are, the project lifecycle, considered from its very definition to the last step of accounting, the management and assessment of scientific publications, the publications and skills of the showcase, that is spread and enhance the research results, the integration between the national dimension and the University, and the integration with information and processes in other internal administrative areas.

Regarding another Asian examples of this management, the case of Japan shows interesting, particular characteristics. In this advanced country, there is a variety of both, individuals and organizations, carrying out research in the educational sphere. These institutions can be classified on national, public and private research institutions. But also there are institutions linked with Universities (or Universities in itself), another ones related to some certain schools designed by the Ministry of Education, and lastly some ones in which there are educational practitioners responding on the quality of these institutions. There is also an institution called “National Federation of Educational Research Institutes” which brings support for collaborative research meeting, educational research reports and symposium. Also the COE (Center of Excellence) attached to the Ministry of Education, Culture, Sports, Science and Technology provides support to the most committed universities for their research and educational projects.

Another efficient measure should consider that the student performance is assessed in the learning activities, with clear and agreed learning out comes, and developed according to other faculty members involved in their delivery. The HEI and all the policy-makers related to the sphere, in partnership with students, should

counsel, guide, mentor and track systems to support them into higher education, and on their way to graduation and beyond.

In another Asian countries the situation offer some similarities to the one observed in Kazakhstan, as we explained before. In Indonesia, for instance there is evidence of changes in the educational system, according to a general change in the society. Some experts consider that this changes responses to a paradigm change not only in the management of higher education, as we can see in another countries, from the simple or traditional considered management, into an increasingly complex management., but also changing from a certain management funded by the government, into one that is less certain due to its increasing autonomy. There is also here visible how the research duties are the leaders' responsibility to guarantee that the knowledge they share in education and teaching always remains up-to-date with, and relevant to the progress, demands, and the needs of the society, as can be seen in Figure 3 below. We will discuss after how also the curricula should be developed and monitored through dialogue among teachers and partnerships among all the staff, students and graduates, basing on new methods of teaching and learning, so that the process can guarantee that students acquire relevant skills and that the whole process enhance their employability. All this is showed in figure 3.

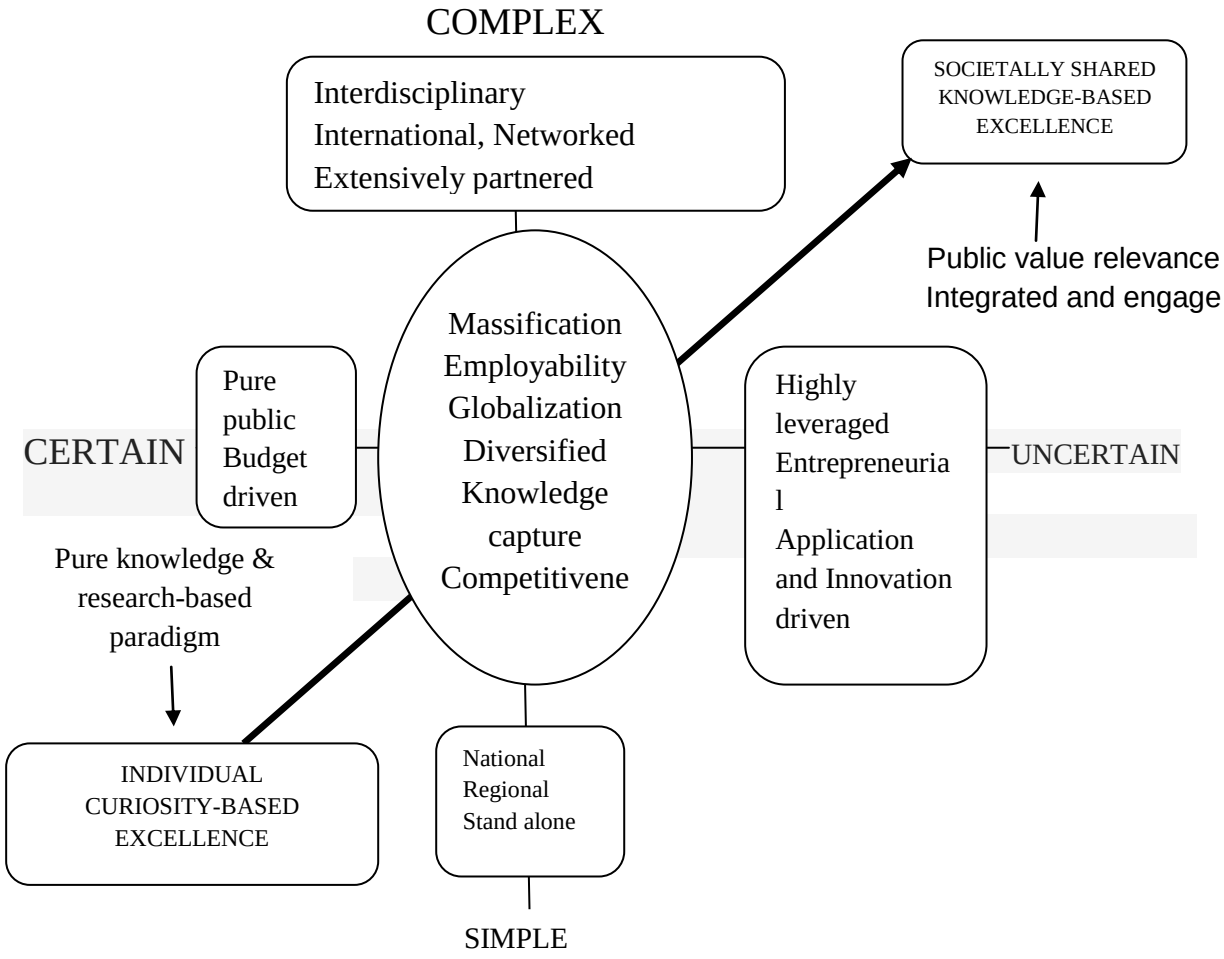

Figure 3: Simple to Complex Management of Higher Education
Note - compiled by the author on the basis of sources [15]

Some good lessons can be learned from this model, as long as also Kazakhstan is facing a process of development not only of the research management in itself, but also of the whole education system in itself, according to a more general process that the country is suffering. It is responsibility of heads of institutions and institutional leaders to recognize and reward (e.g. through fellowships, grants or awards) that the higher education teachers who make a significant contribution and improve the quality of teaching and learning through their own practice or through their very own research into teaching and learning processes. In this sense, as we said before, also the curricula should be developed and monitored through dialogue among teachers and partnerships among all the staff, students and graduates, basing on new methods of teaching and learning, so that the process can guarantee that students acquire relevant skills and that the whole process enhance their employability.

The HEI represent a preferred place for a qualitative knowledge exchange by collaboration and partnership among all the included perspectives. Many collaborative activities should be promoted among business and other external partners, and also in the individual level. In this sense, collaboration between researchers in HEI and researchers in local companies is vital. A clear and vocal leadership should promote this collaboration, in a positive atmosphere of knowledge exchange. Of course, this concern should be a matter of personal motivation. As long as the purpose of this collaboration implies an effort from the HEI, what it should do, in order to ensure organization commitment in a wide basis? In fact, the most important knowledge exchange priorities should be established as the core objective of the initial organization's strategy.

This tool, in looking for an effective collaboration, should be also combined, into the institutional policy, in order to give guidance on which measure and intensity are, the different types of relationships with industry, private and public sector organizations, established. Should, of course, provide support in order to successfully implement a knowledge exchange activity. But also, be able to remain adaptive to the changing needs that a global environment very often ask, and be simple and flexible enough to keep requirements for administrative work low.

Other measures could ensure this collaboration: for instance a good database about current and former knowledge exchange activities and also with information about collaboration requests is a significant tool for promote knowledge exchange among HEIs and external partners. Indeed, access to this database can be open for all key internal stakeholders throughout the HEI, and so they will be able to promote the measures that will be more effective. Also, students should have access to information identifying the key partners of the HEI and outlining the collaboration. Furthermore, a central co-ordination unit and/or an electronic platform to share information about current and past activities can greatly facilitate knowledge exchange.

It is quite interesting to analyze, in this late step, the founding that in different countries can receive any research body, in order to expand its activity. As refereed in the Research Excellence Framework (2014), some of the fund sources in the United Kingdom are, as follows:

-BIS Research Councils;
-The Royal Society;
-British Academy and The Royal Society of Edinburgh;
-UK-based charities;
-UK Central government bodies, local authorities, health and hospital authorities;
-UK industry, commerce and public corporation;
-EU government bodies;
-EU-based charities;
-EU industry, commerce and public corporations;
-Non-EU-based charities;
-Non-EU industry, commerce and public corporations;
-Non-EU other;
-The National Institute of Health Research (NIHR);
-Scottish Government Health and Social Care Directorates;
-Health and Social Care Research & Development (HSC R&D), Northern Ireland.

Analyzing the sources of these funding, and the proportion of the different resources can give us a general idea about the proportion of research activity that is not only promoted, by directly fund in the different fields of the community. This figure offer proportions of the expenditure on research and development during the last almost ten years. When looking for a deeper understanding of the motor of research, Kazakhstan also can take advantage of these figures, which show the necessity to arrange a balanced situation between all the actors that play in the general

Scenario of research in a country such as the United Kingdom that represents not only a model but an example, as it shows in next figure 4:.

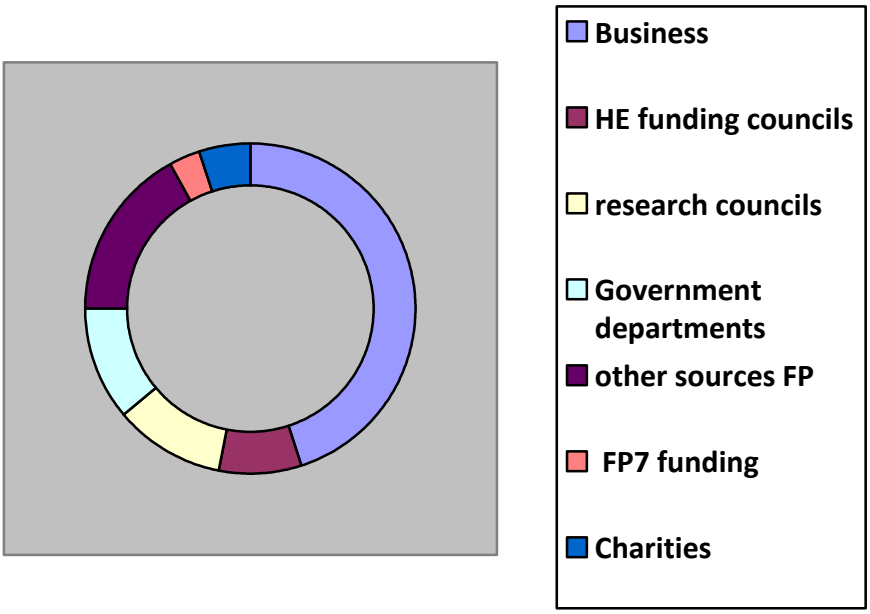

Figure 4- UK expenditure on research and development by source of funding 2007-2013. Note - compiled by the author on the basis of sources [16]

This figure considers just framework programs funding, as UK universities were among the most successful in securing EU research funding. A total of 13 UK universities are ranked in the top 25 European universities, rated in terms of the number of participations in Framework Program 7 (signed as FP7 funding in the chart). Framework Programs are the main EU funding mechanism for research, development and innovation. The current Framework Program is called Horizon 2020, which has a budget of €74.8 billion for the period 2014-2020. The budget and remit of Framework Programs has increased since their inception in 1984.

This reflects that research architecture varies across participating countries, with research strength in some countries concentrated in research organizations (such as the Max Planck Institutes in Germany) rather than universities.

Some explanations about the percentages are also interesting: UK businesses attracted 18% of the total funds awarded to the UK through FP7. This is just a little below the EU average of 26.7% and much lower than countries such as Germany and France where businesses secured 33% and 27% respectively of the FP7 funding received by the country.

This distribution contrasts with where research and development is conducted in the UK. 64% is conducted by businesses and 26% in universities. This reflects a low rate of private sector participation in the European Union research funding in the United Kingdom. In the rankings of private-for-profit organizations, only two United Kingdom companies (NEC Europe Ltd and Rolls Royce) were ranked in the top 50 European companies in terms of Founding Program participations.

2. PRACTICAL APPLICATION OF RESEARCH IN HEI IN KAZAKHSTAN, ACCORDING TO INTERNATIONAL STANDARDS

2.1 Research management in Kazakhstan

Modern universities and higher education institutions (HEI) concentrate a potential research power, translate in policies, rules and requirements of research production. These traditional means are now swelled by the demands of global accreditation systems, which are expression of the effort of internalization of the universities. They usually suppose a high quantity increase in the research production, as a consequent sign of improvement in the quality. In this context, management of research rises as a cardinal tool to guarantee and promote that quality, and is growing in importance in the light of the knowledge society and consequently in a more and more globalized higher education system [17].

Kazakhstan in facing also this process and it is realizing the importance of Research Management. The HEI present the optimal atmosphere for this management, in terms of resources, capabilities, interest and possibilities of promotion [18]. But also the Government holds the role of a facilitator and a promoter of this management. The Law on Science of the Republic of Kazakhstan (2011), in its 9th article "Scientific activity of higher educational establishments" defines that "the principal type of activity, being carried out by higher educational establishment together with educational is scientific, science-technical and innovative, including right realization for intellectual property objects, and also conducting research and experimental engineering work" [19].

The law uses the term "Administration" in a way that permits understand it as a synonym of Management, and it fixes eleven principles in which Research Administration is based. We will try to analyze these fields and the way they find application in the real research activity of the Kazakh HEI. The law defines its particular approach to the characteristics and priorities of the research management. These principles sign clear directives to the research supported by the state. Also, these principles suppose improvements regarding the activity (research in itself), the subject (personnel, researches, economic and innovative agents), and the object (projects, programs, training).

The general principles according to which the administration of scientific and science-technical activity should be based are as follows (Law on Science, Article 17, 2): "1) priority of scientific and (or) science-technical activity with the aim of increasing competitiveness of the national economy; 2) transparency, objectiveness and equality of the subjects of scientific and (or) science-technical activity while receiving state support; 3) economic efficiency and effectiveness of state support of the subjects of scientific, science-technical and innovative activity; 4) development of priority directions of fundamental and applied research; 5) objectiveness and independence of the expertise of scientific, science-technical projects and programs; 6) integration of science, education and manufacture; 7) high qualified personnel on

priority science and science-technical activity training; 8) development of international scientific and science-technical cooperation; 9) stimulation of technologies commercialization in economy priority sectors by giving preferences; 10) encouragement and conditions creation for private entrepreneurship subjects for participation in the development of scientific, science-technical and innovative activity; 11) stimulating knowledge acquisition and transformation in technologies and their transfer to the economy".

Regarding the priority of scientific activity, the HEIs should lead the process in which they can receive more consideration on their role in innovation policies, as well as the ones that suppose a development of science. This is a concrete issue to give priority to the scientific activity. There are many ways to achieve this purpose, and one not to be scorn is the inclusion and participation of these institutions in bodies that advise the government. This tool can play good deals in the future, as long as it can integrate research and teaching, and link research, innovation and educational policies.

There is a program on Formation and Development of the National Innovation System of the Republic of Kazakhstan for 2005-15. It defines the national innovation system as a one including mechanisms of generation, dissemination and commercialization of knowledge. The concern of scientific and educational institutions, in particular HEIs, appears as a key and important element of this system [20]

Kazakhstan shows a very high potential on developing the research, focusing its efforts on the HEI, all around the country. The particular way in which the entire academic community potentiates and strengths this efforts should be accurately revised. This role of the Research Management can follow the principles proposed by the Government in the Law on Science, specifically according to the characteristics of the Research Activity, the integration of research, education and industry, and the priority of scientific activity, which should be clearly reinforced.

As long as the approximation of this study is qualitative, it offers explanations to researchers and expertise to understand how institutions and individuals manage activities, and thus understand their perspectives. The perspective of qualitative research is descriptive, naturalistic, explorative, interpretive and, why not, subjective, with the very researcher acting as a primary instrument.

According to these priorities, we can check the funding of R&D activities in Kazakhstan at the table 2. In this table is showed how the financing of R&D during the period 2001-05 has increased 3.1 times, while the rise of GDP for the same period is 1.8 times. Anyways some global considerations suggest that the percentage of GDP invested in R&D activities remains low by international standards. In order to consider the relevance of these figures it is important to realize the importance of the years that are reflected and all the factors that affects the distribution of that information among all the actors who work in this sphere. There is some evidence of an improvement in the distribution of this funds, as we will discuss after, and also having in mind the comparison with some other factors. All this information could be checked in table n. 2.

Table2-Dynamics of GDP growth and the funding of R&D activities in Kazakhstan (USD 1 is equivalent to c. KZT 125)

	Indicator	Year					
	1	2	3	4	5	6	7
		2000	2001	2002	2003	2004	2005
1	GDP (billions KZT)	2.600	3.251	3.776	4.612	5.870	7.457
2	Percentage of GDP for R&D	0.18	0.22	0.25	0.25	0.25	0.29
3	Budget expenses for R&D (bil. KZT)	1,9	2,8	4,0	4.9	7,3	11,0
4	Budget share in total R&D expenses (in %)	4,04	39,4	41,7	42,2	50,0	51,2
Note - compiled by the author on the basis of sources [21]							

Precisely in March 2016, these and another features were discussed by some of the most related to this field experts, in a summit about the commercialization of scientific and technical activities in the frame of the innovation development of the country's transformation into a knowledge-based economy. In this conference, some of the most important facts were discussed, looking for a development of the scientific potential, and in order to accelerate the transfer of knowledge and technology, and ensure the effectiveness of the national innovation system and its main institutions. It was celebrated in Astana, the capital of the country, on March 3, 2016. The speakers at the briefing represent experts in the development of research strategies, as the president the Science Fund of Scientific Committee of the Ministry of Education and Sports of the Republic of Kazakhstan, Mr. A. Tuleshov, and Mr. D. Doskaraev, the director of Project Management at the Unit of the Technology Commercialization.

According to President of the Science Fund, Mr. Tuleshov, during the last years the government has promote a systematic and comprehensive work to create conditions for the development of Kazakhstan science.

During this time, some key institutions has been created for the development of Kazakhstan science: the Higher Scientific and Technical Commission, under the Government of the Republic of Kazakhstan, the National Science Council; the

National Center for State scientific and technical expertise, and more public authorities and public research organizations.

But before analyze the role of these institutions, we offer here a general approximation to the situation of the Higher Education in the country. Only with this view we will be able to understand the importance of the research process in the whole scenario of the young country and its desire to develop a high level quality educational system.

According to data from the academic year 2010-11, from the Kazakhstan's Agency of Statistics, there are149 universities, among them nine public, thirteen non-civil, and ninety six private. It means that 620 million people (not considering master's and doctoral students, is educated in these institutions. This considered 310.100 students in the public higher-education establishments and 310,300 in the private higher-education institutions. The number of post graduate students have increased in 2,469 people in 1991 to the highest number of 5,943 in 2003, before decreasing to 20 in 2010 after the abolishment of this education level [22]. The number of master's students increased from 5,410 people in 2001 to 16,586 in 2010, and at the same moment the number of students with doctoral degree increased from 30 in 1991 to 960 in 2010, which implies a really good figure (with reference to a new stage of PhD) [22]. According to the Ministry of Education of the Republic of Kazakhstan, there are 16 universities that offer PhD degrees in partnership with leading foreign universities [22]. In looking at the values from 2008, the Kazakhstan national universities began offering positions to foreign professors. For instance, Kazakh National University, named after Al-Farabi, offered 83 positions in 2008, 86 in 2009, and 106 in 2010, to foreign teachers; while the Eurasian National University, named after L.N. Gumilev, offered 55 positions, 83 positions, and 94 positions to foreign professors in those same years, respectively.

As we will discuss later, the international model that implies the accreditation of universities, which includes institutional and specialized (professional) accreditation, it is in process of implementation [23]. According to the Ministry of Education of the Republic of Kazakhstan, currently five public universities of the Eurasian country are on the transitional stage of internationally accredited procedures for educational programs. Two of those universities are Kazakh National University, named after Al – Farabi, and Kazakh National Technical University, named after K. Satpaev.

The former had been accredited for 10 educational programs in undergraduate and graduate studies at the German accreditation agency of ASIIN, and the later by the Accreditation Center of the Association for Engineering Education of Russia (RAEE), the German accreditation agency of ASIIN for 5 programs in undergraduate studies, and the ABET agency for one major program [24].

According to all these data, with the introduction of new forms of financing methods, the standards of the country are much closer to the global ones. This is precisely very important having in mind that facilitates to step up the scientific process of the republic as a whole. Also there has been a significant increase of international publications in Russian journals. A wide integration of Scientific Research Institutes with universities in the country has been planned, according with

which new research training programs can be implemented. The opportunity to obtain scientific training in some of those leading scientific centers has been incremented, according to the framework of the international scholarship program "Bolashak", of the President of the Republic.

Also, there is a national program for development of education in the Republic of Kazakhstan, which establishes main directions for further development of integration of education and research in some points [25].

These are, for instance to concentrate resources for priority research directions; to create research institutes and laboratories in the universities, and university branches in the research centers and *techno-polis* (or industrial parks); to performer integrated research between universities and scientific centers administrating scientific programs.

In this context, the modern status in the integration of research and education in the Republic of Kazakhstan is characterized by various forms of cooperation of universities and research institutes. In most of the cases, but is has to been highlighted that not in all the cases, these is positive cooperation agreements for fundamental and applied research, development and implementation of research projects and programs.

Also, there is an important academic and work practice in the laboratories and pilot plants of research institutes. This implies attraction of the leading researchers of research institutes to teach, to supervise internship and thesis writing, and to promote co-education of post-graduate students, as long as a positive improvement in lecturing at leading universities.

In fact, the international practice of the developed countries shows that there is no division of scientist to only researchers or only instructors/professors. Usually, both of these activities are achieve for all the faculty, working in the one research and education centers, which is a university with a network of research institutes.

Kazakhstan also is inside this trend of integration of research and education. In the eighties there were approximately sixty such research institutes, and their main objective was to make fundamental, exploration and applied research. Also they carried on implementation of research results in the production, which was a fundamental tool to have into account in next steps of this study. In this also were implemented training of highly qualified professionals, who later taking active part in training process of the university using the latest technologies and research results. These institutes attracted teachers, post-graduate and undergraduate students to research.

As we settled before, there are interesting indicators that shows, as defended in that summit, the effectiveness of the measures that has been already taken. During this time, the number of researchers has raised from 18.000 in 2011 to 25.800 in 2014 (an increase of 1.4 times). Also there has been a significant increase in the flow of young people into science. The number of scientists under the age of 35 years has increased from 6.487 in 2011 to 9.447 in 2014 (an increase of 1.5 times). The State has provided access to global information resources, resulting in the signing of the license of the country with leading companies and publishers Thomson Reuters (USA), Springer (Germany), and Elsevier (Netherlands). Also in

the trend of these collaborations, a significant increase of the publication activity of Kazakhstani scientists in international rating publications has been promoted. In 2014, 2.784 scientific articles has been published in international journals, compared with the previous year: 1.874 (1.5 times higher).

In 2015, the total amount of funding for science from the state budget represents 43.6 billion of Tenge, the national currency. In addition, very important steps have been achieved in developing the essential relationship between the private sector of the economy and the commercialization of the scientific achievements and scientific and innovation activities. This is a very interesting factor, which helps to realize the level of development and consciousness about the role of research in the country. In developed countries, more than half of the total volume of research is funded in the private sector. In Japan and Germany, it represents about 70% of all investment in science, in Finland and Sweden is about 65%, and in US represent the 64%.

According to Mr. Doskaraev, director of the Project Management Unit of the Technology Commercialization explained also in that conference how the commercial value of research and its commercialization in the market was promoted with the implementation of the project "Technology Commercialization", from the Ministry of Education and Science of the Republic of Kazakhstan and within the framework of the Loan Agreement between the Government of the Republic of Kazakhstan and the World Bank.

The project "Technology Commercialization" has already provided assistance for scientists and researchers in developing scientific research and in the consequent commercialization of their achievements. Two grant programs has been implemented for groups of senior and junior researchers, and 65 projects were supported. A significant percentage, 40 out of the 65 supported projects, have achieved the level of sales of finished goods, representing more than 900 million Tenge.

Another positive measures are being implemented, in a desire of further development of the system of commercialization. In the frame of the national Governmental Plan “100 Steps", and according to the Law on the commercialization of scientific and/or scientific and technical activities, precisely in the step number 64, some criterion have been sat. This law provides the mechanisms to support the link between science and business, providing benefits to customers in using the technology license, but also provides funding of offices of technology commercialization, and offers new grant for commercialization of the technology.

Although already the project about technology commercialization has finished, exist the conscience of the necessity to fix a number of problems that should be addressed to the state on a regular basis. According to this necessity, there is the will to promote subsequent phases of the project "Promoting productive innovation" with the support of the World Bank, according to the wide desire and will of the population. This project called "Promoting productive innovation" will be implemented according to the following five components:

1. The development of a knowledge base for innovation provides funding for research projects with groups in order to stimulate high-quality research with

commercial potential. Also, this component provides support for PhD students to involve Kazakhstani scientists working or studying abroad in projects in their historic homeland.

2. The Innovation Consortia promotes the creation of consortia by bringing together science, industry and government to address the specific needs of the market, the manufacturing sector and social problems.

3. The consolidation of technology commercialization cycle is planned to implement the following measures: the formation of the venture fund, aimed at demonstrating the effectiveness of earlier investments in technology start-up companies through the mechanism of public-private partnership for the separation and risk mitigation; the brokerage to generate deal flow will aimed at the market of services for the development of technology refinement and innovative ideas into commercial investment projects; the creation of the office of technology transfer abroad will imply to promote Kazakhstani technologies in foreign markets and search technologies for implementation in Kazakhstan; increasing the capacity of offices of technology commercialization will suppose the creation of an interconnected network based on competitive selection, with the purpose to create five or six effective technology commercialization offices, probably at universities in the framework program of the General Procurator for the period of 2015-2019, as well as in the Nazarbayev University; strengthening of the coordination of the national innovation system and a promoted increase in capacity of existing institutional structures, as long as it provides the establishment of the analytical center for the analysis of the status and prospects of development of the national innovation system based on international best practices. A single platform for science and innovation will be formed with governmental, science and business ‘representatives.

According to these components, the promoters want to ensure a real and effective support for the implementation of projects. Also according to these ideas the group management of the project will be responsible for the effective and successful implementation of the project.

These expertise highlighted how the main expected results of the project is to strengthen the national innovation system and to encourage the links between science and industry, promoting acceleration cycle technology commercialization and enhancing human capital in this area, which will increase the competitiveness of the economy.

The research method consisted in a first approximation into the managerial system of research in these institutions, in order to realize and determine the main problems in running these systems. A questionnaire for managers was designed, according to the priorities of the study and the factors to be measured. The target audience of this questionnaire, as long as the whole study in itself were faculty members with administrative responsibilities in the promotion of research in the HEI of these universities, as, for instance: deans, research directors, head of science department, when exists such an office. The factors that more directly have been measured are the ones related to the executive tasks of promotion of research. First

of all some indicators have been stablished in order to check the presence and importance of the following factors:

1. General approximation about the manager's experience in managing research.
2. Institutional research strategy of the HEI.
3. Load policy.
4. Publication and research ethics.
5. Funding issues.
6. Protection and commercialization
7. Staff policy and research training.

As described in chapter one, the concept of research management that guides this study defines research as all the activities that integrate an international/intercultural dimension into the teaching, research and service functions of the institution. So why, these activities can include policies, attitudes, laws, that managers promote. In pursuit of an integrative research agenda, this study tried to answer the following research questions:

Are there different management models in Kazakhstan, regarding research?

Do these management models really influence teaching in Kazakhstan?

How these models are developed?

Do these management models depend on the history of the University/educational center?

Here a general description is offered in understanding the frame of this study and the methodology used to conduct it, but also the data collection and analysis.

2.2 Managerial practices in the promotion of research in HEI of Almaty (Kazakhstan)

The meeting with the Research managers have the goal to get closer to the manager's experience in dealing with research. As the structure of the questions shows, he/she will have the opportunity to share and explain the most important factors of research in the institution and the different approaches that the HEI promotes across its institutional research strategy. With all the interviewees, the topics of discussion are not only the list above, but also her/his particular experience as researcher.

First interview with Mr. Razzaque Bhatti, Research Director at KIMEP, Wednesday, 16/03/2016. The Kazakhstan Institute of Management, Economics and Strategic Research, as its acronym KIMEP, is a private, non-profit Higher Education Institution which offers credit-based, North American-style degree education. Most of the classes are taught in English. This university has over 200 faculty members in 2015, coming from more than forty countries. Among them, 84 instructors has terminal degrees, 77 of them PhDs.

Before joining KIMEP in August 2010, Razzaque Bhatti used to be a Professor of Finance and Economics at International Islamic University Islamabad (IIUI), a Lecturer of Economics at College of Administrative Sciences of Azad

Jammu & Kashmir (AJ&K) University and an Associate Professor of Economics at Kashmir Institute of Development Studies (KIDS).

Interview with Mr. Razzaque Bhatti, Research Director at KIMEP, Wednesday, 16/03/2016.

Mr. Bhatti started the interview highlighting the requirements of faculty in this institution, PhD as an associate professor. With graphical intention, he explained how the only desire is to survive, and how there is no attraction to research. Some organizations could provide incentives to make a consultant work (IMF, Banks, NGO…), but there is not institutional research. Real research implies to publish from one to three papers a year (he has published 5 in the last year).

Mr. Razzaque emphasized that the teaching load is too big: a minimum of four subjects, which implies at least twelve hours, and one practical lecture also.

Anyway, the active researcher knows how to find time to make research, to be able to publish in high level publications, which implies methodology, theoretical literature review. It takes more than six months producing, and more than one year to get published.

He showed up the differences between American and British publications, in terms of requirements. Also he explained the obstacles to make research, sometimes financial ones. Because of that very often the desire is only to teach, because all the teachers have a lot of concerns, and a lot of tasks, coordinating seminars, and there is no permanent help. For example, in 2015 the incentives to publish have been so small, as also it implies to pay around 240.000 kzt. There has not been opportunity recently.

He consider that there are few profile research universities, maybe only Nazarbayev. Here, in KIMEP, there is not too much support from leadership, but anyway Research is produced. KIMEP is a leading institution, in which not just teaching is required.

Regarding the quality of teaching, the government is developing particular policies for every HEI, for enquire and one of the first issues should be to reduce the load. But also to facilitate the research, and to promote to be actively involved in research.

At the end of the day, the quality of teaching depends on research. Students are not agree with the requirements of study, there is a demanding environment but at the same time they don't want compromises.

Supervisors ask from the dean just to pass the people, and that is awful. Compromises in other institutions. In terms of facilitation of exam questions to the students: in KIMEP they give them just patterns. Students are expected to prepare questions by themselves, although when they face exams of 150 questions.

Interview with Fernanda López (pseudonym: this person prefers to maintain her identity unknown), Researcher and teacher at KIMEP, 17/03/2016.

Because of the will of this researcher to maintain her identity unknown, there is no possibility to explain her career. We are allowed to add that she has more than

25 years in academic teaching and research, a PhD and MBA, and more than 100 publications in very different fields.

In this case, the approach combines a general approximation about the manager's experience in managing research, with a wide and extensive experience in research in very different places.

Teachers have 12 hours of classes. Good efforts Bang College of business of KIMEP in evaluate & promote R, serious leadership style of deans.

This is the third term in which they apply this system. It is a process of evaluation the performance of faculty, according to some criteria. Also there is an effort of clarifying and specifying that performance, in a general committee, and some other ones, and that facilitates a transparent process.

Competition helps, in a natural way. The process before was very irresponsible, everything was subjective. Always there are concerns about raising standards, raising awareness and openness, this is a social faculty. And now there is more room to express their concerns in the meetings.

This timeline implies also progress on the way to learn and explain that you have. Learning process and adaptation are important. Some people think about research as a game: something to write in your Curriculum Vitae, and they are like babies. We are in the very beginning of the learning curve. Real researchers, active ones, they always think about it.

There are some differences with the US system: in a research university a teacher has just two courses for semester, and just sometimes one semester without teaching at all, just for research. You need large blanks of time to be able to make good research. In Kazakhstan you have five courses every semester

Every good research should present originality, but at the same time to be well connected with the previous work, and that is really difficult to achieve. Sometimes you need to review 2.000 articles, and identify a topic with real importance.

Nobody really cares for research here, it is just something that sounds good for you, but a good idea does not imply automatically that it is relevant and that you should publish it.

KIMEP can be defined as a good professional school in which research is starting to take place. Faculty has a merit evaluation form that could avoid low quality. There is no culture of research, plus a difficult environment and a lot of administrative requirements. At the same time there is a lot of opportunities. Look for instance at the World Value Survey.

People in looking for a place to publish, use to know who is a reviewer on my field. A record in publications in high level sites always supposes reputation, no matter on which school you work or whatever.

Interview with Ken Charman, Researcher and teacher at KBTU, 18/03/2016 and 28/03/2016

The Kazakh-British Technical University was founded in 2011 and it has become a vigorous leader in Kazakhstani Higher Technical Education. The Kazakh-

British Technical university's research in the main sectors of the Kazakhstani economy – oil and gas, information technologies, banking and finance, and telecommunications – positions the institution to be an integral part of the engine that drives Kazakhstan. Mr. Ken Charman works in KBTU since 2014, coming back to Academia with a long period working in private sector. He now is a professor of Economics and Management, in the KBTU Business School, and the team leader of the EU Project for support to the educational Sector in Kyrgyz Republic. Also he is in charge of the promotion of research management in the KBTU.

Mr. Charman preferred to start with the question of the time of the researchers: he considers that they have too much load to be able to make research: Administrative charges, and bad conditions. You need: availability of time, network and resources, and you can only make research on evenings or weekends.

There are some areas to promote and decide a good balance, among teaching and research should be a plan to help people, and usually that implies to work with anybody who knows the system. Funding for scholarships, Center of R Excellence,

He has a wide experience, he obtained his PhD in KIMEP 20 years ago. Before he had experience in joint ventures, knocking at the door to obtain data. Is very valued to obtain new data in Kazakhstan, where there is not availability of surveys and information at all. He just come back to University, 3 years ago. Leading Business School at KBTU, with good potential. Finding contacts and people, not just join, but contributing. Leaders of Asian networks, and also with the Stockholm Business School, from them we expect to obtain a good methodology system. Hoping that this helps. Nobody is in charge of research here. Only in places where research is in the first place, but here there are only two possibilities: to promote research, to look for accreditation.

The question is related to the level of hierarchy. It implies support to research. The thesis of Mr. Charman is that the more hierarchical is an institution, the less interest and promotion it implies in research. The more you push from the top of your hierarchical organization, the less creativity and confidence you give to the people.

Promote research culture is almost impossible. Promote research among particular people is possible.

A particular experience: trying to promote research, asking Yuri Loktionov for support in contacting companies to form clusters at the right level (as a professor Dr. Charman could not do it from his place), he receive no help. “I made a proposal to collaborate with that network, but I did not receive any answer. As an institution, I must say that KBTU does not value Research. They should guarantee respect and freedom for the ones who want to make Research, and try to make an inclusive agenda. Also, there is a very individualistic mentality among researchers.

2nd question: there is no support from the university. The approach should be to involve everyone, but there are no results: very little conferences, seminars….. So there is a struggle. For instance, there is a chemistry researcher from ISB, Tim Backers, who identify the three axis of the R: time, resources and support. In that institution they have 1 o 2 people publishing all the time. And that is a good approach when you have no culture.

3rd question: No time, no chance. I had a bad experience in collecting data, when I made my PhD, 20 years ago. People is looking for data as wild animals, there is no solidarity. Suddenly everybody is your friend, but nobody collaborates.

4th question: 4 o 5 regularly, the rest, once a year. Individuals are working on it, but as university there is not such an effort, you should receive also support from peers and institution.

5th question: There is no such kind of opportunities… To find them, you need mentoring, but not control.

6th question: Seminars ... my experience is that they have no relevance, people go out and in of the closet, and that's all, nothing else happens. You have to use your weekends, your evenings, or very early in the morning, and that is very disappointing.

7th question: Research profile: those who enjoy teaching, enjoy research. Those who enjoy management, not enjoy environment who promotes research.

There should be recruitment of people to work in the University from out of that University, from another alma mater.

Interview with Daniya Asanova Kasimovna Vice-rector for Research and Strategic Development, ALMA-U, 28-3-2016

Ms. Kasimovna is graduated from the Al-Farabi Kazakh National University, Faculty of Biology. She worked as senior researcher, lecturer, associate professor of the Department of Biotechnology in that University, and also there was head of the department of post-graduated, further director of the department of science and innovation. She spent two years working in KazNU as a Director of the Department of Science and Innovation. She has PhD in biological sciences, with the specialty on plant Physiology and Biochemistry, and also is experienced in managing research projects, including international projects. As one of the developers of several strategic documents in the field of science, innovation and postgraduate education she is also author of more than 80 scientific publications, including three books and a patent of the Republic of Kazakhstan.

Ms. Kasimovna started the interview speaking about two very important centers of research in the country: The KAZNU University, and the Science Fund. She wants to remark the crucial point that both the responsible persons of these institutions (Mr. Ramazanov and Mr. Tuleshov) represents for this question.

Her experience in researching started in 1999, until now. She defended her dissertation on biological sciences in 1996, and starting in that moment she worked in KAZNU. In that moment in KAZNU were stablished 32 research councils, with 98 specialties, Between 1999 and 2011 she worked there and had direct experience in making research.

Her first experience as a researcher was in KAZNU, in a moment in which around all the country a new methodological system was implemented, it was the beginning of the new scheme of Bachelor/Master degree/PhD, and in this process the vice rector of KAZNU had a very important influence. In 2011 she moved to the Kazakh Agrarian University, in that moment it had nine institutes of development of research. In 2013 she started to work in ALMA-U, in a moment of transformations

and reforms. She could join the process of a new strategy, according to the new standards of the Bologna Process.

According to this experience, she can now realize the differences between traditional universities, in which research is a clear and radical priority, and the new ones, much more teaching oriented, in which research plays a secondary role.

One of the current priorities in ALMAU is precisely to promote the efficiency and dedication to the research activity in the university, among its teachers. They are starting to apply the strategy "20% / 80%", a program that allow teachers to dedicate to the research activity 80% of their load, and to teach just the 20%. Starting from 2015 16 teachers have decided to subscribe this plan.

In the University there are 13 laboratories, and initiative groups, in which mostly of the research is produced: IT in Education, Financial Market and Corporate Development, Problems of the real sector of the economy, Tourism management and marketing development In Kazakhstan, Actual aspects of management, Local and global approaches, Intercultural communication, Modelling poly lingual communicative environment, Applied IT in education, Center for improving the business environment, Marketing research, Center for controlling in business and Social entrepreneurships. In all of these laboratories there are international counselors.

Another measures are ran for improve the level of research: a system of assessment based in the Indicators Card: teachers receive different points depending on their research activity. That system is divided in three different fields to be tested, and one of them is focus on the research.

One of the main problems of researchers is the lack of time to make research. It has to be said that in the universities of this country there is no sufficient respect for research, because traditionally it was not the place in which research was hold. Usually in the soviet regime there were research institutes, on which almost all the activity was ran. But with the law on Science (2011) some changes have been introduced, and much more activity is produced now.

There are some important universities to look at, for example the KAZNU in Almaty and the Eurasian in Astana. This second one was founded in 1998 and a lot of teachers came from Almaty, from the KAZNU (around 70-80%). Of course the Nazarvayev University represents a very unique case. It is a presidential project, directly promoted and designed by the President of the RK. It is ran by the Law "On the status of "Nazarbayev University", (2011) signed by the President. It imposes special status to the university: immunity in terms of accreditation and standardization: the university cannot be monitored in the first 10 years.

Timur Umarov, Acting vice Rector for Academic Affairs and IT, Dean of Faculty of Information technology, KBTU, 07/04/2016

Current Vice rector for academic affairs and information technology, dean of the faculty of IT, and former dean of the faculty of information technology, associate professor with a wide experience in technical projects. He responded to the interview via email.

1st question: What experience do you have in making research in Kazakhstan? (General approximation): Around 18 years.

2. What measures you manage to promote the research plan of the HEI do you work in? (Institutional research strategy) The research has to be recognized by international accreditation agency, research projects have to demonstrate high quality and impact to science, the university has to be in top 100 best universities.

3. Do you/the researchers of your HEI have time for make research in the academic year? (Load policy)They have time during an academic year and time varies between 4 and 8 hours per week approximately. However, often young staff do not have time to conduct their research because of heavy-loaded teaching.

Those who are on position of administration also do not have time enough because of filling forms for reporting on past, current and future educational situation in the university almost every week.

4. How often the faculty of your HEI participates in conferences / publishes in refereed international journal publications? (Publication and research ethics) few times per year. Around two times per year.

5. How the HEI you work in searches for new opportunities to promote the research? (Funding issues)There are several departments that collect data from researchers or announce opportunities for funding as well as help to prepare applications.

6. Does the HEI you work in make some publicity or transfer of knowledge of the research that the faculty does? (Protection and commercialization of research)The department of innovations always submit results to exhibitions and organize meetings and seminars

7. Do you think that the faculty in your HEI enjoys researching at the Institution you work in? (Staff policy and research training)Higher motivation in improved infrastructure will make them enjoying and it tends to be happen in near future. There are feelings of positive changes.

Interview with Kukeyeva Fatima Turanovna, KAZNU, 12/04/2016

1. What experience do you have in making research in Kazakhstan? (General approximation)

As researcher and supervisor of researchers she has a wide, long experience, from 2001. She has experience in developing different topics in the International Relations Department of the KAZNU University.

She explain the differences between two types of professors in the department: the ones who prefer to collaborate in redacting teaching material, and the ones dedicated to teach and make research. Depends on the preferences of the teacher both ways are available.

According to the rules of the university only teachers with PhD can be supervisors of dissertation. She has been for many times.

2. What measures you manage to promote the research plan of the HEI do you work in? (Institutional research strategy)

They receive from the rectorate a specific plan for every academic year. In fact these are considered just suggestions about their work, but they are free to

develop also another different topics. For instance, she has personal interest in develop the studies about the C5+a (a dialogue forum of the five Eurasian countries + USA), together with the John Hopkins University, although this is not a suggestion from any instance. Also they have freedom to research about current questions that represent interest for any reason.

3. Do you/the researchers of your HEI have time for make research in the academic year? (Load policy)

Most of the time researchers don't have enough time to make research, as long as they have a big load and a lot of bureaucracy to fulfill. She is able to have a load of 40% of teaching, vs 60% of research, which is a very good ratio in comparison with most of her colleagues. Also all of them should face what is called "pedagogical work", that is, extra work in preparing material for the students.

In any case the load is really big, so there is always little chance for the research activity.

4. How often the faculty of your HEI participates in conferences / publishes in refereed international journal publications? (Publication and research ethics)

There are two possibilities to be involved in conferences: just to participate in them, or to organize them. They use to publish quite often, in China, France, and USA… but everything depends on the language and the availability of time: it is necessary to be able to make research in English.

5. How the HEI you work in searches for new opportunities to promote the research? (Funding issues)

Unfortunately there is not too much financial support for the research activities. From the department they offer support for the students of master degree and PhD, because it is compulsory to visit a foreign university for a week, for the first ones, and four months for the second ones.

They have the alternative of offer online sessions with prestigious professors from abroad. They also have invite lectors (used to have approx. 25), and this represents a very good opportunity for both the sides, sometimes the lecturers come another times to the city.

6. Does the HEI you work in make some publicity or transfer of knowledge of the research that the faculty does? (Protection and commercialization of research)

Yes, there are certain platforms on which they can publish their results, perhaps because of the cooperation with other institutions, as John Hopkins University, the Al-Farabi Carnegie program on Central Asia. Also with the accreditation programs there are some possibilities to expand these researches.

7. Do you think that the faculty in your HEI enjoys researching at the Institution you work in? (Staff policy and research training)

The crucial point is the lack of economic support. She has to recognize that because of this research very often does not give any pleasure for the researchers. She is worry about a new generation of technocratic teachers, who come to the classroom, give their subject, and go on. Because research is a fundamental tool for improve your knowledge. But, at the same time, is also a mistake to develop too much to research, forgetting the important role that every teacher have in front of

her/his students. Researchers should not just form think tanks and forget about teaching. A good balance about both activities is really important.

Interview with Svetlana Shakirova, director of the office "Management of research" in ALMA-U University, 15-04-2016

She studied in KAZNU, defended her dissertation in 1996, and worked in an organization of feminism until 2004, in which she ran several studies on gender equity and politics. She also worked in the Abay University of pedagogics. She made several projects with international institutions as the UE and other.

1. What experience do you have in making research in Kazakhstan? (General approximation)

She has a lot of publications about women and gender questions. In 2011 from ALMA-U called her to develop precisely the research management, because she has a PhD, a good level of English, she is able to direct PhD thesis and to attract grants with her job.

Before, when she worked independently she had more time to make research, and a lot of freedom in her work. At the same time, because she was not linked with any educational institution, she published few articles or studies, and the ones that she published were not completely academic (she used to publish in mass media).

When she started to work in ALMA-U of course she knew that here there is no place for gender studies, but she had to work hard to organize the academic and researcher work. There were 10 laboratories and 3 centers, and they called her to organize them. Now, she has the opportunity to publish less, but to promote research among a very different spectrum of people.

2. What measures you manage to promote the research plan of the HEI do you work in? (Institutional research strategy)

There is a very clear and effective regulation system. At the beginning of the academic year a set of research goals is fixed in every department, with all the specifications: numbers of articles to be publish, research topics, deadlines… Every department should summit this plan to the research office, and then they redact the general plan for the entire university, collecting all the plans of the departments. This way the office is able to present a general plan at the beginning of every year (January). A committee should approve this general plan, and compare with the previous year plan. This is just the classic system of promotion.

Regarding the Laboratories, she consider that it is not easy to control a lot of them, as long as during three years they supported the work of the ones that looked more concern about research, but after that they decided to be stricter with the publications in English. Now they promote the research of their students sending them to conferences and seminars in Kazakhstan, with grants. Few ones can also travel to conferences in other countries.

She considers that more promotion should be required from the top management. Perhaps other grants should be considered in order to have more possibilities. Sometime before they had good experiences with Coca Cola.

Another particular measure that had been promoted is that every laboratory should attract 3.000.000 kzt in order to maintain its own research.

3. Do you/the researchers of your HEI have time for make research in the academic year? (Load policy) & 4. How often the faculty of your HEI participates in conferences / publishes in refereed international journal publications? (Publication and research ethics)

Of course not. This is the general and compulsory answer that you will receive from every researcher, because they have a very big load. Anyway she defends the priority of research, and thinks that, if you need to finish a research, you will always find time at night, or early in the morning.

In ALMA-U has been defined a program called "80 / 20%": both are the percentages that some teachers can apply to their load: 80% or research, 20% of teaching. The wage for these ones is also an important incentive, because generally is not less than the medium one. Already 10 person had subscribed this program, and the perspectives with them are very positive.

There are other teachers who have also priority to research, ready to travel to conferences and seminars. These ones should compulsory applicate to every congress that is published.

2.3 Comparing and identifying problems in the HEI managerial system of research

In order to analyze the current situation in the HEI of the country, four principal universities have been analyzed. The purpose of the present part is to show the way the interviews have been conducted, the principal information that has been collected on them, and the principle discovers that these meetings can offer us in terms of research management in the countries.

The method for choose these universities have been based in a qualitative standard of quality and experience in the research management. All the universities studied are top centers in the development of research, and they are proud to collaborate in this field in the city and the country. It is not easy to decide among the high number of HEI in the country, as long as there are approximately 150 universities in Kazakhstan. Many of them are located precisely in the former capital, but also a growing number are now situated in the current capital, Astana. Among these, only nine are featured in the 2013/14 QS World University Rankings. This ranking uses to look at the biggest universities. Among the situated in Almaty are considered the Al-Farabi Kazakh National University (KAZNU), the Kazakh-British Technical University (KBTU), the Kazakhstan Institute of Management, Economics and Strategic Research (KIMEP), and the Almaty Management University (ALMA-U). All of these universities have a long tradition of research and innovation, according to the situation of the country and having into consideration that the nation is young and the universities also.

Some of the universities in Kazakhstan offer three levels of degree: bachelor's (with an extension of four years), master's (duration of two years) and doctoral (close to five years). The country joined the European Higher Education Area in 2011, and now is facing and running the Bologna Process, which aims to standardize higher education provision and principles on Higher Education in the area [26]. As

long as the approximation of this study is qualitative, it offers explanations to researchers and expertise to understand how institutions and individuals manage activities, and thus understand their perspectives. The perspective of qualitative research is descriptive, naturalistic, explorative, interpretive and, why not, subjective, with the very researcher acting as a primary instrument.

Negative case analysis should be applied to check the efficiency of the method on the theoretical framework. The questions offered to the managers, as well as the factors related are as follows:

1. What experience do you have in making research in Kazakhstan? (General approximation)

2. What measures you manage to promote the research plan of the HEI do you work in? (Institutional research strategy)

3. Do you/the researchers of your HEI have time for make research in the academic year? (Load policy)

4. How often the faculty of your HEI participates in conferences / publishes in refereed international journal publications? (Publication and research ethics)

5. How the HEI you work in searches for new opportunities to promote the research? (Funding issues)

6. Does the HEI you work in make some publicity or transfer of knowledge of the research that the faculty does? (Protection and commercialization of research)

7. Do you think that the faculty in your HEI enjoys researching at the Institution you work in? (Staff policy and research training).

It was not easy to decide why kind of question could collect in itself the most interesting, sensitive and measurable information of work with. In different conversations with teachers, researchers, colleagues and people who have experience in the education system in the country, we decided to take advantage of a very influential factor, which is the personal one. As long as we need to contact with the interviewee in a direct form, the very beginning of these meetings always supposed a challenge in terms of first contact.

From another point of view the decision to make interview was took. For me as an interviewer it was a very good opportunity to learn from the experience and general approximation of these lecturers. Some of them were foreigners, as they name suggest. Also their experience and approaches to the very concept of research management represented a wide and colored kaleidoscopic of this micro world which is the research management in the country. But some words should also be added to the necessity to check the robusticity of the methodology in itself. As we will proximately discuss, what about if the questions that we decided to design were not sufficiently measurable, or difficult to understand, or represented any problem for the sensibility of the interviewees?

We considered all these factors, and defined the questions with the help of, first of all, common sense, as asking ourselves in a form that could be always understandable, appealing, interesting and with sense. Some more words should be added about the methodology of this study: it has been defined as a qualitative one. This method is based in the analysis of the available information, the comparison

among the different results, and the deduction of evidences that endorse the hypothesis, or instead, contradict it.

According with this scientific method, the hypotheses can also be tested with qualitative data. That implies that the researcher identify a theoretical framework after extensive interviews, for instance, about the reasons of a particular reaction or behavior. To test the hypothesis that those factors are the primary ones that influence on that problem or question, the researcher would look for data that would refute the hypothesis. In this context, even when a single case does not support that stablished hypothesis, the theory would be revised [27].

Let us suppose that the researcher finds one particular case, in which the result contradicts the hypothesis, no matter the collateral circumstances of that case. This new discovery supposes a disconfirmation of the original hypothesis. This procedure is called the negative case method, and enables (and somehow forces) the researcher to revise the theory and the hypothesis until such time as the theory becomes more robust.

In this study literature review is done, theoretical frameworks are formulated, and hypotheses developed. We can illustrate the process of this methodology in the next figure 54:

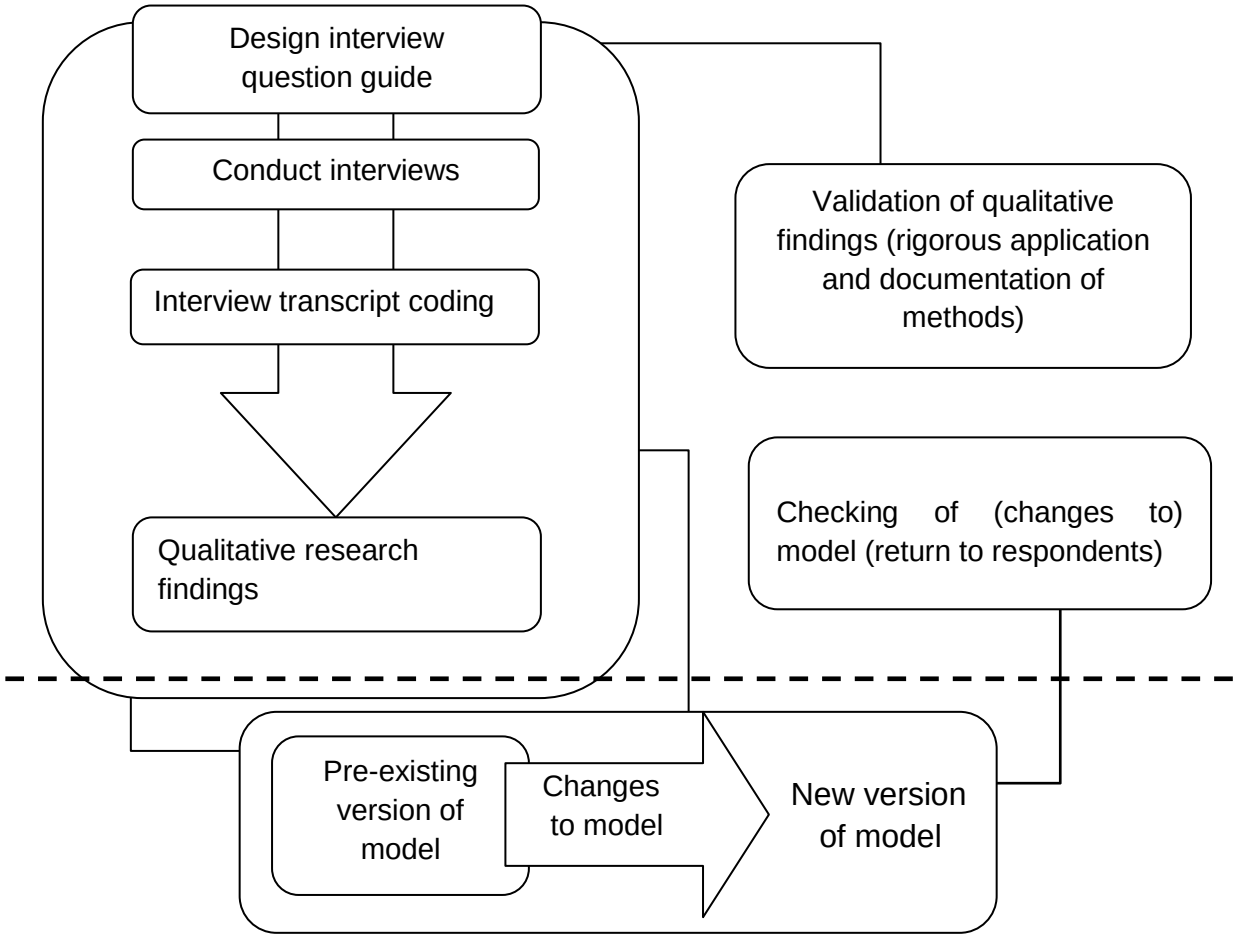

Figure 5-Summary of methodology. The dashed line between both planes represents the boundary between the model and the real world.
Note - compiled by the author on the basis of sources [28]

In this study some premises were stablished in terms of two hypotheses. The first one stablishes that in the HEI of Kazakhstan the research is measurable and controllable. The second one formulates that the responsibility of research in the HEI is partake by managers and researchers. Both these hypothesis have consequences in our study, the designing of the interview and the very conduct of them. And thanks to this hypothesis, clear results have been identified. These respond to the main general problems that the management of research in the country should face. In order to give a clear exposure of these finds, we focused our attention on the experience of the managers and researchers that share a long experience and a wide vision of the panorama of research in HEI, and we summarize the comparison in table 3.

Table 3-Comparison of interviews on research management in Almaty

	Question	Common features	Universities	Commentary
	1	2	3	4
1	General Approximation	More than ten years of experience in Research	ALMAU KAZNU KIMEP KBTU	All the interviewee have long experience in at least two different HEI in the country
2	Institutional research strategy	Certain principles in coordinating, promoting and encouraging research are settled by managers and know by faculty	ALMAU KAZNU KIMEP	There is a transmission system of research goals among faculty and researchers.
3	Load policy	Time is a scarce resource for researcher, and there is not a real and positive policy or effort to prioritize and protect it.	ALMAU KAZNU KIMEP KBTU	This remains as one of the most important obstacles in promote a real research culture.

Continuation Table 3-Comparison of interviews on research

	Questions	Common Features	Universities	Commentary
	1	2	3	4
4	Publication and research policy	Researchers have real established goals in publication: deadlines, location, language, quality.	ALMAU KAZNU KIMEP KBTU	Almost from all the researchers a particular percentage of publications is required every year.
5	Funding issues	Priority of research in the general budget of the institution is low; every department should look for funding.	KIMEP KBTU	As an important factor in research development the funding question remains unsolved.
6	Protection and commercialization of research	Publicity and transmission of the research outcomes is promoted and valued.	ALMAU KAZNU KIMEP KBTU	Real translation of knowledge is promoted in both teaching and publishing methods.
7	Staff policy and research training	Faculty understand and value their own role in improving the HEI quality	ALMAU KAZNU KIMEP KBTU	As knowledge drivers, researchers enjoy their work in the research system
Note – compiled by the author analyzing questionnaires				

In comparing these paths and vision, and analyzing the isolate circumstances, **three main finds emerge**, that we consider as the most important problems to be fixed in research management in the country. These are as follows:

1) The load policy: lack of available time to make research. Although the question of time and workload sometimes could appear banal, because always seem as if the faculty is not able to organize their resources, this is a key question that should suggest what makes a university successful. There can be no absolute predictors, but managing a university is a complete process and those institutions

that are most successful, are the ones that combined high performance in research, teaching and student measures [29]. In relation to governance we already remarked the situation of mutual dependence, in which the executive and academic perspectives worked closely in partnership, with neither one dominating the other.

2) The hierarchical structure of the institutions, that emits complicated configuration of plans and requirements, in form of bureaucracy, and that choke the initiative of researchers. With the advent of a new era in the education system, research remained as a competence of those macro-structures, and the process of modernization of the entire educational activity ignored the necessity to embody this fundamental tool for knowledge production. As a result of this process, some managers of today's HEI recognize that "research is considered with no respect in nowadays universities'" (From the interview of the author with Ms. Asanova, D.).

3) The absence of real research culture, that inhibits the production and spread of research. A hierarchical managerial conception difficult enormously the promotion of research. This is an empirical conclusion of some researcher, and is based in the repetitive verification of obstacles and lack of support that they have to face in development and achievement of research results.

So, some important findings are the result of this studies and interview with different manager research who work in the HEI of the country. As we discussed before, modern universities and HEI concentrate a potential research power, translate in policies, rules and requirements of research production.

These traditional means are now swelled by the demands of global accreditation systems, which are expression of the effort of internalization of the universities. They usually suppose a high quantity increase in the research production, as a consequent sign of improvement in the quality. The way in which we uses this information about the ability of the system to concentrate all this potential is really important and takes a principal role in the development of science and research in the country.

In order to offer a completer scenario of the situation, and to be able to advance some potential solutions and recommendations, we will consider not only the problem in itself, but also a brief analysis of the possible reasons of these problems. But initially we bring some explanation about the findings in themselves.

1) The load policy: lack of available time to make research. This is a very sensitive and remarkable factor, that emerged in the first stapes of every interview, and also in another informal conversation conducted with lecturers and another managers in these universities (with whom we tried also to afford an interview but it was no possible).

As discussed before, every manager is concerned about the high load that the faculty assumes. That implies a lot of teaching hours, but also the official requirements to battle with enormous quantities of papers (reports, assistance journals, programs, assessment proposals, and much more).

Here we will assume the assistance that a very useful tool can bring to this study, in considering the problem from the point of view of Emotional Intelligence.

Emotional Intelligence can be defined as "awareness of one's own emotions and moods and those of others, especially in managing people" (Collins English

Dictionary. 8th Edition, 2006). When considering our topic, management of research in HEI in Kazakhstan, and from the point of view of the Emotional Intelligence, the very starting question can be reformulated as follows, What about Management of researchers in HEI in Kazakhstan? In this sense, this management implies deeper attitudes, among others: Caring relationship between coordinators and employees-researchers, managing researchers' perspectives and hopes, not only the material aspect of research, coordinating research accordingly to every researcher situation, responsibilities and duties, promoting empathy in the research team, creating synergies between researchers in different fields

2) The hierarchical structure of the institutions, that emits complicated configuration of plans and requirements, in form of bureaucracy, and that choke the initiative of researchers.

We proposed in the statements of the research management factors (ref. chapter n. 1, "theoretical approaches of research management"), some crucial aspects of these issues. Regarding the first one, the institutional research strategy we assumed that this feature has a real importance. Its statistics means the primary source for the HEI employees who are facing the external requests, and also preparing the internal reports that use statistical information.

This information reveals all the official figures of the HEI, analyzing its data and using the definitions that every single HEI should establish in its standard policy. Because of that, but also of the relevance of such a declaration on itself, the institutional research strategy represents the guarantee of real research and innovation in the institution.

When the problem emerges in such a clear formulation, that is, the presence of overloaded researches, we should admit that the solution implies necessarily, that laws and regulations should be changed to reduce the current very high teaching load required of academic staff, and give them more time for research (need to supplement income).

Of course we cannot simplify the problem or just endorse it to higher instances, institutions or organs, in creating a new legislation, but also to realize how these policies will have no result if the managers does not understand and accompany in the process. This includes to promote a more human research, with the human being in the point of view, and reviving the necessity to consider Research and Innovation as a guarantee of a better life quality for everyone.

3) The last finding derived from the interviews is precisely the absence of a real research culture in the HEI of the country. We can consider this culture from different points of views: as a set of principles, rules and procedures that usually accompany the research process, but also the subjective approaches that the entire scientific community accepts as the atmosphere in which research is naturally conceived, promoted and lived. The HEIs should lead the process in which they can receive more consideration on their role in innovation policies, as well as the ones that suppose a development of science. These are particular issue to give priority to the scientific activity. There are many ways to achieve this purpose, and one not to be scorn is the inclusion and participation of these institutions in bodies that advise the government. These tools can play good deals in the future, as long as it can

integrate research and teaching, and link research, innovation and educational policies. We will discuss some other recommendations in the next chapter.

3 RECOMMENDATIONS FOR IMPROVEMENT OF RESEARCH MANAGEMENT

3.1 Main directions and factors for development of research management in HEU of Kazakhstan

In order to propose an improvement in the balance of the available faculty's time of teaching and research, we will analyze a proposition of allocation of scarce resources. In such a scenario, we know that the measures to be applied should be precise, realistic, and affordable. The problem regarding this particular scarcity involves many actors, and every of them should be engage in the resolution, if we are looking but a real solution [30].

So the stockholders that we supposed involved in this process are, as follows: the government, the HEI leaders, and the researchers. This proposition is precisely according to the second hypothesis of this study, in which we supposed the responsibility of the research management undertook by the managers and the researchers. We consider that in this sensitive tool also the relevance of the government activity should be remark. Neither the efforts of managers or researchers will have any result if the laws and policies emitted by the governmental organs don't support the promotion of a new paradigm in the proportion of teaching and researching dedication, as it shows figure 6.

	Core Drives growth or differentiation	Context Does not impact either factor
Mission Critical Impacts financial performance or reputation	1	2
Non Mission Critical Nos not impact either factor	3	4

Figure 6-The Core/Context Model applied in allocating time as a scarce resource

Note - compiled by the author on the basis of sources [31]

According to the previous figure, there are some considerations to analyze, having in mind that we are looking for the allocation of a scarce resource, which is the time of faculty, some priorities are suggested by this model:

a. Invest to provoke substantial growth by a significant differentiation across a material amount of business.

b. Allocate resources to meet mission-critical commitments, particularly financial ones material to investors.

c. Invest in the coming generation opportunities, which could produce higher growth and material.

d. Allocate resources to productivity initiatives to free up scarce resources to spend in the other three quadrants.

But, more important, a set of key productivity advices can be suggested according to this model:

1. Outsource "context activity" to free time up for "core activities": in any HEI there is the so called non-teaching staff, including administrative assistant, or non-academic assistant who is in charge of very different tasks. A more effective distribution of this staff's duties, and a clear commitment in educate this sector for them to achieve discretion in addressing a wide variety of business issues is crucial Many of these activities could be mission-critical, including all assistance accountancy, assignment procedures, and so on [32]. This not only saves faculty a sensitive amount of time, it also takes a kind of expertise to do effectively that faculty and researchers neither have nor plan to develop. Making this work means investing in a bidirectional relationship to build trust and install productive processes, and, most importantly the payback is huge, as long as it liberates the researcher in day everyday tasks.

2. Put "core" before "context" When a research director build a plan for the week, month, or year, in stablishing the research goals or priorities of a department or a University, he/she should avoid to start with listing out the set of mission-critical commitments, virtually all of which are context not core. The manager will run out of time and energy before he or she ever get to anything else, because there is always more work to do in this quadrant than he or she has resources to complete. Instead, the investment should be planned in core first. The manager or leader should ask himself, what is the research team going to do to either create new differentiating capability for themselves, or demonstrate their existing differentiated capabilities? Calendar and commit to this work 100% before the manager commit to anything else.

3. Develop the ability to promote activity about productivity. Usually "non core, non mission critical" sounds not worthy of the manager attention. That could imply a mistake, as long as taking risks with context tasks is the best way to free up chunks of the researcher time for core [33]. The solution could be some of the follows: to outsource some more of this work, to reengineer it, or to automate it, and also many times the solution is related to more efficient time use.

In considering how the workload assessment and allocation mechanisms of researchers can be managed, it is immediately clear that this specify an effort that is, or could be, given to the various tasks academics perform. Some studies could be

directed in order to determine how the academic staff react when changing or increasing the intensification of work in a, as usual, financially constrained environment. It is possible to identify some general points about workload assessment and allocation systems, if we want to be able to suggest some productive ideas from this study. We are convinced about the necessity to improve the managerial performance of this deal in Kazakhstan.

First, where a HEI uses a workloads system, it tends to be applied to all departments or units, although units (let's suppose departments, *kafedry*) that we consider they should develop their own detailed models within overall guidance [34]. This is an often situations in the universities in the country, also the ones that we visited for this study (KIMEP, KBTU, ALMAU, KAZNU). Second, most of the workload models are usually apply only to the teaching effort. Third, workload models vary considerably across different HEI either in the same city or country. Some models use a large number of variables, while others settle for high level approximations. Also could happen that many workload assessment models itemize every single segment, for instance contact hours, lecture preparation, number of students and other variables, and also usually could happens that these factors are often weighted to account for intensity of effort at different levels of teaching.

In the other limit we can find academic units (as we said before, it is interesting for this study to consider the simplest example of departments) in the most use simple measures of teaching contact-hours or total courses per year. Also a fourth general point should be considered: the complexity of the allocation formulas, because workload models invariably permit comparisons (between units or individuals) leading to claims that the models are flawed.

If we would like to determine which model could be more suitable for the situation of the HEI of Kazakhstan, we need to compare these different approaches. When making this comparison we can check how all the models omit some key variable, or better say, use inappropriate rules of weighting and exceptions. The consequence is a perception of winners and losers, and complaints of unfairness. This is precisely a very sensitive tool to use, in considering the situation of a very high number of researchers and teachers in the Kazakhstani scenario [35]. A lot of teachers use to have two job places, because wages are very low to live with only one of them. This sensation, or clear evidence, of unfairness comes from the wide disparity of workloads in a unit or across units (different departments in the same faculty, for instance).

As we defended before, in the Higher Education context there is a real problem with the allocation of this scarce resource, the time, but also a complex and not always clear play of factors operating within this context, beyond the relatively clear one of just high workloads. These include personal answers and motivational issues as well as control over work, support, perceptions of procedural fairness, and work politics. These ultimate factors can be seen to relate to issues of governance and leadership that affect the whole context within which people work. Precisely because of this interdependence we offer also some recommendations in terms of create a research culture and also to be aware about the roles of the same institution in facilitate the research activity.

In this context, it is possible to summarize the problem as: create an environment for dynamic development at the same time as set in a system of increasing regulation. Also there are some important considerations to realize, as for instance, the recent move from an elitist to a mass market view in education (this is a western tendency that later or earlier we will see also in Kazakhstan, although the recent creation of some elitist universities could suggest another path).

At the end of the day the main suggestion could be to or provide a customer-based emphasis and the drive for accountability. Such a regulatory process could provide HEI with the opportunity to improve and develop, precisely in the way the country is needed for. However, this would require a degree of self-criticism and openness that could also be seen as negative to the university. This narrow focus could lead to a neglect of the area where true quality in education lies, that is, the personal fulfilment of the individual (staff member and student) as the true meaning and kite mark of institutional quality.

Although the question of time and workload sometimes could appear banal, because always seem as if the faculty is not able to organize their resources, this is a key question that should suggest what makes a university successful. There can be no absolute predictors, but managing a university is a complete process and those institutions that are most successful, are the ones that combined high performance in research, teaching and student measures. In relation to governance we already remarked the situation of mutual dependence, in which the executive and academic perspectives worked closely in partnership, with neither one dominating the other.

Anyway, there is always a warning about the financial pressures that make the HEI become less collegial and more technocratic. Also from another perspective in relation to the changes in the higher education sector, is foreseeable that government demands for increases in efficiency and productivity [36]. Change within the higher education sector could be stimulated by a series of reviews associated with significant financial changes, but always in a common effort to improve the general situation of the education system of the country. The implications of this relation among the official pressures and the university management decisions should move towards a bringing together of academic leadership and management, with stronger executive management. In managing all this problem of work allocation and scarcity of time there are also another important considerations about the role of individualism and academic autonomy, and how team working has shifted this emphasis, as well as the increasing need for academics to justify work in terms of market demand and economic viability.

If we would like to understand deeply how these factors influences will be necessary to examine also the nature of this autonomy and described how factors such as professional accreditation, the law, and the responsibility to students can affect it. Another interesting issue is the relationship between teaching and research and the different arguments to describe synergies between the two.

From the ideas just discussed, and also having in consideration the situation of this sphere in Kazakhstan it can be seen that the higher education context is highly turbulent, and that the measures that could be suggested for improve the lack of time in the researchers' agenda is not a simple one [37]. Also there are some other factors

affecting as, for instance, the recent increasing financial uncertainty and instability is compounded by increases in both regulation and free market practices.

From another point of view, it is a very important moment the relationship between research and teaching. Regarding the interaction among both activities, it is particularly important not to forget that exceptional teachers prepare their lectures, discussion sections, problem-based sessions, and other elements of teaching as serious intellectual vehicle and as intellectually demanding and important as their research and scholarship. And this, of course, implies a great effort in translating the finding of the research into understandable material for students. At the same time also means a beautiful effort to share the advantages of new finding, new scenarios and horizons with the students, and not to teach the same eternal basic concepts as a dinosaur.

The promotion and valuation of research culture is also an important discovery, about the role of research in the general vocation of the HEI in the society. During last years, a new generation of universities raised in the country. Starting in 1991, the process of modernization of education in Kazakhstan has a set of important consequences. There are several stages in this route, as suggest. We can consider that four phases followed each other. A first stage (1991-1994), in which the legislative and legal frame were designed and promoted; a second one (1995-1998), that could be considered as the one of the beginning of the modernization process, and the third one (1999-2000), a crucial one in terms of decentralization of management and financing of education, and with a clear expansion of academic freedom, and the last or fourth stage (2011 until now), in which there is already a sustainable and strategic development of a professional education system.

Somehow throughout this process, the role that research is called to play in the western model universities has not been considered, and this lack in provision has resulted in a mistake in allocating responsibilities. Usually the research in the soviet countries was promoted and directed from research centers, as Found of science, Academy of Sciences, and several Institutes of practical sciences. This system permitted more interventionism and control, but at the same time was a guarantee in the development of a robust scientific research.

With the advent of a new era in the education system, research remained as a competence of those macro-structures, and the process of modernization of the entire educational activity ignored the necessity to embody this fundamental tool for knowledge production. As a result of this process, some managers of today's HEI recognize that "research is considered with no respect in nowadays universities" (Interview with Asanova, D.).

In this sense, also another researchers consider that create a research culture is almost impossible. But promote research among particular, potential researchers, and facilitate it is not only possible but much recommended.

Analyzing the different possibilities to enforce this research culture, we consider that one of the most valuables ones is the one that consider the leadership factor. With this assumption we consider that whatever measure the university is facing within its particular context, its research performance is linked with something more and deeper than just a function of compliance, it is foremost a

leadership undertaking. Research leadership can be considered as strongly influenced by its context. As we discussed with the interviewee, the production of research is not just a short-term event: it can be considered a continuous process of cultural transformation of the HEI. At the end of the day, the primary role of leadership is precisely to build a research culture. Theorists on organizational identity suppose that leadership behavior is a strong determinant of the organization's identity. Organizational identities are created, re-shaped and sustained by leadership. The target auditory of the organization is located in the leadership of the organization, in such a way that the personification of the organizational identity can be seen in the behavior and words of the leaders. Among the many powerful tools used by leadership to create and reinforce identity, one very important to be considered also in research management is the mission and vision statements.

As long as theses mission and vision statements are considered effective and powerful tools in achieving organizational performance manager should fulfil a personal and practical engagement with them, in order to represent and be aligned with those values. Organizational identity precisely through these public statements comprises the whole organization's core beliefs, the purpose for being, and at the end of the day its preferred relationship with the wider environment and its intended future: it is like the philosophy of the HEI in itself, the reason for them to be in the world. Mission statements are declared to articulate the enduring purpose of the organizations' existence, in anyway their vision statements express their desired future. That is why, when the elements of identity (purpose, beliefs, and vision) are expressed through the mission and vision Statements, these documents can be considered ideally as the convergence of identity and image.

We are here considering that it is precisely that identity is subsequently translate in its programs and services, and because of that they should be an interpretation of those mission and vision statements. Going further, the articulation of the research goals of the HEI in its mission and the vision is important in nurturing the faculty's commitment to research production, and it is precisely the leadership that we suggest to promote. At the end of the day, an institutional research strategy is imperative if any manager is looking to run out an effective research management system for her/his university. Such strategy should be clearly communicated through all levels of the university, and that is a very good way to create a research culture.

In the analysis we suggested for the current situation of research management in Kazakhstan, there are some more interesting conclusions. For instance, let's assume that the research culture twigs from three specific and institutional behaviors that supposes research culture:

1) Hiring research-competent faculty or those academic with strong research-potentials, no matter their youthfulness;

2) Administrative and financial commitment of resources and enforced reward system.

The second one could be more evident, at least in those HEI trying to locate themselves to be research universities. Here some words about motivation could help. There are three true elements of motivation:

a) Autonomy: which also depends in four elements. *Time* is always necessary to focus more on the output rather than the time or schedule, allowing researchers to have flexibility over when they can complete their projects, *Technique*: implies not to dictate how researchers should complete their tasks, but providing initial guidance and then allow them to tackle the project in the way they see fir rather than having to follow a strict procedure. This is especially important in the case of a researcher, because her/his work is very up on their ideas, inspiration, but also hard and long work. *Team*: this can be one of the hardest forms of autonomy to embrace, allow researchers some choice over who they work with. By providing open source projects or tasks, they then have the ability to assemble their own teams. *Task*: allow researchers to have regular creative days, where they can work on any project or problem they wish. Evidence shows that many new initiatives are often generated during this kin fog creative free time.

b. Mastery: create and environment in which mastery is possible. To foster an environment of learning and development four essentials are required: autonomy, clear goals, immediate feedback and the so called goldilocks: those tasks are neither overly difficult neither overly simple that allow researchers to extend themselves and develop their skills further.

c. Purpose: it is important for a research manager to use purposed-oriented words, to talk about the HEI as a united team by using words such as “us” and “we’. This will inspire researchers to talk about the university in the same way and feel a part of the greater cause.

Also, communicate that purpose is important: make sure that researchers know and understand the HEI purpose goals not just its profile goals. Researchers who understand the purpose and vision of their university and how their individual roles contribute to this purpose, are more likely to be satisfied in their work.

So it is important that managers are able to place equal emphasis on purpose maximization as they do on profit maximization. The attainment of profit goals has no impact on a person’

s well-being and actually contributes to their ill-being. Organizations and individuals goals should focus on purpose as well as objectives in terms of profits. Many successful universities are now using this as the catalyst to following purpose, rather than the objective, and this is a mistake.

As a clear result we see the necessity to encourage faculty and students not necessarily to produce knowledge but to achieve index. In any measure, leaders can establish measures to facilitate the achievement of the institutional research target and consequently develop the capabilities of the faculty members and students. The diversity of the university environment could be a fact, but each faculty is unique, thus the manner of implementation must emanate from that uniqueness.

The educational leader has to contend with the present limitations of the educational system in Kazakhstan, that is, presence of non-research inclined academics, strict and frequent policies and practices in research management across

faculties, and lack of funds. In describing the pressure for universities in developing countries to produce scholarship, and address development concerns, there is a necessity to focus primarily on teaching due to the massification of higher education. Given the situation, there are proposition to consider six millstones on research management as very helpful in the context of a HEI in the early state of turning into a research university.

These are already mentioned in this chapter about the necessity to create research culture, but we find them really interesting and important. Here it is a summary:

Mission, information, communication, collaboration, transformation, and outcomes. These variables are connected with each other and must be considered in managing the research of the HEI. These factors consequently must be valuated to the unique needs, resources, history, and goals of the institution. The totality of all these dimensions should be considered without neglecting one of these elements.

The question that also should be considered it how the drivers in the transformation of a HEI from a teaching to a research university is top-down in approach. Managers and leaders in the Kazakhstani environment should have into consideration this factor, to act according to this necessity. Perhaps this is caused by an exclusive perspective of the top-most leader of the global dynamics that surrounds the business of higher education. The change is not usually taken easily, and resistance always appears as a result. Thus, the manner by which the research vision is to be implemented is crucial.

We suppose that precisely the understanding of the university culture is the key to the development of a research culture. Each HEI is unique; compliance and resistance are to be considering with according to the unique vision and perspective of the university.

Among other functions, research leaders are asked to identify enabling factors that will further encourage research activity. These can be very simple, as provision of learning activities through seminars and workshops, but also encourage of working into research teams, provision of technical and funding support, and formal and informal recognition for those who are able to publish.

What about the demand for financial and material resources? Of course there is necessity to funding research projects, and for incentives, upgrading of laboratories, and creation of staff position to facilitate emerging, implementing, monitoring and evaluative processes, as we will propose in the next chapter. Thus, the HEI will have to identify creative means of generating funding for research. There is a direct relationship between resource and research generation. The more research a university produces, it translates into a promotion of its ranking among other universities abroad, also according to the accreditation systems about which we spoke before, and then, the greater funding it receives.

So the role of the research manager is to protect the integrity of the research process, and the reputation of its university with the human dynamics of motivation. This implies to consider the scope of research management in understanding the legal and ethical dimensions. In mediating conflicts that could arise in the management of research, the research manager can take different roles, such as:

participant or advisor in forming, implementing, and controlling the most relevant institutional policies and guidelines; analyst to develop ways of avoiding situations in which could be conflict of interest, and also to be a mediator for maintaining policies and safeguarding rights and privileges.

We assume that all this good characteristics of the research manager could be undertake only if the research manager is a good researcher himself, is a good teacher, and is able to lead peers in such a manner that people aren't even aware that they are being led.

One of the factors considered a key tool of Research Management is the integration between research and education. The already mentioned Law on Science proposes this objective among others, as a principle to follow in the Administration of research. There are several ways to guarantee this integration. Probably one of the most important points to be deducted immediately is the need to connect, to integrate, the teachers´ activity as lecturers, with their dimension as researches. In this sense, gets particular importance the load of the teachers, and the consequent possibilities to do research. Overloaded teachers by contract are driven to neglect the importance of research and development of their fields. This is a particular improvement that should be considered in managing the work of research of the lecturers in the HEI (OECD, 2007) [38].

According to Bektaş and Tayauova [39], there are also some problems to be considered in the cooperation between University and Industry. Sometimes the structure of the HIS´ stays in a theoretical level, and forgets to consider the needs and priorities that the industrial and commercial sector looks for (2014). This problem requires a stimulation of technologies commercialization in economy priority sectors, as the Law on Science proposes. This incentive can be considered one of the main concern of the research activity, as well as a source of inspiration for the research teams.

One of the risks in managing the research activity consists in place the efforts of planning and running just around the acquisition of standards, whenever this theoretically should bring goodwill and renown. These objectives always respond to the need and perspective of international recognition, which is one of the requirements of a modern, competent HEI. In the case of Kazakhstan this supposes a crucial tool, as long as there are in the country a clear concern about the integration into the European Higher Education Area, and also the consequent mutual recognition of documents on education with the countries that are considered members of the Eurasian Economic Community [40]. The fix of clear and real measurements, independent from any concern and secondary objective, could provide a good measure of the quality and the range of the integration we are talking about.

In these cases become even more important to stimulate the knowledge acquisition and transformation in technologies, in a way that permits a proper translation into the economy.

The Law on Science offers a quality approach to the own research activity. It establishes particular features in order to measure the performance of the Research Activity. These are: objectiveness and independence, transparency, equality of

subjects and research activity. Even though these values are, under certain cases, assure while receiving state support, we consider the advantage that suppose the fulfillment of these principles for any research activity promoted in the country, also for the one that the HEI promote in development of their own strategies, not always frame into a republic program or policy.

In order to ensure the real and better use of the support given by the government to the research activity, some measures of efficiency and effectiveness should be created. In education, this administration gives slow result, and also the efforts to link this research with the education process.

The key factor for this efficiency is to promote a management in which the resources, the plan and the objectives can be used in a professional and global manner. Some research authorities can promote rules, policies and frames, giving to the research community a sense of organization, control and regulation, in which values such as authorship, contribution, innovativeness and responsibility can bring the desired shoved to the economic activity. But there is another key factor that supposes an invigorating energy, and that is the development of international cooperation. According to unified standards, the Kazakh scientific community should join the international programs and initiatives, precisely by promoting the bilateral co-operation with foreign HEIs and research institutions. Of course this is a policy which is welcomed and supported in both the national and institutional levels. This way, the country is able to increase the role of the research and higher education sectors while following and meeting the economic and social goals of the country.

3.2 Simplifying the managerial procedures of research promotion

A hierarchical managerial conception difficult enormously the promotion of research. This is an empirical conclusion of some researcher, and is based in the repetitive verification of obstacles and lack of support that they have to face in development and achievement of research results.

Usually universities are founded (at least the oldest one, in which another ones are based, or at least look at) on extensive histories of well-established structures. This imply that the responsible or research manager in a university, wherever in which level they are located, they are part of a highly structured organization, and they should work within that structure. As we suggested before, the process to simplify the management and avoid the problems caused by hierarchical structures is not only to restructure faculties, schools, and departments. Because this can generate another problems: restructuring could provoke the formation of fewer, larger academic units, usually for “improved management and cost efficiency” (Morris, 2002; Taylor, 2006b; Valentine and Constable, 2007; Bolden et al., 2008, as quoted in Johnson, 2013, p. 41) [41]. This could involve too much pressure into the HE in terms of a decrease in funding and, at the same time, to remain or either to improve, the global competition.

In HEI this hierarchical structure is very common. Also, as a result of a soviet inspired system, use to be as hierarchical as it shows in figure 7.

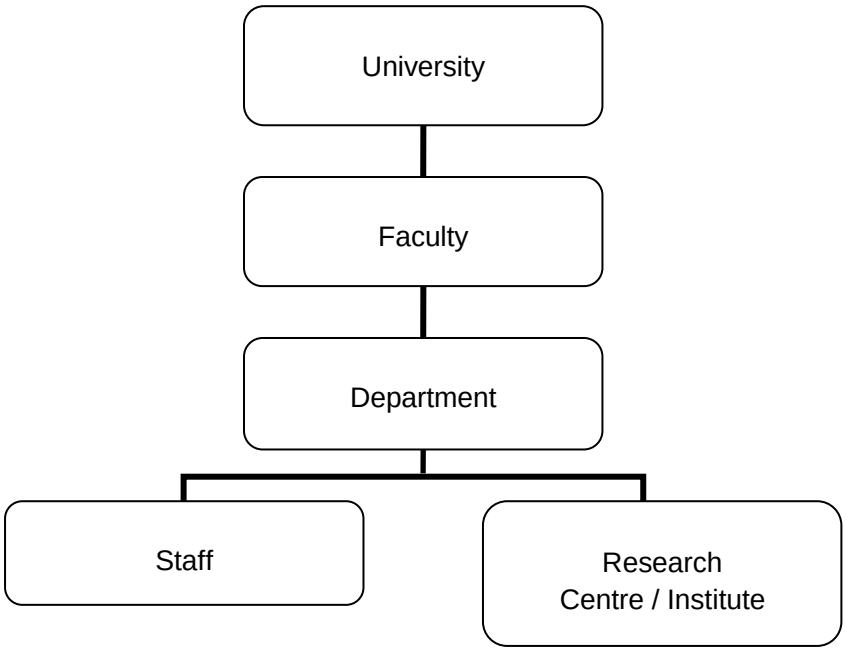

Figure 7- Hierarchical managerial structure in HEI
Note - compiled by the author on the basis of sources [42]

This recommendation to simplify the structure of a university is quite risky, as long as it could imply huge logistical and administrative efforts. So the idea is to focus on the mean problem of this study: the most responsible levels of direction and management related to Research Management.

In the case of Kazakhstan this is a real temptation, as long as its universities are also founded in the model of another old institutions, like the traditional western universities. In the case of this country, and also the other ones from the CIS space, also the influence of the soviet structural model affect in a wide extension, because the organization and structure have always the tendency to apply rigid and very hierarchical system structures.

In looking at the most basic structure to make simpler, we find that it is not easy to detect at which level this simplification can be apply. The system, structures, and also the same terms are not clear when speaking about the HEI sphere. More or less all the universities have a basic academic organizational unit, which can be called a department, school or college, usually depending on their size, width, depth, and focus. When merging a number of these academic organizational units, this creates a larger unit, and several of these may form a faculty.

Running up this process a university can be the organization that collect a number of faculties. At the end of the day we all assume that always there is a common core in the structure of almost all the HEI. If, for instance the smallest academic organizational unit is a department (in Russian *kafedra*: for example, statistics or finance or international relations), and some of them together compose a school (for example, management, or IT or psychology), and several of them make up a faculty (for example, science or engineering or social sciences). We can see the graphical comprehension of this structure in a figure:, in which is showed how the

vice-president does not necessarily fall under the direct supervision of neither the president, or the dean, or the head of school, or the head of college or head of department, whichever any of these names are used for the person in charged. In this case we are clearly assuming that this person have no direct, or at least officially direct supervisory role in relation to the staff who perform the research for which this manager is responsible. The point is that no matter which structure the HEI uses, or how many and how complex they are, or what the academic organizational units are called, at the end of the day they are responsible of the research outcomes and outputs of several faculties, as long as the vice-president should be, or several complex schools or colleges, precisely also as associate dean should be, without directly supervising the staff who do the research. All this can be checked in figure 8.

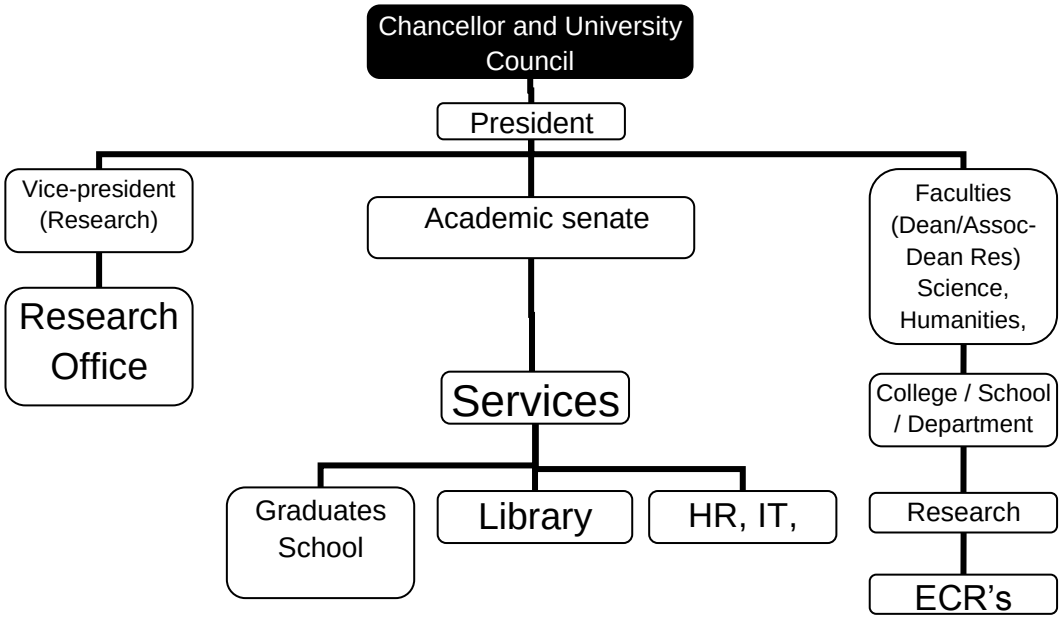

Figure 8-Organization governance on a typical global University
Note - compiled by the author on the basis of sources [43]

Undoubtedly, the structure of a HEI will largely influence how perform in it the role as vice-president, or associate dean. The complexity and size of the academic organizational units are basic matter for managers for many reasons. The major challenge for them is that each of these organizational elements supposes usually its own cost center. This means that its supervisor, let's say the head of department, or the head of school or college, and dean, has his or her own budget allocation, which is separate and distinct ones and, most importantly, not under managers' control. He or she are required to manage and improve the research output of dozens or perhaps hundreds of staff (included researchers) over whom they have no direct budgetary or official supervisory control. They also have to work within a complex governance framework of rules, policies and procedures, and the

more hierarchical the structure, the more of them they face. This is why the manager's leadership is so important to the HEI or faculty unit.

University structure and governance is critical to the ability to perform the managers' leadership role. In analyzing this university governance there are some principles given by the OECD (Organization for Economic Co-operation and Development). They are called the principles of Corporate Governance (OECD, 2004) [44], apply not only for HEI but to all types of organizations. In the third chapter of the OECD Reviews of Tertiary Education (OECD, 2008) there are clear statements to define the most efficient way to manage tertiary education. Also in the Appendix II of the Lambert review (2003) of business HEI collaboration there is a draft code of governance for any university governing body. The World Bank in association with the Marseille Centre for Mediterranean Integration (MCMI) also released a report (Jaramillo et al., 2012) that details the implementation, management, data analysis and validation of a university-governance screening card piloted in some countries from the north of Africa. To finish with the examples, also the University of Oxford (Governance Working Party, 2006, as cited in Johnson 2015) [42] defines governance as: "the processes of decision-making within an institution. It thus holds implications for the administrative organization, which enables an institution to set its policies and objectives, to achieve them, and to monitor its progress towards their achievement. It also refers to the mechanisms whereby those who have been given the responsibility and authority to pursue those policies and objectives are held to account. The adoption of sound principles of governance helps those charged with taking important decisions to identify, assess and manage institutional risk, and to set up sound systems of financial control. Finally, a well-designed structure of governance will serve all members of the institution; but it will also serve the public by virtue of what it does to render an institution accountable to the outside world".

This is a very interesting text in which different criteria are proposed to manage a new definition of HEI, in terms of governance. The University of Oxford outlines a set of principles that could inform and reinforce governance arrangements. One of them, perhaps the most fundamental, and we are speaking about the accountability, is referred in its different meaning: democratic accountability, financial accountability, internal and external accountability.

These factors should be analyzed in deepness, as long as audits, the importance of dealing with complaints, or set codes of conduct, and compliance are also major questions of governance. And here the question of research management again evolves. Many academics see the focus on governance as intrusion on their academic freedom. Perhaps this is an important factor to consider in a society like the Kazakh one, in which there are academic communities or attitudes that see governance policies and principles as burden, rather than as good practice in research.

In this case, it is also manager's role to ensure understanding, acceptance and compliance with the university's governance protocols, to keep research within the limits of what good practice implies. Also this is determined by the emotional intelligence that they have the ability to show in working with her/his staff. This

way they will be avoid to form part of that increasingly number of cases, that become public knowledge, in which some academics exceed the boundaries of what is acceptable in terms of academic conduct.

Somehow it is necessary to guarantee also that some unethical behaviors take place in this context, and this is also responsibility of the manager. We are speaking about plagiarism, falsifying in some measure the research results, misuse of funds or grants, inadequate, late or misleading reporting, bullying members of a research team, or inappropriately claiming credit, or not giving due credit to others. Good governance at all levels of the institution is essential to guarantee that not only does the HEI perform to its optimal capacity in all areas, but also that academics and researchers conform to the global principles of good ethical practice.

We are also supposing that these managers are almost exclusively focused on research, so they are responsible for the research carried out by all members of the department, or the research group. In a report of the OECD (2004) we can identified four levels of governance in HEI:

1. Institutional Governance: referred as the level of the university council or board of trustees. Sometimes theses members are also called governors and here is the highest level in the university. This body usually is composed by different representatives from the business, public service, and politics sphere, and also by university staff and student representatives. The president and chair of the senior academic forum, is usually called the academic board or senate (depends on the countries and the traditions). This forum is the one in charge of the overall running of the university as a whole, and it must be accountable to the public and government. This usually can be someone whose position is similar to a non-executive chairperson of a private firm. For instance in the British system, this person is usually called a chancellor, but in the North American system, is called the president of the institution.

2. Institutional Executive. Here we find the president, or the vice-chancellor, or the rector, who responds to the council, or board of trustees, or governors. Also there can be various vice-presidents and directors of major non-academic elements, such, for instance, finance, human resources, IT, etc. As vice-president these persons have the major role for management of the whole university's research effort. This is a very important role to be in charge of, when speaking about research management, and because of this he or she must be in permanent contact with the results of the research effort of the HEI.

3. Faculty, Department or Research Centre: all these three are designations referred to the cost centers we mentioned previously, which are responsible for research within different disciplines or fields of research, but also for the important task of teaching and graduate studies. As associate dean this is the responsible for the research outcomes of the faculty, although major research centers, may report directly to the dean or even the vice-president.

4. Level of Separate Research Activities. Here we suppose laying the responsibility for each different research project or program, whether individual researchers or research teams. The most widely accepted definition of a research group considers at least three people working together, for the minimum of six

months, over an expected time span of at least 1 year, with a particular research goal, and with at least one leader, usually a professor who is significantly involved in the work of the group (Rayner et al., 2010; Schuetzenmeister, 2010 and Andrews, 1979, as cited in Johnson, 46) [42].

In this level of governance we are not considering an official part of the supervisory structure of the university, but it has crucial responsibilities on promoting and encouraging the research of the faculty. Most likely, governance levels one and two sign off on the policies and delegations within which the manager should operate, including such decisions as: who is the person that can authorize spending money for research purposes, what is the process for completing a PhD candidacy, and the relevant official criteria for designating a university research center. All of them, very sensitive questions in defining the research profile of the HEI.

Through these members in a particular university and faculty committees, these managers will have the opportunity to influence the content of such important policies, which they will also have to implement [45]. All levels of a HEI are covered by policies, procedures and regulations, on how each element of the university should ideally work, most of the times in terms of cooperation and synergies. This colors the university's governance, and in fact it is important to highlight that even different or contrary governments have similar policies and procedures on how all their universities should operate.

In fact, in the first term public universities are the very ones founded on national or state government statutes, and this dictate very strictly what the university can and cannot do. More countries are moving from a control model, in which the government pretends to control its universities, to a supervisory model, in which they monitor and regulate all aspects of their relationship with their universities [46].

These new approaches increase the universities' administrative and reporting load without a correspondent and associated increase in a real, factual autonomy. At the end of the day the governance of research within a public HEI depends on the national funding: this is unavoidable. Organizational models in place decree what is expected of their universities, so the managers should be assisted in their research governance role by internal university committees.

The role of the vice-president supposes to be the chair of the university research committee, and the one of the associate dean also implies to be a member of the central university committee representing each faculty, and also chair the faculty research committee. Although this depends on the structures [47], the university governing council usually delegates its authority in these areas to another committees in the HEI that are usually composed by staff, students, and sometimes alumni and senior external appointments. In these cases, the committees become large and unwieldy, and they face more executive decision-making by a group of selected individuals, supplemented by temporary task-and-finish groups, in the place of committees. But such drastic rationalizations are not common and are often considered unsuitable for the culture of many countries and consequently of the universities, because the academic board or senate and faculty board should ask

continuously for input to key documents. We are speaking about, for instance, school research strategic plans, university research strategic plan, or the faculty research strategic plan, and even department strategic plans, depending on how big the HEI is [48].

The extension of these plans differs: usually they can cover a three to five year period, but constantly monitored and updated as necessary. These documents are part of a within-university governance system and they are specified to the university at a given time. In some cases, academics could see these governance structures as providing an additional layer of unnecessary bureaucracy [49]. The fact is that although these plans could not be considered perfect by everyone, there are many external governance reports and guidelines, which managers can use to further inform the internal governance documentation, especially when these documents are fostered by national government.

Having in mind the benefices of such structures, and no matter what organizational model was stablished in them, research universities with strong financial support did well. Financial commitment, but also the supply of resources that such a funding can provide, certainly will have a positive effect on the output of research that a HEI can aspire to. That is why governance is extremely important: is one, if not the only or the major, factor in a HEI's research success.

The productivity of research will depend in the correct functioning and adherence to governance processes, and not just having a structure of governance [50]. Although all the universities have a structure of governance, it is the robustness of governance practice, at the HEI and faculty levels, that at the end of the day will lead to optimal research productivity by the institution.

In looking for improving the quality of research management, the HEI should emphasize collegial management styles rather than any form of executive dominance. It is role of managerial chairs at the university or faculty level to ensure proper understanding, acceptance and adherence to the very governance structure and procedures. Having in mind the background of the Kazakh universities, they still have to work hard to make their forms of governance work effectively and avoiding a hierarchical style. It should be also highlighted that now there is a the clear pursuit and recent activity in most universities, all around the world, to focus funding and resources on some specific areas that are considered more 'efficient' and managerially identified as part of the universities' corporate activities.

Having into consideration the role that the recent global financial crisis has played also in this sphere, should be considerate how the funding available to most universities significantly reduced worldwide. And because of that, most of the HEI have received funding levels to use in planning over the next three-five years, which, if not lower than those they are working with now, will certainly be no richer, meaning they will still be less due to devaluation and inflation.

In this case there are particular types of databases and planning tools that can assist managers in determining how better to identify the universities or HEI's strengths and weaknesses [51]. Through the research leadership, and following the proper governance processes and procedures in every single structure, that have been developed and used, leaders will be able to identify areas where their

researchers can and want to continue to be world class in the short-term, areas where they want to be world class in three to five years, and areas they wish to cease committing scarce internal funding to. The role of these managers in this case, as academic with specialist staff available in the HEI and faculty unit, can be considered irreplaceable, and not especially challenging. But it is much more challenging, relevant, and perhaps the major challenge for university governance, is to gain understanding of their decisions, first by their own peers, who are competing for scarce resources for their own areas (as time, what we discussed previously), and then by dozens and probably hundreds of academics not only in the country.

Also, they will need to gain acceptance of their recommendations, and above all, be able to implement those recommendations. So the challenge for responsible research manager in a non-hierarchical managerial system is to run governance models created by people to govern people. At the end of the day the test of a governing body's capacity for change ultimately lies in its willingness and ability not only to recognize deficiencies in governance models, but also to arrive at viable means of remedying them.

CONCLUSIONS

Kazakhstan shows a very high potential on developing the research, focusing its efforts on the HEI, all around the country. The particular way in which the entire academic community potentiates and strengths this efforts should be accurately revised. This role of the Research Management can follow the principles proposed by the Government in the Law on Science, specifically according to the characteristics of the Research Activity, the integration of research, education and industry, and the priority of scientific activity, which should be clearly reinforced.

In order to analyze the current situation in the HEI of the country, four principal universities have been analyzed. The purpose of the study conducted was to analyze the principal information that has been collected on them, and the principle discovers that these meetings can offer us in terms of research management in the countries.

As long as the approximation of this study is qualitative, it offers explanations to researchers and expertise to understand how institutions and individuals manage activities, and thus understand their perspectives. The perspective of qualitative research is descriptive, naturalistic, explorative, interpretive and, why not, subjective, with the very researcher acting as a primary instrument.

During the elaboration of this dissertation, different experiences have been compared. In all of them these concept were analyzed. Also the principal accreditations standards have been studied, to realize in which extension they influence the pursuit of excellence also in terms of research management. Nowadays, these systems are synonymous of well-doing, professionalism and top quality.

The way in which different institutions in a variety of modern societies, understand and promote this research, throw out clear and certain values to have into consideration in defining the path of development of a strategic plan of research. This element should be analyzed, comprehend and adapt in Kazakhstan, a young country which is located nowadays in a crossroad of self-awareness about its own way of promoting research in the University.

In comparing these paths and vision, and analyzing the isolate circumstances, **three main finds emerge**, that we consider as the most important problems to be fixed in research management in the country. These are as follows:

1) The load policy: lack of available time to make research.

2) The hierarchical structure of the institutions, that emits complicated configuration of plans and requirements, in form of bureaucracy, and that choke the initiative of researchers.

3) The absence of real research culture that inhibits the production and spread of research.

Some recommendations are given for these problems:

1) The load policy: lack of available time to make research. This is a very sensitive and remarkable factor, that emerged in the first stapes of every interview, and also in another informal conversation conducted with lecturers and another

managers in these universities (with whom we tried also to afford an interview but it was no possible).

2) The hierarchical structure of the institutions, that emits complicated configuration of plans and requirements, in form of bureaucracy, and that choke the initiative of researchers.

3) The last finding derived from the interviews is precisely the absence of a real research culture in the HEI of the country. We can consider this culture from different points of views: as a set of principles, rules and procedures that usually accompany the research process, but also the subjective approaches that the entire scientific community accepts as the atmosphere in which research is naturally conceived, promoted and lived. This implies different motivation in the researchers' work, but at the end of the day both conceptions imply the humus in which research appears and grows up as in its natural environment. We will discuss some other recommendations in the next chapter.

For the first problem, it is possible to summarize the problem as creating an environment for dynamic development at the same time as set in a system of increasing regulation. Also there are some important considerations to realize, as for instance, the recent move from an elitist to a mass market view in education (this is a western tendency that later or earlier we will see also in Kazakhstan, although the recent creation of some elitist universities could suggest another path).

The second problem can be solved considering the role of the research manager to protect the integrity of the research process, and the reputation of its university with the human dynamics of motivation. This implies to consider the scope of research management in understanding the legal and ethical dimensions. In mediating conflicts that could arise in the management of research, the research manager can take different roles, such as: participant or advisor in forming, implementing, and controlling the most relevant institutional policies and guidelines; analyst to develop ways of avoiding situations in which could be conflict of interest, and also to be a mediator for maintaining policies and safeguarding rights and privileges.

The best way to avoid the third problem supposes consider the productivity of research as depending in the correct functioning and adherence to governance processes, and not just having a structure of governance. Although all the universities have a structure of governance, it is the robustness of governance practice, at the HEI and faculty levels, that at the end of the day will lead to optimal research productivity by the institution.

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