

The reality of the performance of the Algerian university and its future prospects according to the modern functions of universities

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Summary: This study aimed to address the reality of the third function of the university as a platform for science and culture, in order to explore the roles associated with the traditional roles of universities and their impact on the development and renaissance of societies, whether related to continuing education or community participation as well as the transfer of technology, innovation and creativity, where the study began by revealing the features of the third function and its dimensions and its impact on the new roles of the university, then the study stood on the reality of the third function at the University of Algeria and revealed some of its forms and images, the study also highlighted the most important challenges and justifiable motives for modernizing Algerian universities for its functions, the study has come to clarify the great importance The University plays through its traditional and modern roles, and the need to activate and strengthen it for the Algerian university, as one of the actors in achieving development in various fields.

Keywords: The Algerians universities, the third function.

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I-Introduction:

Higher education has become of great importance due to the role it plays at the level of countries, organizations and international bodies in various fields of life. It is one of the strategic sectors in the policies of countries as the base of Renaissance and development in all societies. The indicators of the growth of these societies were not limited to the material aspect but extended to include knowledge and cultural aspects, where human capital has become one of the main determinants of development, which attracted attention through various investment policies in the aspects of training and training. It has become self-evident and without the adoption of various scientific studies to prove the relationship of the scientific development of countries with their annual economic growth rates. The economic return of any country is actually the result of the quality of work originally related to the level of learning, training and upbringing of members of society, as well as competitiveness and influence as economic, cultural and social terms directly related to the role played by the university as the main source of knowledge and culture and its applications, forcing it to assume its responsibilities and work to adapt to the requirements of the modern environment.

Environmental changes in all aspects of life have affected the growing role of universities as they are responsible for addressing community issues and problems, as well as for the formation and building of community members to allow them to face all economic, social and cultural challenges, hence the need to expand the scope of their influence and contribution and not focus on education and research to achieve community service and contribute to its development in all areas.

Despite all the above-mentioned facts, the University of Algeria still suffers in terms of its qualitative contribution to the development of society, and it is still seen as schools of higher education and indoctrination, and its contribution to raising awareness among members of society and providing them with science and knowledge is still below the level that leads to identify the

problems facing the individual and society and their causes and contribute to solving them, and building an individual capable of facing the multidimensional challenges of the environment.

In this context, this study attempts to answer three main questions, the first question was related to the challenges that forced the Algerian university to modernize its activities and pay attention to the third job, the second question examines the policies and forms of the third job at the Algerian university, and the last question is related to ways to strengthen the third job at the Algerian university.

The aim of this study was to open a window to the reader on the new roles of universities, by achieving a set of goals represented by:

- Addressing the historical development of the new function of the University and its dimensions;

- Clarifying the justifications for the transition at the Algerian university to playing a role within traditional activities;

- Demonstrate ways to strengthen the modern function within the framework of a strategy.

To address the subject, the study included the following axes

The first axis: the modern functions of the University.

The second axis: the reality of modern jobs in Algerian universities.

II- the third functions of the University.

II- 1- the historical development of the concept of the new function of the University: notable stages

The concept of Continuing Education has been of great interest to researchers and authorities alike, the German Education Council has defined it as the third pillar of universities and their responsibility given the importance of lifelong education for the individual, This prompted the university to develop policies and strategies for lifelong education in all its universities and the establishment of centers and networks for continuing education, which changed the University's position and the transition from just a phased contributor to the teaching of the individual to a permanent contributor to the education of the individual (Lorenzo Compagnucci, 2020).

In addition to another approach, some features of the third function stand out to us, where many researchers stressed the need for research openness to markets, society and actors as a university is an integral part of knowledge creation (Gibbons, 1994), meaning that the quality of research is closely related to the needs of customers and stakeholders, and this is what the researchers called the second task "Mode 2", and they stressed the importance of Science in building and developing society, this new model imposes a move away from the hierarchy of research-oriented and more towards applied research, so we find the tasks of teaching and research in continuous development in terms of thought and practice through the structure of teaching is stipulated by a meeting Bologna. Many new concepts of the role of universities in the field of National Innovation Systems have also emerged and developed, which includes the concept of the triple helix, which describes the relationship between the university, industry and government. In addition to defining the task of transferring knowledge to society as a third task complementary to the two traditional tasks of teaching and research (Dan Liu, 2018).

He also introduced the term "community participation" as a third function of the University, complementing the education and research missions, and used the term communities specifically to emphasize that the relationship concerns not only the business sector, but also includes all civil, artistic, sports, religious and professional communities, local councils, families and charities... (John Howard, 2006) ,The change in the tasks of teaching and research and their further expansion

was accompanied by the emergence of the so-called entrepreneurial university, which plays a vital role, given its flexibility and adaptability to cope with social developments (Paulina Spânu, 2024).

The following is a brief presentation of the most important stations that contributed to the development of the modern concept of the third function of universities.

II- 1-1- Russell Group

This group was established in 1994 with the participation of twenty-four universities in the United Kingdom, whose work is based on scientific research, and in 2000 it established a working group dedicated to the development of the concept of the third job in universities. Where the third function is defined as: Creating, using, applying and benefiting from university knowledge and skills outside the university environ

ment, providing services to the community in addition to its traditional tasks such as teaching and research is among its main roles by moving from interaction to knowledge transfer .the purpose of this is to enhance the performance of the university by exploiting and using its potential more, the modern mission of universities is the basis for motivation to continue the establishment of universities and create knowledge exchange outside educational frameworks, which is what the committee sought at the Bologna meeting by adjusting some initiatives, by focusing on the need to provide job positions and create a knowledge market in which knowledge and educational exchange is ongoing. The Russell report stressed the need to establish links with these markets and publish research results outside the academic sector, as the ultimate goal is to exchange knowledge with various sectors in terms of education and research, and it was pointed out the need to be familiar with the activities that occur outside the academic sector (A. Carrión, 2016), as shown in the figure below.

Source: Molas-Gallart, J., Salter, A., Patel, P., Scott, A., & Duran, X.. *Measuring third stream activities*. Final report to the Russel Group of universities. Brighton: SPRU, University of Sussex, (2002)

Figure No. (01) shows the evolution of the role of the University and its transformation from traditional functions to modern activities related to the exploitation of university skills, abilities, knowledge and potentials, consulting activities outside the academic sector, technology transfer and localization, in addition to linking the university environment with society and solving outstanding issues.

The UK has paid attention to the entrepreneurial role of the University compared to other countries that were suffering from a significant lack of understanding and dealing with this role; the European Union has adopted the Bologna Process initiative, which came to activate this role throughout Europe, relying on various programs such as the development of university education by facilitating student and professor exchange activities, research programs, and strengthening the relationship with industrial enterprises and society with its various components (Molas-Gallart, 2002).

II- 1-2- the Prime Network program

A team of experts in Europe has established the so-called Prime network with the aim of paying attention to research and innovation policies and the development of the European region.

"this network includes many universities from different European countries, including a large group of researchers and doctoral students, who represent the European universities Observatory in defining a new concept for the modern function of universities, with a model for evaluating and determining the activities of this function (Network, 2006). eight dimensions have been prepared associated with indicators to measure them. This project is based on several activities that can be divided into two axes, an economic axis(activities 1 to 5) and a social axis(activities 6, 7 and 8). He has precisely defined the activities and indicators that show the eight dimensions of the new function of the university, as shown in Table No. (01).

II.1.3 European Commission's third job initiative E3M

The "European indicators and classification methodology for measuring the third function of universities"(E3M) initiative aims to establish a mechanism that defines the modern function of university institutions in European countries and lay the foundations for indicators that measure the activities of universities and compare their performance from various aspects (Soeiro, 2012).it also seeks to put forward a new and modern approach to objectively evaluate the performance of universities. a comprehensive vision of the dimensions of this function was presented so that it identifies the actors and beneficiaries in each dimension, as well as clarifies the inputs, outputs and activities of each dimension, in addition to determining the nature of resources. the initial project at that time included a large number of indicators (Adrian Curaj and others, 2015).

In order to build an acceptable and broad perception of the concept of the new function of the University, the "Delphi" method was used to sift the opinions of 30 specialists in Europe.it produced three main dimensions of the new function of universities, namely, continuing education, this dimension includes 18 indicators for measurement, the second dimension is represented in the transfer of technology and innovation and includes 20 indicators, in addition to a third dimension is community participation and can be measured using 16 indicators, and each dimension identifies and clarifies the relevant activities and processes and indicators used for measurement (e3mproject, 2009).

A. The first dimension: continuing education

The educational process is no longer limited only to adult education and literacy, but also includes the development of knowledge and skills for all segments of society. In addition, it offers a variety of programs that focus on permanent learning, where the university is a center for the dissemination of Science and knowledge for all ages and for all professionals with different levels of experience, and among the most important forms of this type of education we find university education for life, the individual is constantly required to contribute to the development of his society, which requires the permanent development of knowledge and abilities, regardless of age and gender, as well as seeking to provide all conditions to help what is so good about the scientific and technological side After they enter working life and transfer their experiences and expertise to the University, Distance Education comes as one of the mechanisms to help ensure the continuity of the educational process for life, whether it is funded by employers or within the framework of the activity of various associations or funded by the state, which significantly helps in linking the transformations occurring at the level of the business environment at the University (Marko Marhl, 2011) .

It was agreed among the founders of this project that this dimension should include 18 indicators to follow up and evaluate a set of activities represented by (Marko Marhl, 2011):

1-ensures the mission and strategy of the University for the dimension of continuing education (04 indicators).

2-analysis of the demand for education and curriculum design (06 indicators).

3-registration and admission applications (03 indications).

4-teaching and learning (one indicator).

5-Quality Assessment (03 indicators).

6-evaluation and final follow-up (one indicator).

b. The second dimension: technology transfer and innovation promotion

The concept of technology is based on the technical and economic side. from a technical point of view, the concept of technology is based on the scientific application of various scientific discoveries and inventions that are achieved through scientific research. from an economic point of view, the concept of technology is the development of the production process and the methods used in it in order to reduce production costs or develop its methods. Technology transfer is the development of practical applications for the benefit of scientific research, and the dimension of technology transfer and innovation is intended to bring new things through the occurrence of cases of discoveries and inventions in the university environment, and then commercialize them in society based on the idea of knowledge trafficking. This is done through partnerships with the private sector to revive the field of research and invention (Elisabeth, 2023).

Among the most important policies in the field of technology transfer and innovation promotion, we find the establishment of technology incubator institutions to help institutions in the field of innovation, and from international technology projects we find: technopoles, research parks, centers of excellence, high-technology industry clusters, technology corridors.

University institutions play a major role in the technology transfer process in partnership with various companies through the adoption of technology licensing processes, and the establishment of various incubators for the aforementioned technology .many small companies around the world have been established for the purpose of marketing technologies developed and invented at the University; where the United States of America appears as one of the most successful examples in this field.

The basic mechanisms used by universities to transfer technology into products are to conclude licensing agreements for their intellectual property, enter into research collaborations with manufacturers of products, and universities assist technology companies at the beginning of their creation. These activities lead to financial rewards for the University in addition to other non-financial benefits. It is obvious that universities wishing to expand the adventurous commercial side of technology transfer should pay attention to issues, including (Ortega, 2017):

- education and training of faculty members, full-time researchers and graduate students on Business Adventures, the role of the innovator, and how to deal with the business community and Commerce.
- Develop a curriculum that embraces innovative and adventurous activities in the field of business.

It was agreed between the founders of the European research project for the third position that this dimension should include 20 indicators for monitoring and evaluating a set of activities represented by:

1-ensure the mission and strategy of the University for the dimension of technology transfer and innovation (03 indicators).

2-granting patents for universities to companies to enable the latter to use the results of university research (it includes two indicators such as the number of licenses and revenues resulting from patents ...).

3-formation and training of members of emerging and other institutions resulting from those emerging(it includes one indicator such as the number of new institutions and their branches).

4-participation in the cultural and social creativity of the members of the university family(includes one indicator).

5-addressing the problems of cooperation in the field of research and development, such as joint research with the non-academic sector and supervising the students ' education in the field of research and supporting them.(This activity includes 04 indicators such as the number of research support agreements and the number of graduate students funded by the University...).

6-Common and interactive spaces between the University and other sectors.(This component includes one indicator, such as the number of jointly funded laboratories).

7-mobility and education, as this activity aims at the exchange of knowledge between the university sector and other sectors and the movement of professors to provide consultations to other sectors and the formation of sector staff and other exchange activities. (This axis includes 08 indicators such as the number of institutions participating in continuing professional training at the University, the number of professors holding temporary positions outside the University, the number of co-authored research with non-academics, and the number of prestigious awards granted by institutions and the public to the University...).

c. The third dimension: community engagement community engagement

The university must participate in building programs related to educational communication, with the participation of many full-time employees and students to provide the services the community needs, a share of the University's budget must be allocated to support community participation activities, and the university must encourage research that has a direct impact on society (Tshimangadzo Selina Mudau, 2023).

Linking scientific research to the needs of the production and services sector in society is at the core of community participation, and this can only be done by facilitating the integration of faculty members to work in companies for a specific period, to better identify the real needs and priorities of the industry, transfer and treat them as research and studies instead of focusing on the abstract theoretical aspect leading to the isolation of university institutions from their communities.

In addition to the above, students are trained to practice social activities as one of the community participation measures, such as fighting illiteracy, drugs, spreading health awareness, and others, as well as organizing forums and study days inside and outside the university.some French universities have programmed cultural educational programs bearing the name of Citizen Cafe under the supervision of a group of university professors from various disciplines, seeking to build community awareness and open the door for everyone to participate in various discussions (Pierre-Luc Gagnon).

The founders of the project agreed to develop 16 indicators to follow up and evaluate a set of activities within the dimension of community participation, namely::

1. 04 indicators related to the mission, strategy and work plan of the University ().

2. one indicator that measures the commitment of the members of the university family to provide guidance and expertise, represented by the percentage of academics involved in voluntary advisory councils.

3. 04 indicators that measure the level of the University's provision of various services in the fields of education, health, employment, culture, participation in the media, cultural and social events that address community issues, as well as holding scientific meetings inside and outside the University. These indicators represent the number of individuals who participate and use the University's facilities, and the number of scientific initiatives directly related to the community.

4. 07 indicators that measure the level of spreading awareness and openness to society and work to enable various groups in society to obtain the necessary training, as well as the involvement of civil society in various governing bodies of the University and other activities aimed at community service and education.

II.2. The impact of adopting the new function of the University on the global ranking criteria:

Not so long ago, the size and number of indicators of the third job were included in the international ranking criteria are very small, similar to the Times Higher Education rating; it depends in assessing the performance of universities on the criterion of return from industry "innovation" (it takes only 2.5%) and this criterion represents the University's ability to contribute to industry and innovations; the criterion also indicates the willingness of companies to pay for research and the University's ability to attract funding in the commercial market, and the QS higher education rating is based on the indicator of the diversity of nationalities of faculty members and the diversity of nationalities of students (it takes only 10%), as this indicator indicates the University's ability to attract students and teachers from Different nationalities, which creates an academic environment rich in scientific and life experiences, which will enhance the positive behavior of graduates. While the educational and research aspects take large proportions in the evaluation process, therefore, most of the global classifications and rankings kidnap universities from their environments and direct them to serve other things such as the knowledge industry, research creativity and contribute to scientific progress, the mechanisms of which are not available to many societies. However, the new trends indicate the inclusion of some indicators of the third function in the classification criteria. recently, new standards have been introduced in the International Classification of universities in terms of quality, environment, research, innovations and academic performance of the teaching staff in line with the nature of the third function of the University. Scientific and research performance alone is no longer an indicator of university performance, but it has been crowded out by other indicators such as the ability to innovate and bring new things through patents that can be used to attract huge financial resources, weave partnership relations with economic institutions, in addition to social performance standards through non-academic activities for the benefit of society by allocating part of the University's budget for community participation activities, and launching research initiatives that serve the community. Many serious studies and research have called for the need to include indicators of the third position in the ranking of universities. The Multirank "multidimensional" ranking has appeared on the international scene, which is considered the first global ranking that allows users- especially students- to easily compare the performance of universities. universities can be classified

according to the performance of research, teaching, learning, knowledge transfer, international orientation and regional participation.

Researchers and thinkers interested in higher education and university institutions have emphasized a number of important points related to the development of the new function of universities, including the following:

1. talking about the new role of the university is closely related to the traditional functions of the University.
2. the dimensions of the new function of the university, its measurement indicators and areas of activity must be accurately determined.
3. the new function of the University includes many and diverse dimensions and activities that not all universities may be able to adhere to, but it is enough to adopt a portfolio of activities for some dimensions of the function included in the vision and mission of the University.
4. proceeding from the fact that the majority of indicators of various dimensions are non-quantitative, as a result of the weakness of Information Systems in universities, makes the evaluation process difficult and requires the collection of a lot of information related to the activities of the University.
5. the new function of universities is not born today, but was carried out within individual initiatives that are not organized and not related to the mission and vision of the University, and usually not met with encouragement and motivation, which negatively affects its sustainability.

III. The reality of the third job in Algerian universities.

III.1. Challenges of the Algerian university.

The University of Algeria is going through a difficult stage of global transformations today, the effects and repercussions of which have interacted, and which carried a number of challenges, and since the denominator does not allow much simplification and elaboration about the reality of the Algerian university, we will remove the talk about the problems related to the two traditional functions of teaching and research to focus:

1-the traditional role of Algerian universities is to prepare qualified individuals to work in jobs or professions in the government sector, a role that does not focus on preparing individuals capable of establishing their own businesses and creating job opportunities, and considering the lack of institutions capable of providing job opportunities for all, has increased the problem of unemployment suffered by many groups, which necessitates the university to review its responsibility towards establishing entrepreneurial thinking among graduates and building qualifications that allow them to enter the field of self-employment and enter the world of creativity and innovation and exploit the knowledge gained.

2-the change that has occurred in terms of jobs in terms of type and specificity in various activities has obliged all parties related to the university to review the knowledge and training programs approved to keep up with these changes, in a way that ensures keeping up with the needs of the renewed labor market.

3-the role of the university is no longer limited to specialized education, but rather to building values and principles and consolidating them within a general strategy of the state aimed at building a homogeneous society according to the same values and principles that establish a

culture that serves the individual and society in both the short and long term, and there is no better example than the role played by students during the editorial revolution in various fields.

4-there is still a disconnect between economic institutions and university institutions, where there is a lack of homogeneity between market requirements and academic research, as a result of the lack of communication and integration, whether due to a lack of trust between the two parties or due to the failure of economic institutions to disclose their problems, which prevents researchers and professors from contributing to understanding and solving these problems, and benefiting from these experiences locally, and this will only be through the conclusion of contracts linking scientific research at the University with the requirements of economic institutions.

5-the experience that the elderly possess can be used in the development of their communities, through the idea of learning for everyone for life and providing the necessary facilities to learn and develop skills and knowledge to integrate them effectively into their society.

The above-mentioned challenges require all actors in the university sector to strive to overcome the difficulties that prevent the University from playing the role assigned to it, and to move from focusing on traditional functions to a broad modern perception of what the University of Algeria can do within the modern functions of universities.

III.2. Forms of the third job in Algerian universities

As part of the Algerian university's efforts to adapt to the requirements of the environment, the actors have established some practices and procedures related to the modern functions of universities, including:

III.2.1. Practices that fall within the first axis of the modern functions of universities: continuing education.

- The launch of the National Distance Education Program in 2005, which aims to link the Algerian university with the dynamism of the international higher education system, in which some Algerian universities have started. Despite the fact that this process is based on a network of platforms for video lectures and e-learning, distributed to the majority of training institutions. Easy access to this network is possible through the national search network, but its practical applications are not at the very required level.

- The University of Algeria has long adopted the importance of training the elderly through the establishment of the University of continuous training, which has effectively contributed to improving their level, and in order for this institution to stay within the lines drawn for it, this type of education must be reactivated and keep pace with the requirements of the economic and social environment we live, and not make it a center for printing diplomas without taking into account the improvement of the level of individuals.

III.2.2. Initiatives included in the second dimension of the third function of universities: technology transfer and innovation.

- The Ministry of Higher Education has established entrepreneurship houses at the university level with the aim of integrating graduates into the labor market. Constantine University was the first to host a Entrepreneurship house, to be circulated to all universities in the country by 2014. the entrepreneurship scale has also been integrated into the master's Training offers in several disciplines, in order to develop the entrepreneurial spirit among students.

- The Algerian state has made considerable efforts to improve the status of Algerian university professors in order to attract Algerian scientists, intellectuals and researchers living outside the country within the framework of the reforms of the higher education system in 2011, which included amending the Basic Law for professors and increasing the salaries of university professors, but these reforms were not accompanied by reforms in the aspect of the moral work environment that envelops the University scene, Until 2015, the number of scientists who left Algeria exceeded a quarter of a million(268 thousand scientists) in various scientific disciplines, among doctors, professors and researchers in various scientific fields. What confirms and supports the feeling that there is no suitable environment for researchers and professors at Algerian universities is that there are very few patents left at the University, according to a report issued in 2021 on patents in Algerian higher education institutions, it amounted to only 770 inventions in technical fields such as mechanics, electronics and agriculture ..., Between a resident and non-resident Algerian researcher as shown in Table No. (02).

Looking at the patent statistics in the world, we note the lack of patents in Algeria compared to the rest of the countries, which necessitates searching for the real reasons behind this situation as shown in Table No. (03).

The previous table shows China's dominance in the field of patents with more than one million three hundred thousand patents, which justifies the economic situation experienced by developed countries, and even some middle-income countries where patent levels have reached decent figures, such as Malaysia and Thailand.

Algeria has identified great potential to support scientific research through various bodies that have been established, as well as various incentives provided to researchers, but the results achieved show that there are many shortcomings suffered by the university class, whether professors or students, and the following table shows the number of patents in Algerian universities.

III.2.3. initiatives included in the third dimension of the third function of universities: community participation:

- Organizing some conferences related to social and health problems of society (divorce, drug addiction, internet risks for children, proper healthy nutrition ...), However, they remain random practices that do not stem from a clear and explicit vision and mission of the University. As is clear and well-known, there is a weakness in believing in strategic work at the level of Algerian universities, as we note the absence of a clear vision and mission for any university, as the educational policy in Algeria so far is not based on the strategic dimension and studying the needs of society, it is just running things and not developing situations.

- The modest participation of faculty members in the visual and audio media to address some issues of society, this is due to the fact that most professors are busy either indoctrinating students and doing their scientific research for the purposes of promotion and then improving the deteriorating standard of living, so they strive to publish these researches that do not address society issues mostly within specialized scientific journals, so the benefit of these researches is limited to a few specialists, and therefore knowledge becomes the exclusive of certain groups. The complete absence of the participation of universities in the formulation of national policies drawn up by governments, guiding and shaping the future and addressing major global, regional and local

problems and issues.

The Algerian university with its professors and elites lives in high towers that create a huge gap between it and its society, leaving the field and the opportunity for those who are below the level to decide and legislate for the fate of the country. The witness is the absence of the University professor presence and influence in the Parliamentary, State and municipal councils.

- The programs taught at the Algerian university do not include the meanings associated with tolerance, morality, noble values, good citizenship and intellectual, cultural, political and social participation in building society. What the Algerian state went through in the Black decade calls on the university to improve the University behavior of students and make them citizens with critical analytical thinking and able to find solutions to the problems facing their communities.

In this regard, we would like to say that the third job always exists at the Algerian university, but in a modest way that is not commensurate and does not meet the current challenges faced by the Algerian state. The activities of the third job at Algerian universities are carried out randomly and through individual initiatives of some professors and in an unsystematic manner.

IV. Conclusion

The third function is considered an extension of the traditional functions of universities, as the university is a center for education and research on the one hand, and on the other hand it is a center for the revival of social and cultural mobility that contributes to improving various aspects of life, and based on the knowledge of the role of universities from different and the This study focuses on the need for the Algerian university to contribute to the transition of Algerian society, individuals and groups to a better scientific, cultural and social level, through the various roles that it should play.

The study also stressed the need to cancel the existing break between the University and its social, economic and cultural environment, so that harmony occurs between the different parties and university institutions can contribute to understanding the dynamics of society and the resulting problems and then contribute to solving them.

Despite the great potential provided by Algeria in terms of infrastructure, facilities and bodies aimed at facilitating the work of researchers, students and professors, the observed results proved that the working environment and the requirements of scientific research are not at the required level, and the valuation of patents and various innovation efforts would push the research wheel more than The Walking of bodies without a soul, may hinder the work of the researcher more than providing him with the necessary, the invitation of researchers from professors and students to contribute to the design of policies to be followed to create the right atmosphere for research, creativity and innovation away from nepotism and bureaucracy inherent in the Algerian administration.

- Appendices:

Figure No. (01): conceptual framework for analysing third activities

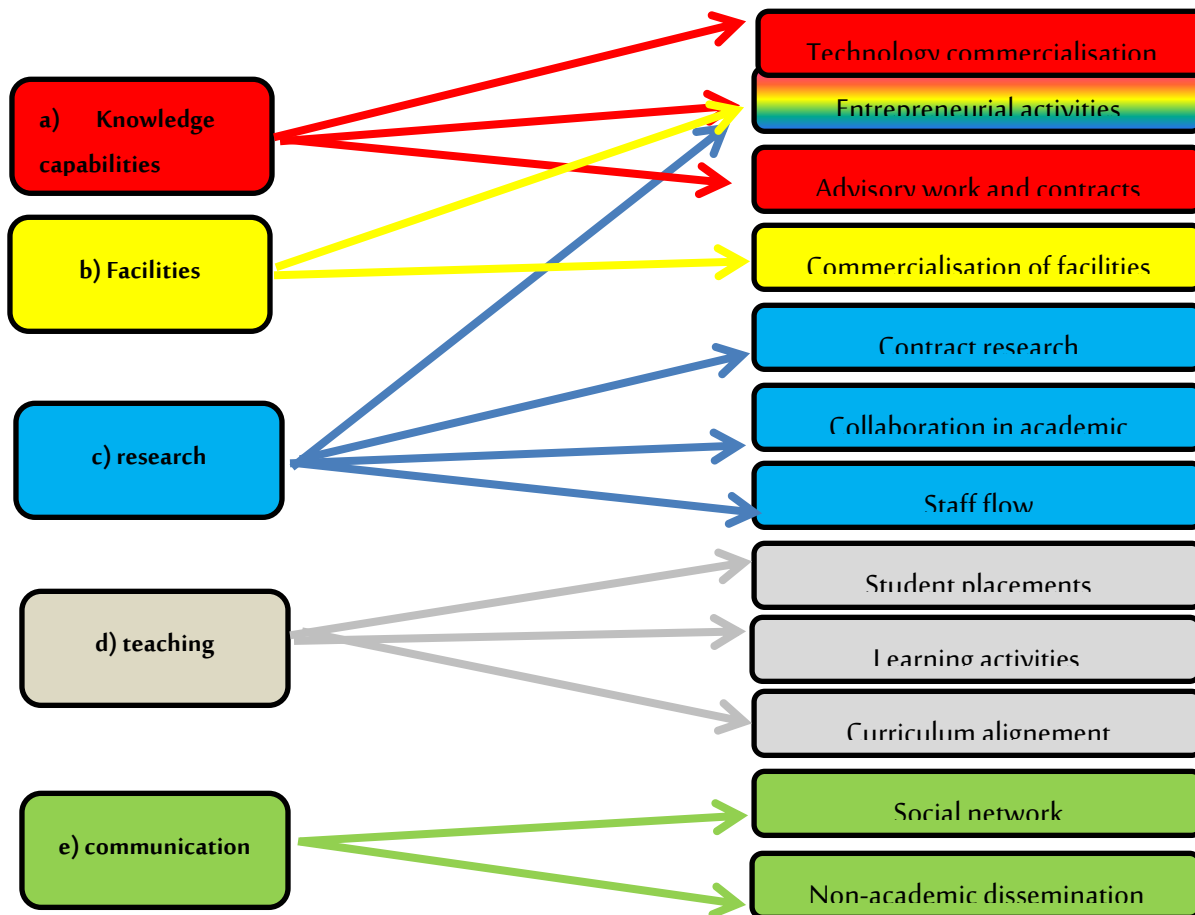


Table 1. The “Radar” of Third Mission Elements Proposed by the PRIME -- OEU Project

Issues	Focus, main indicators and descriptors
1- Human resources	Focus: Transfer of embodied knowledge in PhD students and graduates. Comment: This axis screens the transfer of “competences trained through research” to industry and “mission oriented” public services. Indicators: The number and share of PhD diploma going to industry and public services (distinguishing between R&D and non R&D positions)
2- Intellectual property	Focus: Codified knowledge produced by the university and its management (patents, copyright). Indicators concern not only patents owned by the university, but university “inventors” (whatever the grantee is). Patent numbers should be complemented by licences granted and fees received
3- Spin offs	Focus: Knowledge transfer through entrepreneurship. Indicators: Simple counts are not enough, a typology of relationship between spin-off firms and labs has to be considered

	<p>(staff that left, staff still involved, research contracts, licences granted...).</p> <p>Descriptors are needed to characterise university involvement and support: dedicated teams, incubator, funds provided (in whatever form, including shareholding)</p>
4- Contracts with industry	<p>Focus: Knowledge co-production and circulation to industry. This is taken as the main marker of the attractiveness of universities for existing economic actors.</p> <p>Indicators: Number of contracts, amount as a share of total resources, type of partners (global, large firms, SME) are the key aspects.</p> <p>Level of concentration (sectoral and/or on a few partners), types of contract (research, consultancy, services) and duration are important complementary aspects.</p> <p>Delineating in large labs the degree of concentration (thematic or on given teams) is also often of strategic interest.</p> <p>Comment: This is often complemented by a “soft” dimension where account is taken of membership to professional associations (and role played in given professional networks), professional publications, activities in continuous training, consultancy activities (often not paid to the lab) and internships (master students accepted in “stages”)</p>
5- Contracts with public bodies	<p>Focus: The “public service” dimension of research activities.</p> <p>Indicators: Similar aspects as for contract with industry apply, especially differentiating between co-research and services.</p> <p>Comment: It is important to complement contracts by non-market relations which are often critical when labs focus on social and cultural dimensions (this has often important implications for identity building but also for economic activities such as tourism).</p> <p>This is also very present in health research (with clinical trials for new therapeutic protocols)</p>
6- Participation into policy making	<p>Focus: Involvement in the shaping and/or implementation of policies (at different levels). This is often captured under the wording of “expertise”, including policy studies, participation in the formulation of long-term programmes or to ‘formalised’ debates on S&T&I policy, involvement into standard setting committees, into committees and work on safety rules.</p> <p>Descriptors: The usual mode is to consider a description in the annual report in order to build an indicator of presence and ‘relative importance’ (number of different activities and entities, number of persons involved)</p>
7- Involvement into social and cultural life	<p>Focus: Involvement of the university in “societal” (mostly “city”) life.</p> <p>Comments: A number of universities have lasting “facilities” that participate to the social and cultural life of the city (museums, orchestra, sport facilities, facilities like libraries open to schools or citizens...). Some involve themselves opening “social services” (like law shops).</p> <p>Besides these “structural” investments, a number of labs involve themselves in given social and cultural events (expos, concerts,</p>

	urban development projects...). Descriptors: There is little accumulated knowledge on how to account for such activities. Two approaches are being experimented: accounting for relative importance in all university investments and/or activities, positioning these within their own environment (as can be done for museums)
8- Public understanding of science	Focus: Interaction with society. Comment: The choice has been to focus here only on “dissemination” and interaction with the “general public”. All growing aspects upon involvement into public debates are considered to be part of dimension 6 (participation to policy making). Descriptors: Follow sets of activities deployed (open days, involvement in scientific fairs and the like, involvement into general press and science journals for the public, involvement in the different media, construction of “dissemination” and “interactive” websites, involvement into activities directed towards children and secondary schools...). Differentiate between individual initiatives and proactive policies of labs and of the university (as a whole or through its departments)

Source: Marko Marhl, Attila Pausits, **Third Mission Indicators for New Ranking Methodologies**, Evaluation in Higher Education revue, June 2011, pp 48-49.

Table (02):The development of the number of patents for Algerian researchers residing outside the country.

Years	Number of Algerian inventors		Number of patents for inventions	
	Residents	Non-Residents	Residents	Non-Residents
2018	152	521	27	135
2019	113	525	31	109
2021	268	581	99	671

Source : Ministère de l’enseignements superieur et de la recherche scientifique, *Recueil des Brevets d’Invention*, Alger –2019-2023.

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Table (03): Accepted patents (for residents and non-residents) for Algeria and for some selected

countries (2019)

Countries	Algeria	Bulgaria	Morocco	Belarus	Turkey	Thailand	Malaysia	Japan	China
Number of patents for inventions	140	195	357	461	1941	6121	4106	452145	1327847

Source: M World Intellectual Property Organization World Intellectual Property Indicators 2020, p p 32-34, available at site web:

https://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2020.pdf

Table 4: Algerian higher education and research establishments patent applications

rank	Universities	Number
1	Msila	93
2	Eloued	56
3	biskra	34
4	Batna	10
5	Sid bel abbas	8
6	Bordj bouarreridj	6
7	telemcen	6
8	bouira	6
9	chelef	5
10	Constantine 1	5
11	Usthb	3
12	kanchela	3
13	Constantine 3	2
14	Ensa	2
15	Oum el bouaghi	2
16	Medea	2
17	laghouat	

Source : Ministère de l'enseignements supérieur et de la recherche scientifique, *Recueil des Brevets d'Invention*, Alger –avril 2014.

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