

The Functional Transformation of the Algerian University: Toward a Systemic Model Responsive to Local and Global Challenges

Wafa SEBIHI

Doctor, University of Mohamed Cherif Messaadia, Souk Ahras, (Algeria).
sebihwafa990@gmail.com

Received: 22/01/2025

Published: 25/04/2025

Abstract:

The Algerian university is currently confronting a series of accelerating challenges that necessitate a move beyond its traditional roles, engaging instead in more comprehensive and dynamic functional trajectories. The transmission of knowledge and the pursuit of scientific research are no longer sufficient ends in themselves. The university is increasingly called upon to serve as a strategic actor, contributing to innovation, economic development, and the shaping of societal decision-making processes. This study stems from a central research problem: understanding the functional transformation of the Algerian university requires the adoption of a systemic approach, one that connects the university's internal structure to its local and international environments. It is no longer feasible to analyze the role of the university in isolation from the surrounding political, economic, and social contexts, nor from the dynamics of global scientific competition. The study aims to construct an integrated systemic model capable of addressing both national and global challenges, thereby enhancing the Algerian university's ability to adapt and innovate within a knowledge environment characterized by constant change. Through this approach, the university's position is re-envisioned — not merely as a reactive institution, but as a strategic entity capable of leading societal transformations.

Keywords: Algerian University, Functional Transformation, Systemic Model, Innovation, Global Competitiveness.

Introduction:

The university stands as one of the most significant social institutions, undertaking strategic functions that extend beyond education and the transmission of knowledge to encompass more complex roles tied to scientific research, innovation, and societal decision-making. In the context of current global transformations — characterized by the accelerating pace of globalization, the rise of the knowledge economy, and the spread of digitalization — the Algerian university finds itself compelled to revisit its traditional structures and functions in order to keep pace with these rapid changes.

However, this transformation does not occur in isolation. It is shaped by the complex interactions between the university's internal factors and the political, economic, and social contexts surrounding it. This reality necessitates the adoption of a systemic approach capable of encompassing the network of relationships that underlie the new university dynamics.

From this standpoint, the present study seeks to analyze the functional transformation underway within the Algerian university through a systemic model that considers both the requirements of national development and the demands of global academic competition. It attempts to address the central research question: how can the functions of the Algerian university be reshaped in light of local and global challenges? The study builds its argument upon a comparative analysis of several leading international university experiences.

This systemic approach holds particular significance in light of the pressing need for more flexible and innovative university strategies — strategies capable of interacting with the structural shifts in the global knowledge landscape and contributing effectively to comprehensive development projects. Accordingly, the study adopts a systemic analytical methodology aimed at offering a rigorous scientific vision for redefining the position of the Algerian university as a key actor in building the knowledge society and strengthening its competitive capabilities.

Methodological Procedures:

This study was based on a central research question: how can the Algerian university reshape its functions within a systemic model that responds to local and global challenges while enhancing its capacity for adaptation and innovation in an era of major transformations? The study sought to achieve a set of objectives, most notably:

Analyzing the functional transformation of the Algerian university in light of local and international variables, and constructing an integrated systemic model that reflects the requirements of the national context while drawing inspiration from best global practices, offering a scientific vision capable of establishing systemic connections between the university's components and its socio-economic and international environment. Methodologically, the study adopted the systemic approach as a comprehensive analytical framework, viewing the university as an open system that interacts dynamically with both its internal and external environments. This perspective allows for a deeper understanding of the functional changes occurring within Algerian universities. The systemic approach enabled an integrated analysis of the academic, economic, and social dimensions influencing university transformation.

The study also employed a mixed-methods approach (quantitative and qualitative) to ensure a complementary process of data collection and analysis. In the quantitative phase, a structured questionnaire was administered to a sample of (laboratory heads) to measure their attitudes and to analyze variables related to functional transformation. In the qualitative phase, guided interviews were conducted with (university administrators) to explore their perceptions regarding the obstacles and opportunities for transformation.

For quantitative data analysis, the statistical software (SPSS) was utilized, relying on both descriptive and inferential statistics through the calculation of (means) and (standard deviations). As for the qualitative data, it was analyzed through thematic analysis of the interviews.

1. The Concept and Nature of the New Role of the Algerian University (The Third Mission)

Today, universities have re-evaluated their role in society and their relationships with its various components. Generally, this relationship between the university and society represents what is known as the "third mission" of universities. Although the third mission is acknowledged as a main function, its naming remains vague, and its meaning is often limited in most universities to organizing courses and giving lectures. However, its concept is much broader and can even encompass the first two missions. Therefore, higher education experts have worked to shape its true meaning. The European University conducted scientific research in this field, leading to the Dublin Conference (February 2012), which discussed the research project's findings and concluded by identifying three aspects of the third mission: lifelong learning, technology transfer and innovation, and community engagement.¹

Many higher education experts have indicated that the third mission refers to the relationship between the university and society, alongside the first mission (teaching) and the second mission (research). Vorey and Nelles stated that the third mission is usually seen as a set of distinct functions different from research and teaching in the field of higher education.² Tuunainen considered the third mission to involve a wide range of activities, including the use of generations' knowledge and capabilities outside the academic environment.³ It also involves the process of empowering individuals, groups, and institutions within the community to fully benefit from the services offered by the university through various methods adapted to the beneficiaries' actual needs.⁴

Thus, the university's service to society is reflected in the cultural, health, social, economic, and sports services it provides. This service is associated with the application of knowledge and the employment of the university's technical and scientific expertise, capacities, and capabilities in interaction with its community, aiming to meet educational, training, and consultative needs. It represents the idea of a mother organization that nurtures other societal organizations and acts as an open system that both influences and is influenced by society.

The concept of the third mission began to take shape in the second half of the 19th century in the United States when the state realized the need to establish public universities in each state to develop agriculture through scientific research, the establishment of experimental stations, and the training of agricultural advisors. To this end, it provided universities with state lands, thus creating the land-grant universities.⁵

¹ Khaled Asmaa, Zahia Shabouni, *Functions of Algerian Universities: An Inquiry into the Reality of Action and Its Obstacles*, *Algerian Journal of Research and Studies*, Vol. 02, Issue 06, April 2019, p. 175.

² Ministry of Higher Education, Ministry Planning and Information Agency, General Administration of Planning: *The Third Function of Universities*, 2014.

³ Same reference, same page.

⁴ Al-Kubaisi Abdullah, Qamber Mahmoud, *The Role of Higher Education Institutions in the Economic Development of Society*, Doha, Dar Al-Thaqafa, 2001, p. 200.

⁵ Al-Kubaisi Abdullah, *Same previous reference*, p. 210.

Accordingly, the third mission is an essential component of any university's role, whether fully realized or as an integral part of the first mission (teaching) and the second mission (research).

To establish a proper vision that allows universities to achieve their main objectives, their role is traditionally linked, as stated in higher education literature, to three principal missions: teaching, scientific research, and the third mission. Unlike the first two missions, which have clear definitions and measurement indicators, the third mission remains somewhat ambiguous in both concept and indicators, with some of its practices falling under teaching or research.

One of the main reasons for the growing focus on the third mission is the significant challenges and global changes in the scientific, economic, social, and cultural fields. Universities, as key educational institutions, are both influenced by and influential upon their surrounding social environment. They are the offspring of society and a means of preparing leadership at various professional, political, technical, and intellectual levels.

Moreover, the importance of the university's service to society lies in its role in applying knowledge across various fields and transforming it into tangible realities that contribute to human advancement. All the progress witnessed today in different areas is a result of the application of human knowledge gained through research and experimentation in university laboratories. Administrative, educational, and economic applications across societies are living proof of the application of knowledge.⁶

Many specialists agree that universities play a crucial role in serving society, contributing to socialization processes, transferring culture, shaping students' consciousness, and transferring knowledge and technology to a wide range of beneficiaries to support economic development. They also offer direct services to individuals through training programs or career-oriented initiatives that meet the workforce's changing demands. This approach links universities with real-life societal movements and highlights the social value of knowledge. Furthermore, universities can serve society by aligning scientific research with the needs of the production and service sectors, thus embodying the university/institution relationship.

The third mission focuses on identifying societal needs and developing programs and activities to meet those needs through higher education institutions such as universities, colleges, and institutes. This mission concept is reflected in educational activities targeting individuals outside the university's walls by disseminating knowledge, aiming to trigger behavioral and developmental changes in the university's surrounding socio-economic environment.

Specialists believe that universities pursue three main objectives:⁷

- Cognitive Objectives: revolving around knowledge and its dissemination.

⁶ Samia Kouachi, *Op. cit.*, p. 464.

⁷ Ministry of Higher Education, Ministry Planning and Information Agency, General Administration of Planning, *Op. cit.*, p. 16.

- Economic Objectives: centered on developing society's economy, investing in human capital, and addressing economic challenges through necessary skills and values.
- Social Objectives: aimed at social stability and development, through:
 - Training students in social activities like combating illiteracy, addiction, and promoting health awareness.
 - Interpreting and disseminating research findings to benefit society.
 - Developing a conscious mindset regarding general and local social issues.
 - Preparing graduates with skills matching societal and professional changes.

Some argue that one of the fundamental premises of the university-society relationship is that the university is an integral part of society. The university's genuine mission and justification for existence lie in serving the society it belongs to. If a university becomes isolated from its community, transferring knowledge without a deep connection to societal issues, its legitimacy is undermined.

Today, global societies adopt new concepts that align with current scientific advancements, such as informatics, total quality, knowledge society, and post-knowledge society. These concepts, originating in advanced universities, have led to the development of modern educational systems. Miller's study identified six future scenarios for higher education: the traditional universities scenario, private commercial universities scenario, free market universities scenario, distance and open education scenario, global educational network scenario, and the diversified excellence education scenario — all features of the university in a knowledge society.⁸

According to H. SAVALL, Professor of Management Sciences at the University of Lyon and Director of the L'I.S.E.O.R laboratory, the university of tomorrow is an environment for knowledge innovation based on cooperation systems, envisaging a university beyond walls, with special concern for integration into its socio-economic environment.

Universities are urged to develop their operations, communication, and image by opening up to various activities, not only informally but also to serve society in all dimensions.

To lay the foundations for the university of tomorrow, three perspectives can be considered:⁹

- **First Perspective:** The university monopolizes knowledge, which is deemed unrealistic.
- **Second Perspective:** The university relies on other organizations for knowledge, which is also unsuitable.

⁸ Ziad Barakat Ahmed Awad, *The Reality of the Role of Universities in Knowledge Society Development from the Perspective of a Sample of Faculty Members*, 2009, p. 04.

⁹ Mansour Ben Amara, *Creativity and Innovation as a Means to Achieve Quality in Higher Education*, Research Paper Presented at the International Conference entitled "Creativity and Organizational Change in Modern Organizations," Annaba, 2011, p. 04.

- **Third Perspective:** The university serves as a source of broad-based knowledge alongside its traditional roles of education, research, and knowledge employment for economic service — a model towards which Algerian universities aspire.

Thus, universities in developing countries, including Arab and Algerian universities, must not delay adopting and promoting the third mission. Although many universities worldwide are aware of their role in serving their communities, the Algerian university's practice of this mission remains controversial, facing both support and opposition. Therefore, the researcher aims in this study to examine the exercise of this function through the university/institution relationship.

2. Fields of the University's Third Mission:

After defining the concept of the third mission of universities, understanding its nature, and highlighting its importance, it is necessary to specify the fields of this mission and the mechanisms through which university services are materialized in concrete, procedural ways. The fields of the third mission that the researcher will mention represent a model of areas that have become familiar in many leading universities around the world, where they have been institutionalized and regarded as an actual service provided to their communities.

The university's third mission remains dynamic and ever-evolving, responsive to societal changes. Universities may engage in all the service fields and activities mentioned below, or in others, and to varying degrees depending on their capacities, circumstances, and the needs of their communities. The most important fields of this mission include:

- **Applied Scientific Research:**

Applied research in higher education institutions has its own specific goals, mainly revolving around identifying and solving local community problems in the fields of production, services, and social issues. Applied research is characterized by its scientific and practical aspects, often focusing on providing solutions to particular problems, thus strengthening the relationship between universities and the local community.

- **Continuing Education:**

It is defined as "providing continuous learning opportunities throughout individuals' lives, aiming to foster the development and growth of all members of society so they can adapt to civilizational requirements and interact with development programs".¹⁰

The university contributes to continuing education by helping to identify new knowledge, training individuals in emerging skills, equipping them with the expertise needed by their evolving society, reaching out to individuals, and offering relevant courses. The university also plays a significant role in adult education across all age groups and in implementing lifelong learning.

- **Consultative Services:**

¹⁰ Hind Mohammed Abdullah Al-Ahmad, *Activating the Partnership Between Universities and Productive Institutions in Saudi Arabia from the Perspective of Experts*, Faculty of Social Sciences, Imam Muhammad bin Saud Islamic University, p. 400.

Partnerships in this regard are achieved through full coordination between experts within academic institutions and community organizations. Consultations may vary, whether aimed at solving a specific problem, transferring and adapting technology to the local community, developing and marketing production, or improving economic and administrative performance.¹¹

- Social Criticism:

The university plays an important role in critiquing and reforming societal conditions, using its tools of scientific research, knowledge, and diverse expertise, and participating in the evaluation of political, economic, and social programs within their communities.

- Guidance and Awareness:

Universities are well-qualified to provide these services, given their human resources and material capabilities. They offer programs, seminars, and lectures addressing family counseling, social upbringing, health awareness — including the dangers of drug abuse, smoking, and other critical issues.

- Solving Societal Dilemmas:

This requires researchers to engage in identifying, diagnosing, and proposing solutions to societal problems. Many universities provide services in this area through specialized institutes or centers concerned with urban issues, environmental relations, and other activities. Some even advocate for universities, especially in developed countries, to establish faculties dedicated to social development, making community interests and issues the primary field of study.

Naturally, addressing these areas achieves several advantages for community service programs, including:¹²

- Meeting the development needs of the workforce in both the public and private sectors through specialized training programs aimed at enhancing and developing the skills of new labor forces, offering specialized courses and programs to address specific needs, and promoting professional advancement and ongoing employee development.
- Conducting training and market needs analysis.
- Activating community and institutional engagement.
- Strengthening cooperation and partnerships at individual, institutional, and community levels.
- Serving personal enrichment, professional growth, and addressing the needs and interests of the local community.

¹¹ Ali Nasser Shatwi Al-Zaher Al-Sultan, *Institutional Partnership Between Universities and Community Institutions*, Scientific and Academic Research Studies, Dar Al-Hamed Publishing and Distribution, 1st edition, 2015, p. 32.

¹² J. Bonnie, *Unit Mission and Goals Workforce Services and Continuing Education Division*: <http://translategoogle.com/translate-t?longpair=en/ar>.

- Serving and developing education and training, and activating community partnerships, with universities needing to keep pace with developments and meet community needs.

3. The University/Institution Relationship as a Mechanism for Implementing the New Role of Algerian Universities

Many scholars discuss the issue of the university/institution relationship and the ways in which the Algerian university can play an influential role in transforming its general societal environment, improving its relationship with external partners, and creating positive interaction with them. "Here, we can speak of a new role for the university and the necessity to bring about changes in many aspects of administrative work at the university level."¹³

As previously mentioned, community service is considered a main function of the university. This function is relatively new in university work, and it can be said that community service today is an integral part of the structure and basic system of the modern university. To fulfill this function, the university must structure its relationship with economic and social partners through the university/institution relationship.

This new orientation, adopted by advanced universities in light of technological and scientific changes, expresses "a link for building, maintaining, defining, and innovating to strengthen the capabilities of two partners, determined and designed by their willingness to engage in exchange and cooperation procedures necessary to enhance their capacities."¹⁴ If this relationship is today considered one of the university's main tasks, it must be designed to meet the needs of training, research, scientific and technological progress, and human resource development. Hence, the university/institution relationship is mainly based on:¹⁵

- Identifying and discussing training needs and activities to be carried out.
- Developing programs and opportunities for company participation in educational activities.
- Defining projects and mechanisms to integrate researchers into the business world.
- Selecting models to involve students in the business world.
- Facilitating access to information specific to institutions.
- Creating a space for dialogue, reflection, and exploration between the university and the institution.

These aspects, along with all activities resulting from this relationship, largely contribute to achieving organizational flexibility and a new organization at the university level.

¹³ Loïc Brémaud and Michel Bois Clair, *University Pedagogy and University-Industry Partnership: Issues, Pitfalls, and Perspectives*, International Review of Higher Education Pedagogy, Vol. 28, Issue 1, 2012, p. 1-2.

¹⁴ Abdelhamid DJEKOUN, *The University-Industry Relationship: How to Create a Voluntary and Reciprocal Approach?*, Available at: <https://centre.umc.edu.dz/maison/RelationU.pdf>, accessed on 12/01/2020, p. 06.

¹⁵ Abdelhamid DJEKOUN, Ipid, p. 04.

Faced with the multiplicity of these activities, it has become necessary to establish new bodies tasked with taking responsibility for this new dynamic, which is vital for both the university and the institution.

Moreover, for this cooperation to be established fairly and sustainably in a win-win spirit, both parties must commit to the missions and constraints of the other.

Returning to the systemic approach, we find it based on several concepts in its comprehensive view of phenomena and events to understand, solve, and unravel their complexities. Among these concepts are "interactions" and "relationships," considered almost synonymous to the point of interchangeability in definitions. Generally, the interaction of the university with its socio-economic environment is the reciprocal relationship between two systems and vice versa. Edgar Morin shares the same idea, defining the system as "an organized global unit of interactions between elements, actions, or individuals."¹⁶

This does not mean that the system is merely a reciprocal relationship between a group of parts forming a whole; rather, the correct concept of a system includes a set of conditions, most notably the focus on the economic environment, which in its operational level for the university refers to one of the social partners whose inputs and outputs intersect within a socio-economic partnership framework between the two parties.

The view of the university from the systemic approach is that it is a behavioral system existing within an environment with which it interacts, giving and taking, through inputs and outputs. This system represents a social entity living in a physical, biological, social, and psychological environment and is an open system to the environment, which produces events and effects requiring responses from system members.

"This relationship is that of an integrated system with interrelated parts having positive or negative effects on each other, highlighting the need for scientific and research sensitivity to society's needs and aspirations—something universities must recognize and consider as a strategic goal. Conversely, the university hopes from private sector institutions a strong partnership based on genuine evaluation of its outputs and material and moral support for academic development programs, standing by the university to fulfill its mission with high quality."¹⁷

Among the justifications for activating the university/institution relationship are the following:¹⁸

- Geographical Justifications: Each society has its surrounding geographical environment, which requires the university to consider it to avoid isolated areas and assist in establishing infrastructure.

¹⁶ Edgard Morin, *Introduction to Complex Thinking*, Paris, Seuil Publishing, p. 3.

¹⁷ Ali Nasser Shatwi Al-Zaher Al-Sultan, *Op. cit.*, p. 15.

¹⁸ Hassan Amira Mohammed, *Towards Strengthening the Relationship Between Universities and Society*, Sixth Educational Conference: Higher Education and Development Requirements, A Future Perspective, University of Bahrain, College of Education, Vol. 1.

- Economic Justifications: The university's presence in society mainly contributes to providing university education and qualifying individuals.
- Political Justifications: The university helps in establishing political stability and reduces conflicts and disturbances by fostering cooperation, organizing conferences, and promoting a culture of peace while combating harmful societal traditions.
- Social and Cultural Justifications: The university leads social change and development, facing social and cultural changes by communicating with societal institutions. It also provides educational opportunities to all societal and institutional groups and contributes significantly to civil literacy programs and strengthening cultural identity.

4. The Impact of the University/Institution Relationship on the Third Mission of the Algerian University

The officer in charge of external relations at Constantine1 University emphasized that the university/institution relationship is one of the university's goals and areas of interest, evidenced by the existence of an office organizing this relationship, namely, the University/Institution Relations Office. This was also revealed through the university's website during the exploratory study phase.

Since the university/institution relationship is a sub-system within the overall system (university), its role is defined by embodying the aspirations of the third mission. This was confirmed by the interviewee, who highlighted its positive impact on activating the university's third mission.

Based on the university's experience in this area, the officer outlined different aspects of this relationship established with universities and other institutions, either through bilateral cooperation or through European programs (Tempus) and finally the PAPS-ESRS program. This cycle, rich in results and stemming from exchanges and cooperation, enabled the university to implement many methods and procedures with different social and economic sectors. Lessons learned from this dynamic clearly showed that the university/institution relationship is a new mission for the university that must be organized on a permanent and continuous basis.

He indicated that the main factors for activating and achieving this relationship include:

- Organizing training courses targeting the needs of institutions or the socio-economic activity sector (as a means to bring the university closer to partnership with other sectors).
- Taking into account professionalism, which represents the basis for serving institutions, by integrating this aspect into university training and reflecting it positively by developing and strengthening the university's capabilities in planning training and practical courses.¹⁹

¹⁹ Results of the Interview with the External Relations Officer of Constantine 1 University.

The officer in charge of external relations at Setif1 University confirmed that practicing the university's social mission should not be random but organized through a dedicated office linking the university with societal institutions, giving this relationship an official framework. This confirms that the university/institution relationship is one of the university's goals. He pointed out that through this system, the university established several types of relationships, including local partnerships such as with national universities in specific fields like:

- Doctoral Schools
- Faculty Exchange
- Supervision of Postgraduate Studies
- Thesis Defense Committees

He also mentioned another type of local partnership, which is with economic and social sector institutions, by signing several agreements with entities like (Algeria Telecom, Benhamadi Group, Chamber of Industry, BCR...)

Regarding international partnerships, he identified two main fields:

- Training: Through international cooperation, Setif1 University trained 267 master's students abroad (in Arab and African countries). As for doctoral studies partnerships, they resulted in the defense of 26 PhD dissertations.
- Scientific Research: The university, through its research laboratories, signed many agreements with foreign universities, including: (CLERMONT FERRANT, RENNES, BORDEAUX, ALEXANDRIA, ALEPPO, STRASBOURG, LYON).²⁰

Currently, Setif1 University has over 200 research projects (CNERRU), including 6 research projects recognized by the National Agency for the Promotion of Scientific Research Results, among them 3 Algerian-French projects, 2 Algerian-Tunisian projects, and 1 Algerian-Spanish project.²¹

Regarding the importance of the university/institution relationship for the university's third mission, researchers (Jaber and Mahdi) emphasized the need for a plan to implement community service programs, ensuring appropriate conditions for their implementation, allocating a scientific unit to manage and stimulate relations with societal institutions, organizing scientific, cultural, and educational seminars, publishing cultural magazines, keeping up with scientific developments, and meeting societal needs.²²

5. Goals of Algerian Universities in Expanding Their Relationship with Their Socio-Economic Environment:

²⁰ Results of the Interview with the External Relations Officer of Setif 1 University.

²¹ Results of the Interview with the External Relations Officer of Setif 1 University.

²² Khaled Ben Matar Al-Souheili, *The Role of Colleges of Education in Saudi Universities in Serving the Local Community (Proposed Vision)*, *Journal of the College of Education*, Al-Azhar University, Issue 189, Part Two, 2017, p. 08.

The strengthening of the relationship between the university and the community institutions brings mutual benefits that can contribute to the development of university research and the advancement of institutions in the economic and social sectors. The main reasons motivating universities to enter into research agreements with other institutions are as follows:²³

- Obtaining financial support for research tasks.
- The university performing its service tasks through its openness to the surrounding community.
- Expanding the experiences of students and professors and identifying key issues.
- Promoting economic and regional growth.
- Increasing opportunities for researchers to participate in new market-oriented projects.

The responses of the respondents regarding the goals of the university's opening to its socio-economic environment showed that the highest average at Constantine 1 University was for the third option, contributing to economic and developmental projects, with a value of 0.40. The responses of the respondents at Setif 1 University were close regarding addressing research issues and contributing to economic and developmental projects with averages of 0.55 and 0.50, respectively. Similarly, at Annaba University, the averages for addressing research issues (0.50) and contributing to economic and developmental projects (0.41) were close. This reflects a genuine intent on the part of Algerian universities to fulfill their new role in serving the community in all its aspects (cognitive, economic, and social), in response to global and Arab transformations. "The university has paid attention to this area by undertaking several actions and signing various partnership agreements with economic institutions, associations, and government bodies. It has also worked on increasing its participation in national events and organizing them, thereby providing opportunities for direct interaction with community institutions."²⁴

Thus, the Algerian university has shifted from a closed system (teaching and research functions) to an open system (third function). "Talking about the system means discussing and emphasizing the relationships between its components, and stressing the communication and connection between these components leads, at the same time, to analyzing these relationships through the concept of tasks. Each system is required to ensure a certain level of tasks."²⁵ The concept of relationships is connected to the concept of tasks; regardless of the mutual influence between them, it indicates something beyond that, as the continuation of relationships between the elements of the system is an essential task for the system. The

²³ *Zemouri Kamal, Merdawi Kamal, The System of Scientific Research and Technological Development in Algeria: Current Situation and Development Strategies, Milaf Journal of Research and Studies, Issue 5/June 2017, p. 641.*

²⁴ *Abdel Karim Hisham, Algerian University and the Requirements for Strengthening Partnerships with the Social and Economic Environment, Available at the site: www.inst.at/trans./23/, accessed on 01/02/2020.*

²⁵ *Reuchlin Maurice, Treatise on Applied Psychology: Workers and Technical Systems, Presses Universitaires de France, Paris, 1972, p. 71.*

relationship between the university and its environment is thus defined according to certain tasks and roles, including the third function.

6. Expectations of the Algerian University from the University/Institution Relationship:

The importance of the university/institution relationship stems from being a tool for applying knowledge in various fields and translating it into tangible reality. The progress we witness today in all fields is the result of applying knowledge from scientific research through activating the role of scientific research and recognizing its importance in building nations and societies at the general system level. At the university system level, its interest in building relationships with community institutions can achieve a number of expectations, such as:²⁶

- Providing students with more scientific experience.
- Employing qualified university graduates to engage in various productive activities.
- Employing faculty members as experts and consultants in those institutions.
- Obtaining financial support to fund joint research centers between universities and companies.
- Promoting research results (patents, licensing, cooperation agreements, etc.) through partnerships with companies and developing applications and using feedback.

The opinions of the heads of research labs at the three universities studied were as follows:

The responses from Constantine 1 University, according to the table above, showed that the university's expectations of its relationship with the economic and social partner are to train students through internships, with the highest average answer being 0.48. This was confirmed by the interview results with the external relations officer at the university. In contrast, responses at Setif 1 University and Annaba were closer regarding the second and last options, confirming that the reasons for forming relationships with economic and social partners vary from university to university depending on each university's goals, plans, and aspirations. From a systemic perspective, the expectations of the Algerian university reflect the outputs of the university/institution relationship.

7. Expectations of the Economic and Social Partner from the University/Institution Relationship:

Some of the expectations of the economic and social partner in seeking research cooperation agreements with universities are as follows:²⁷

- Gaining research expertise and capabilities not available in the production factories of the institutions.

²⁶ Hind Mohammed Abdullah Al-Ahmad, Op. cit., p. 444.

²⁷ Dahan Mohammed, *The Economic Importance of Education and the Requirements for Strengthening the Partnership Between Algerian Universities and the Economic Environment*, Paper Presented at the International Symposium on "The University and Opening to the External Environment: Expectations and Challenges," 29-30 April 2018, University of Guelma.

- Assisting in updating and expanding the technology of production institutions.
- Expanding competitive research with other universities.

The reasons these institutions seek such relationships with universities include:²⁸

- Strengthening relationships between universities and economic institutions.
- Enhancing employability.
- Encouraging innovation and entrepreneurship.
- Setting goals with credibility in collaboration with partners.
- Institutionalizing relationships between universities and economic institutions.
- Preparing for changes in the labor market and research fields.
- Establishing relational networks.
- Collaborating with all researchers and scientific clubs.
- Offering facilitation for students at the end of their internship courses in economic institutions.
- Participating in national and international competitions.
- Defining professional profiles and specialties in the labor market.
- Collaborating with leading committees: the province, district, municipality, Chamber of Commerce (CCI), executive directorates, ANEM, ANGEM, ANSEJ, CNAC, DAS.

Salter and Martin identified six impacts of academic research on institutions:²⁹

- Increasing the knowledge base
- The birth of new companies from scientific research
- Training and developing new skills
- Improving innovation status
- Solving technical problems
- Enhancing competitiveness

Since the relationship between the institution as an open system and its surrounding environment is intertwined, marked by mutual influence, exchange, and benefit, it is derived from and contributes to the environment in which it lives.³⁰

Thus, the university's relationship with its environment is reciprocal, benefiting partners in terms of expertise and research, while the university creates job opportunities for graduates and benefits from funding from partners, which necessitates making strategic decisions to organize this relationship away from superficial or random decisions.

²⁸ Available at the following site: <https://www.univ-mosta.dz/>, accessed on 20/05/2020.

²⁹ Jean Louis Monino, Soraya Sadekaoui, *University-Industry Relationship: A Key Factor for Developing Employability*, p. 11.

³⁰ Farouk Abdu Filah, Mohamed Abdel Majid, *Organizational Behavior in Educational Institutions Management*, Dar Al-Maysira for Publishing, Distribution, and Printing, Amman, Jordan, 2005, p. 92.

8. Challenges in Valuing Research Results in Algerian University Research Labs:

Valuing research results is understood as "the process of converting basic knowledge into profitable products or services, achieved through partnerships between state-funded research and institutions."³¹

The importance of valuing research lies in linking the research world to the socio-economic world, adding value to research results, and providing them to the institution that contributed to funding these researches. The goals of research result valuation include:

- Recognition of the researcher by peers, responding to the university's key mission of valuing research results.
- Ensuring and monitoring intellectual property protection.
- Encouraging research and innovation across various scientific fields.³²
- Supporting economic development and creating innovative companies.
- Developing cooperation between research labs and public and private partners.
- Participating in transforming and developing the socio-economic environment.³³
- Valuing research allows responding to society's aspirations and the university's role in enhancing and recognizing completed research.
- Gaining additional resources.³⁴

Results of the Study:

By highlighting the functional transformations of universities and their response to their new role in serving and developing society in all its aspects, through their transition from a closed system to an open system and forming partnerships with institutions, the researcher concluded that Algerian universities, like other Arab universities, are still struggling with a range of difficulties and obstacles that have hindered their ability to build a knowledge society in Algeria. On the level of the overall system (the local context of Algerian universities), the researcher identified several crises facing this system, including:

- The relationship between the university and the institution aims to realize the Algerian university's expectations by performing one of its functions, the third function.

³¹ Ben Bouzid Hjira, *Strategies for Valuing Scientific Research in the Digital Space*, Algerian Journal of Legal, Political, and Economic Sciences, Vol. 57, Special Issue, 2020, p. 41.

³² Hassan II University, 2015, *Valorization of Scientific Research*, [Consulted in April 2019]. Available at: http://www.univh2m.ac.ma/index.php?option=com_content&view=article&id=240&Itemid=18.

³³ University of Liège, Commission for the Valorization of Research Results, *Valorization of University Research*, [Consulted in April 2016]. Available at: http://www.ulg.ac.be/cms/c_20535/fr/valorisation-de-la-recherche-universitaire.

³⁴ University of Strasbourg, Valorization Service, *Guide to Best Practices in Valorization*, [Consulted in April 2018]. Available at: https://lactu.unistra.fr/fileadmin/upload/L_Actu/L_Actu_N_20/Universite_en_action/Guide_valorisation_01_2010.pdf.

- The transformation of the university from a closed system (teaching and research) to an open system was a necessary result dictated by global conditions and transformations.
- There are several areas for the university/institution relationship, which can be identified through the concept of the local system, such as partnerships in national universities (doctoral schools, faculty exchanges, supervision, etc.), partnerships with economic and social institutions, as well as international systems like research training.
- There is a genuine desire on the part of the Algerian university to fulfill its new role in serving society, with its goals for opening up to its socio-economic environment focusing on contributing to economic and developmental projects and solving research problems through relationships with community institutions. The concept of relationships in the systemic approach is linked to the concept of tasks, where the continuation of relationships between the university system and the community system is an essential task for the university system.
- The expectations of Algerian universities from their relationships with economic and social institutions vary from university to university, depending on each university's goals, plans, and aspirations. Algerian university expectations reflect the outputs of the university/institution relationship according to the systemic approach.
- Algeria is looking to incorporate all factors that encourage the university/institution relationship through a series of reforms and issuing decrees regarding the university system.
- The Algerian government has not provided any legislation or laws for the economic partner in relation to the university, as evidenced by a study by Ali Abdu Mohamed Dotsch, which showed that the lack of binding laws for institutions to benefit from research results is one of the obstacles to organizing a positive relationship between the university and developmental institutions.
- Algerian universities are working on taking measures to establish plans to activate the university/institution relationship.
- Among the institutions most connected to Algerian universities are public institutions and economic institutions.

Conclusion:

The study results show that some Algerian universities have already begun applying new roles, but structural, economic, and cultural barriers still hinder rapid progress. Nevertheless, the opportunity remains to build universities capable of dynamically interacting with global changes and reshaping their role as centers of innovation and contributing effectively to community development. Today's challenges go beyond improving infrastructure or updating academic programs; they concern a fundamental transformation in the role the university plays in society. If Algerian universities can strengthen international cooperation, activate the digitization of education, and establish real links with local market needs, they will be able to

overcome these challenges and achieve a qualitative leap, positioning them at the forefront of higher education institutions.

References:

1. Jean Louis Monino, Soraya Sadekaoui, *Relation-Université : facteur clé pour développer l'employabilité (University-Industry Relationship: A Key Factor for Developing Employability)*, p. 11.
2. Reuchlin Maurice, *Traité de psychologie appliquée aux travailleurs et systèmes techniques (Treatise on Applied Psychology for Workers and Technical Systems)*, Presses Universitaires de France, Paris, 1972, p. 71.
3. Al-Kubaisi, Abdullah, and Qambr, Mahmoud, *Dour Mou'assassat al-Taleem al-Aali fi al-Tanmiya al-Iqtisadiya lil-Mujtama' (The Role of Higher Education Institutions in the Economic Development of Society)*, Doha, Dar al-Thaqafa, 2001, p. 200.
4. Ben Bouzid, Hajara, *Strategiyatt Tathmeen al-Baith al-'Ilmi fi al-Fada' al-Raqmi (Strategies for Promoting Scientific Research in the Digital Space)*, Al-Jazairia Journal of Legal, Political, and Economic Sciences, Vol. 57, Special Issue, 2020, p. 41.
5. Hassan Amira Mohamed, *نحو تawtheeq al-'Alaqa bayn al-Jami'a wal-Mujtama' (Towards Documenting the Relationship Between the University and Society)*, Sixth Educational Conference: Higher Education and Developmental Requirements, A Future Outlook, University of Bahrain, College of Education, Vol. 1.
6. Khaled bin Matar al-Suhaili, *Dour Kulliyat al-Tarbiyya bil-Jama'at al-Su'udiyya fi Khidmat al-Mujtama' al-Mahali (Tasawwur Maqtarah) (The Role of Colleges of Education in Saudi Universities in Serving the Local Community: A Proposed Vision)*, Journal of the College of Education, Al-Azhar University, Issue 189, Part II, 2017, p. 08.
7. Samiya Koushi, *Marej' Sabeq (Previous Reference)*, p. 464.
8. Abdel Karim Hisham, *Al-Jami'a al-Jazairia wa Mutalabat Ta'zeez al-Sharika ma'a al-Muheet al-Ijtima'i wa al-Iqtisadi (The Algerian University and the Requirements to Strengthen Partnership with the Social and Economic Environment)*, Available on the site.
9. Ali Nasser Shatwi al-Zahir al-Salatine, *Al-Sharika al-Mu'assasiyya bayn al-Jama'at wa Mu'assassat al-Mujtama' (Institutional Partnership Between Universities and Community Institutions)*, Scientific Research and Studies, Dar al-Hamed for Publishing and Distribution, 1st Edition, 2015, p. 32.
10. Farouk Abdu Faliha, Mohamed Abdel Majid, *Al-Suluk al-Tanzimi fi Idarat al-Mu'assasat al-Taleemiya (Organizational Behavior in Educational Institutions Management)*, Dar al-Maysira for Publishing and Distribution, Amman, Jordan, 2005, p. 92.
11. Available at the following site: <https://www.univ-mosta.dz>, accessed on 20/05/2020.

12. Mansour bin Ammara, *Al-Ibdā‘ wa al-Ibtī‘ār ka Wasīla li Tahqīq al-Jawda fī al-Taleem al-‘Aali (Creativity and Innovation as a Means to Achieve Quality in Higher Education)*, Research Paper presented at the International Conference titled *Creativity and Organizational Change in Modern Organizations*, Annaba, 2011, p. 04.
13. Interview Results with the External Relations Officer at Sétif 1 University.
14. Abdelhamid DJEKOUN, *La Relation Université Entreprise : Comment créer un rapprochement volontaire et réciproque? (The University-Industry Relationship: How to Create a Voluntary and Reciprocal Approach?)*, Available on the site.
15. Edgard Morin, *Introduction à la pensée complexe (Introduction to Complex Thinking)*, Paris, Ed. du Seuil, p. 3.
16. J. Bonnie, *Unit Mission and Goals Workforce Services and Continuing Education Division*.
17. Loïc Brémaud et Michel Bois Clair, *Pédagogie universitaire et partenariat université-entreprise : enjeux, écueils perspectives (University Pedagogy and University-Industry Partnership: Challenges, Pitfalls, and Perspectives)*, International Review of University Pedagogy, University of Liège, Research Valorization Commission, [Consulted in April 2016]. Available at http://www.ulg.ac.be/cms/c_20535/fr/valorisation-de-la-recherche-universitaire.
18. University of Strasbourg, Service de Valorisation, *Guide des bonnes pratiques de valorisation (Guide to Best Practices in Valorization)*, [Consulted in April 2018]. Available at https://lactu.unistra.fr/fileadmin/upload/L_Actu/L_Actu_N_20/Universite_en_action/Guide_valorisation_01_2010.pdf.
19. University Hassan II, 2015, *Valorisation de la recherche scientifique (Valorization of Scientific Research)*, [Consulted in April 2019]. Available at http://www.univh2m.ac.ma/index.php?option=com_content&view=article&id=240&Itemid=18.
20. Dehan Mohamed, *Al-Ahammiyah al-Iqtisadiyyah li al-Taleem wa Mutalabat Ta‘zeez al-Sharika bayn al-Jami‘a al-Jazairia wa al-Muheet al-Iqtisadi (The Economic Importance of Education and the Requirements to Strengthen the Partnership Between the Algerian University and the Economic Environment)*, Paper presented at the International Symposium on the University and External Engagement, Expectations and Challenges, 29-30 April 2018, University of Guelma.
21. Zemouri Kamal, Merdawi Kamal, *Mundhamat al-Bahth al-‘Ilmi wa al-Tatawwur al-Tiknuluji fī al-Jazair: Al-Wad‘ al-Raheen wa Istrātījiyyāt al-Tatweer (The Scientific Research and Technological Development System in Algeria: Current Status and Development Strategies)*, Milaf Journal of Research and Studies, Issue 5, June 2017, p. 641.
22. Ali Nasser Shatwi al-Zahir al-Salatine, *Marej‘ Sabeq (Previous Reference)*, p. 15.

23. Interview Results with the External Relations Officer at Sétif 1 University.
24. Interview Results with the External Relations Officer at Constantine 1 University.
25. Same reference, same page.
26. Hind Mohamed Abdullah Al-Ahmed, *Taf'īl al-Sharika bayn al-Jama'a wa al-Mu'assassat al-Intājiyya fī al-Mamlaka al-'Arabiyya al-Su'ūdiyya min Wajhat Nazr al-Khubarā'* (Activating the Partnership Between the University and Productive Institutions in Saudi Arabia from the Experts' Point of View), College of Social Sciences, Imam Muhammad bin Saud Islamic University, p. 400.
27. Hind Mohamed Abdullah Al-Ahmed, *Same Reference*, p. 444.
28. Ministry of Higher Education, Agency for Planning and Information, General Directorate of Planning: *The Third Function of Universities (The Third Function of Universities)*, 2014.
29. Ministry of Higher Education, Agency for Planning and Information, General Directorate of Planning, Same Reference, p. 16.
30. Ziad Barakat Ahmed Awad, *Waqi' Dour al-Jama'at fī Tanmiyat Mujtama' al-Ma'rifa min Wajhat Nazr 'Aymat min A'da' Hay'at al-Tadrīs fiha (The Role of Universities in Developing Knowledge Society from the Perspective of a Sample of Faculty Members)*, 2009, p. 04.
31. Available at the following site: <http://translategoogle.com/translate-t?longpair=en/ar>.
32. <https://centre.umc.edu.dz/maison/RelationU.pdf>, consulted on 12/01/2020, p. 06.
33. *L'enseignement supérieur (Higher Education)*, 28-1, 2012, Varia, p. 1-2.
34. www.inst.at/trans./23/, accessed on 01/02/2020.
35. Khaled Asma, Shabouni Zahia, *Wazā'if al-Jami'a al-Jazairia: Masā'alah fī Waqi' al-Fi'l wa Mu'aiqatih (Functions of the Algerian University: A Question of Reality and Its Obstacles)*, Algerian Journal of Research and Studies, Vol. 2, Issue 6, April 2019, p. 175.