

The sociological roles of Algerian university in the context of digital transformation – mechanisms and challenges

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Abstract

In the context of the rapid transformations taking place in contemporary society, digital transformation has emerged as one of the most significant factors reshaping of various social institutions. The university is widely regarded as one of the most significant institutions in this regard, given its pivotal role in the production of knowledge, the formation of values and the shaping of social behavior. Digitalization has presented Algerian university with new challenges, but has also opened up significant opportunities to strengthen their sociological role in socialization, establish a culture of digital citizenship and to promote social integration within a changing knowledge-based environment.

From this perspective, it is essential for university to adapt their educational, research and social functions to the demands of the digital age. The adoption of modern digital mechanisms is key to achieving this objective.

These mechanisms can improve interaction among university stakeholders, broaden access to knowledge and promote the values of participation and openness. Furthermore, the integration of digital technologies into the university environment supports its role in responding to social transformations, keeping pace with the demands of the labor market and contributing to sustainable social development.

The objective of this study is to provide insight into the sociological roles of Algerian university in the context of digital transformation. The study will achieve this by highlighting the key mechanisms adopted to fulfil these roles and analyzing the main challenges they face at the organizational, human and cultural levels. The study will also explore prospects for the development of Algerian university in a way that strengthens their position as active institutions in social construction in the digital age.

Keywords: Algerian university, sociological roles, digital transformation, digitization, digital citizenship, social change.

Introduction:

The contemporary world is witnessing profound and rapid transformations affecting various aspects of social, economic and cultural life, the most significant of which is the digital

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transformation. This is no longer a technical option, but a reality that effects on institutions and individuals alike. This transformation has reshaped patterns of communication, methods of learning and ways of producing knowledge, while also directly influencing the systems of values and social relations within modern societies.

The university is considered one of the most significant social institutions affected by these transformations, given its central role in the production of knowledge, the development of individuals and its contribution to guiding social change. University fulfil a variety of functions in addition to their core educational and research missions. They also play pivotal sociological roles relating to socialization, raising awareness and promoting the values of citizenship and belonging. In the context of digitalization, the university has encountered new challenges, as well as significant opportunities to modernize its operations in line with the demands of the digital age.

In this context, the study of the sociological roles of Algerian university in the context of digital transformation is of particular importance, given the questions it raises regarding the university's ability to adapt to digital transformations, the mechanisms adopted to fulfil its social functions, and the challenges it faces in maintaining its role as an active institution in social construction.

The research question can therefore be formulated as follows:

To what extent has digital transformation contributed to strengthening of the sociological roles of Algerian university?

Research objectives:

This study aims to:

1. Highlight the sociological roles undertaken by Algerian university in the context of digital transformation.
2. Clarify how the university's social functions have been affected by the transformations brought about by digitalisation.
3. Identify the key digital mechanisms used to fulfil these sociological roles within the university environment.
4. Analyse the most significant organisational, human and cultural challenges facing Algerian university on the path to digital transformation.
5. Explore prospects for developing the role of Algerian university in a way that strengthens their position as active institutions in social development in the digital age

1-The conceptual framework for digital transformation and the sociological roles of the university

On the supply-side perspective, digital transformation in institutions is linked to the adoption and effective use of modern technologies and their applications, with the aim is to improve performance, increase efficiency and enhance competitiveness. From a demand-side perspective, the objective is to facilitate access to essential services and enable seamless transactions through personal computers, smartphones and connected devices. A wide range of procedures can now be completed digitally, eliminating the need for in-person visits to organisations or contact with customer service centres, except in cases where physical interaction is required to fulfil specific requirements.²

Digital transformation refers to the changes brought about by digital technologies in creating new processes, establishing modern organisational cultures and delivering innovative experiences, in

² Maha Shehadeh, The Impact of Digital Transformation Dimensions on the Digital Maturity of Islamic Banks, a peer-reviewed biannual journal, Volume 02, Issue 01, Jordan, June 2022, p. 66.

line with evolving business and market requirements. This transformation is essential for building a resilient organisation that is capable of growing and thriving in the digital age.³

From a sociological perspective, an organisation is a social system based on a set of shared values and norms that guide individuals' behaviour and regulate their relationships within society. It is not merely an organisational structure, but rather a fundamental part of social life and a source of recurring practices through which various human activities take place. This makes it a pivotal element in shaping the social order and ensuring its continuity.

In this sense, an institution is understood as a social organisation based on the principles of cooperation, participation and solidarity, in which individuals come around common goals and interests. Its importance lies in its ability to achieve a degree of social stability by establishing accepted patterns of behaviour and fostering positive interaction amongst members of society.

It has been noted by several sociologists that institutions regulate social behaviour through a system of values and laws that are characterised by a degree of clarity and relative stability. This approach facilitates the analysis of society through various institutional spheres, including family, economic, political and cultural institutions. Each of these institutions regulates a fundamental aspect of social life.

The concept of an institution is also used to refer to systematic social practices receive social recognition and support because of their vital functions. An institution can be defined as a network of integrated social roles that function cooperatively to achieve specific objectives. This reflects its nature as a system based on the interaction of human and material resources within a framework of shared organisation.³⁴

In light of this conception, the university is regarded as one of the most prominent social institutions, given the functions it performs beyond the boundaries of traditional education. It represents a collaborative system in which multiple roles – including students, lecturers and the administration – interact, with the aim of preparing individuals academically and socially and enabling them to integrate into society.

The university's sociological actors are evident in its contribution to the transmission of knowledge and value, the development of social awareness shaping, and the promotion of critical thinking . It also enables students to understand and analyse social phenomena. The university plays a key role in supporting social cohesion by fostering a culture of dialogue and transparency, as well as contributing to the study of societal issues and proposing scientific solutions to them.

The university can therefore be defined procedurally as a social construct established collaboratively by individuals to organise their efforts and achieve common goals. It is not merely a space for learning, but a sociological actor that contributes to shaping social change and supporting development, making it a pivotal institution for understanding society and its evolution.

2.The State of Digital Transformation in Algerian University

Algerian universities have adopted a digital transformation strategy, which has been identified as a key priority of national education policy. This strategy involves integrating e-learning and the widely adopting modern digital technologies across various university functions. This approach is intended to enhance the quality of university services provided to various stakeholders, including students, faculty members and administrative staff. The strategy aims to improve administrative and pedagogical performance, enhance scientific research productivity and reduce management and operational costs.

³ Moulay Bouadellah and Hafidha Bouadellah, Digital Transformation Challenges, Algerian Journal of Economy and Finance, Volume 9, Number 2, September 2022, p. 72.

⁴Michel Mann, Encyclopaedia of the Social Sciences, translated by Adel Mokhtar Al-Hawari and Sa'ad Abdulaziz Maslouh, Dar Al-Ma'rifah Al-Jami'iyah, Cairo, 1999, p. 334.

The Digitalisation Roadmap is a key mechanism adopted to facilitate digital transformation within Algerian university. This stage is pivotal in the process of institutional modernisation. The Digitalisation Roadmap is a comprehensive strategy that prioritises key objectives, including the digitisation of teacher training, the creation of training programmes using digital media, fostering student success through enhanced pedagogical practices, and expanding the utilisation of digital learning platforms. It also includes the digitisation of scientific research activities and the facilitation of access to electronic scientific resources.

The Digitalisation Roadmap places particular emphasis on developing digital infrastructure through the creation of IT networks, enhancing information security, and protecting these networks from cyber-attacks. It also advocates the use of digitalisation to modernise university administration and optimise governance practices, thereby ensuring transparency and efficiency in resource management. Digitalisation also enhances the visibility of Algerian university and strengthens with their academic environment at both national and international levels by supporting scientific exchange and university cooperation.⁵

It is evident that Algerian universities are making significant progress in their digital transformation, with effective planning and strategic direction being key drivers of this progress. However, the success of this transformation is contingent on the effective implementation of digital policies, the availability of qualified human resources, and the modernisation of technological infrastructure. These factors are essential for achieving the desired objectives in the fields of higher education and scientific research.

3. The sociological roles of Algerian university in the context of digital transformation

Algerian university play a pivotal role in studying society and understanding its transformations, a role that is becoming increasingly important in the context of the digital transformation. This transformation has had a significant impact on lifestyles, communication and work. The role of the university has evolved to encompass not only the transmission of knowledge but also the production of sociological knowledge capable of explaining that technology has brought about in the social structure and anticipating their implications for values, relationships and institutions.

In this context, one of the university's most prominent sociological roles is to analyse the social impacts of digitalisation, such as the transformations that have occurred in cultural identity, patterns of social interaction and the labour market, as well as the challenges associated with the digital divide and the reshaping of inequality within society. Scientific research enables the university to provide objective analyses, assisting decision-makers in comprehending these transformations and effectively managing them⁶.

The university's role is also emphasised through its contribution to scientific knowledge, particularly knowledge rooted in the specificity of Algerian society. Digital transformation does not have the same effects across all societies; rather, its affects are shaped by the cultural and economic context of each society. It is therefore essential that sociological research be grounded in imperical reality and to keep pace with the rapid changes brought about by the digital environment, so that theoretical approaches do not remain detached from real-world issues.

Furthermore, university education helps to develop professionals capable of analysing the digital dimension of social phenomena . This is achieved by fostering critical thinking, promoting a culture of research and utilising technological tools in sociological studies. The combination of social

⁵ Nadia Brahimi, The Reality of Digital Transformation in Algerian University in Light of the Implementation of the Digitalisation Master Plan: An Evaluative Study of the University of Msila, Journal of Development Research and Studies, Volume 11, Issue 1, Mohamed Boudiaf University of M'Sila, June 2024, p. 151.

⁶ Danaqa Ahmed, The Reality of Sociological Practice in Algerian University from the Perspective of Sociology Lecturers, Journal of Studies, Tahri Mohamed Boucharef University, June 2016, p. 325.

knowledge and modern technologies opens up new horizons for understanding society and provides researchers with more precise tools for data collection and analysis.

The university's sociological role extends beyond the realm of knowledge to encompass its contribution to and engagement with the processes of social development by proposing innovative solutions to the challenges posed by the digital transformation. These challenges include digital literacy, information security and shifts in value systems, a stimulating research environment, the promotion of academic publishing, and the fostering of partnerships with various institutions are required to translate research findings into practical policies and practices.⁷

Accordingly, Algerian universities are expected to strengthen their sociological presence in the digital sphere by developing their curricula and research programmes in line with contemporary and consolidating their role as intellectual institutions that contribute to understanding and guiding social transformations. The more effectively the university integrates sociological knowledge with digital transformation, the greater its capacity to serve society and support processes of modernisation and development.

4. Mechanisms for activating the university's sociological roles in the digital environment

The digital environment, with its social media platforms and interactive virtual spaces, has brought about profound transformations in patterns of communication, social relations and prevailing values. It is therefore essential that Algerian universities strengthen their sociological role in line with these transformations. In which, digitalisation is no longer just a technical tool; it has become a new social sphere that reshapes consciousness and behaviour and influences system of values. This development calls for the active involvement of the university as an institution for the production of knowledge and the guidance of social action.

The sociological role of the university in the digital environment is to understand and analyse transformations in patterns of social interaction. Digital media have contributed to a decline in face-to-face communication and the emergence of new forms of non-face-to-face interaction, the resulting manifestations of symbolic isolation and the weakening of traditional social bonds. In this context, the university plays a pivotal role in analysing and interpreting these phenomena and providing critical scholarly approaches that enable students and society to comprehend the social, psychological and cultural impacts of digitalisation.⁸

The university also plays a vital role in keeping pace with the shifts in values associated with the digital sphere, which have often been characterised by greater individualism and consumerism, whilst certain collective values have declined. Its key sociological role is to promote critical digital awareness. The university's strategy for integrating digital citizenship, the ethics of technology use and social responsibility into curricula and pedagogical activities can contribute to achieving this objective. This helps to achieve a balance between the demands of the digital age and the preservation of societal values.

The university also contributes to fulfilling its social role by adopting participatory approaches based on dialogue and communication, both within the university environment and through digital platforms. These approaches help to bridge the digital divide between generations and promote a culture of responsible technology use. Also, the university has the capacity to act as a bridge between academic knowledge and social reality. This can be achieved through digital awareness campaigns,

⁷ Ibid., p. 327.

⁸ Mohamed Belbrik, Digital Challenges Facing the Algerian Family: A Sociological Study of the Impact of Social Media on Family Relationships, Horizons and Ideas Journal, Vol. 13, No. 02, Department of Sociology, Didouche Mourad University for Continuing Education, 2025, p. 87.

training workshops and research initiatives that address the social challenges arising from digital transformation.⁹

Therefore, in order to activate the university's sociological roles in the digital environment, there is a need for a shift from a logic of indoctrination to one based on understanding and social support. Furthermore, there is an increasing need to move from consuming digital knowledge to producing critical and humanistic knowledge. This will enable the university to become a pivotal actor in guiding digital transformation towards serving humanity and society and strengthening social cohesion amidst the rapid changes of the digital age.

5. Challenges and Future Prospects for Digital Transformation in Algerian University

Algerian universities are facing a number of challenges that could hinder the success of the digital transformation process. The most significant issues include a lack of readiness in some universities, which still lack the necessary digital infrastructure, as well as a shortage of human resources capable of managing this transformation effectively. Concerns have also been raised about the potential loss of control over the educational process. There are also cultural and social challenges linked to the extent to which this change is accepted, alongside the fact that university services are increasingly focused on accommodating growing student numbers, which sometimes relegates the issue of digitalisation to a secondary priority. Additionally, there is unequal access to the internet and digital technology. The experience of distance learning during the pandemic demonstrated clear shortcomings, such as some students lacking computers or having poor internet connectivity. It is therefore essential to provide suitable conditions to ensure that students can benefit from digital education. In order to optimise the potential of digital technology within the university environment, it is essential to embed a culture of digitalisation. Furthermore, it is essential to provide comprehensive support to faculty members in order to develop their teaching skills and to master modern digital tools. It is also vital to develop infrastructure in line with these changes and to improve administrative performance to ensure effective management of the various activities of higher education institutions¹⁰.

The digital transformation of higher education institutions in Algeria is a promising strategic direction, requiring the adoption of a comprehensive vision based on the integration of technological innovation, the improvement of educational quality, the promotion of scientific research, and the pursuit of sustainable development objectives. This transformation represents a significant opportunity to develop the university system in response to meet the needs of society and students in the digital age. Achieving this goal will require the modernisation of teaching and learning methods, the broadening of access to knowledge, and the improvement of administrative and pedagogical management.

The digitalisation of higher education and scientific research has transformed the way in which scientific information is accessed. The adoption of digital platforms and the widespread use of information and communication technologies have made information more accessible than through traditional methods. The educational process has become more flexible, with lessons and syllabuses able to be updated more easily. This is especially beneficial for disciplines that require constant adaptation to scientific and knowledge-based developments. Digitalisation has also contributed to improving the quality of higher education and scientific research by facilitating the exchange of scientific resources, supporting self-directed learning, and improving mechanisms for monitoring students and assessing their performance.

⁹ Mohamed Belbrik, Digital Challenges Facing the Algerian Family: A Sociological Study of the Impact of Social Media on Family Relationships, *Horizons and Ideas Journal*, Vol. 13, No. 02, Department of Sociology, Didouche Mourad University for Continuing Education, 2025, p. 88.

¹⁰ Ministry of Higher Education and Scientific Research, 24 October 2022, User Guide to the Digitalisation Roadmap, University of Sétif 2, available at: <https://www.univ-setif2.dz/>. Last retrieved on 13 February 2026.

Furthermore, the opportunities presented by digital transformation can enhance the governance of Algerian universities through the digitisation of administrative and pedagogical functions, the optimisation of resource utilisation, and enhanced transparency and efficiency in decision-making. However, it should be noted that realising these prospects is dependent on overcoming a number of challenges. These include the need to update curricula in line with global digital transformations, as well as to strengthen coordination and integration between different faculties and disciplines. Furthermore, it is imperative to enhance the collaboration between the university and its economic and social environment. This will allow the university to leverage professional expertise and practical experience to support the digitalisation process and ensure its sustainability.¹¹

Conclusion:

The presentation explored the sociological roles of Algerian university in the context of digital transformation. It is widely acknowledged that the university plays a pivotal role as a social institution, being influenced by and, in turn, influencing changes in society. Therefore; this paper emphasised that digital transformation is no longer limited to technical or pedagogical aspects, but has expanded to encompass social, cultural and value-based dimensions. This underscores the need for a rethink the university's functions and roles within society.

The focus was on digital transformation as a new context that has reshaped patterns of learning, communication and knowledge production, presenting Algerian universities with both challenges and opportunities. On the one hand, this transformation has opened up significant opportunities to strengthen the university's role in socialisation, fostering critical awareness and establishing a culture of digital citizenship. On the other hand, it has raised challenges relating to readiness of digital infrastructure, the development of human resources and the establishment of a digital culture within the university environment.

It has also become clear that fulfilling the university's sociological roles in the digital environment requires a holistic approach based on integrating the technological and human dimensions and supporting sociological research linked to issues of digitalisation and social transformation. The success of digital transformation should not be measured only by the extent to which digital technology adoption, but also by the university's ability to utilise these technologies in a way that serves society and preserves its cohesion and values.

It is therefore vital to strengthen the position of Algerian universities as active intellectual and social institutions in the digital age. This will enable them to keep pace with rapid changes and contribute to guiding these changes in an informed manner. This will contribute to the social development and the building of a balanced, knowledge-based society.

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¹¹ Ahmed Breik, Prospects for the Digitalisation of the Higher Education Sector in Algeria: The University of Msila as a Case Study, Journal of Management and Economics, Vol. 08, No. 02, Farhat Abbas University, Sétif, 2024, p. 171.

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