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THE ARABIC LANGUAGE IN THE AGE OF DIGITAL TRANSFORMATION: A SOCIOLOGICAL PERSPECTIVE ON CHALLENGES AND GAPS

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ABSTRACT

This study investigates the sociological dimensions of digital transformation and its impact on the Arabic language, focusing on the challenges and gaps that emerge in a rapidly evolving digital society. As cyberspace — particularly social media platforms — becomes a dominant space for communication, new linguistic forms known as "digital language" have emerged. These forms often diverge from classical Arabic and reflect deeper social shifts, including generational change, identity reconstruction, and evolving norms of expression. The study explores how digital communication reshapes linguistic practices and reflects broader transformations in Arab societies. It emphasizes the importance of preserving the Arabic language through adaptive strategies that integrate technological advancements while maintaining cultural and linguistic authenticity.

Introduction.

Arab thought went through a great period of stagnation and backwardness in the centuries that abandoned the foundations of the Islamic nation, of which language is the most important, so research on language issues stopped, until the modern and contemporary European era came, so those issues were dusted off from oblivion, and linguistic research was restored. linguistic schools and sects were founded "in order to secure the primary tool of thought, which is language, against violent tremors or frightening strokes, which it might be subjected to if it were left without care, examination and maintenance" (zaza, 1990). This is the case of our Arabic language today, as it is exposed to violent tremors and tremors that endanger it in this era, especially with the recent shock that hit it, the shock of technology and its relationship to the new medium, which has become the first cognitive tool Outils Conseptuel. Which prompted paper-based to retreat in the way of digitization. These violent tremors left, according to Hassan Zaza, damages at the level of language structure and its specificity.

From this standpoint, our study seeks to reveal the reality of the Arabic language in light of the technological developments taking place, especially the blue space, by answering the following questions:

1. What is the condition of the Arabic language in light of the violent shocks of technology, which is trying to Westernize and hybridize the Arabic language?
2. What are the obstacles to digital Arabic content?
3. What are the proposed ways to improve the digital use of the Arabic language?

1. Basic Concepts:

1.1. Digitization: The terminology constitutes an obstacle in defining digitization, as its concepts have multiplied, such as the concept of kunny terry, who believes that "digitization is the process of converting information in all its forms, including books, periodicals, recordings, and moving pictures, into a form readable by means of computer technology" (logiciels, 2014). An approach that allows the conversion of data and information from the analog system to the digital system.

Digitization is the process of transforming materials from theoretical formats that individuals can read in a simple traditional way, to a more complex format whose content can be accessed to the availability of modern techniques and technologies such as: scanners, and other devices used to digitize content paper knowledge for digital content (boutarfa & zedira, 2024, p.3).

Others consider it to be the transformation of the traditional methods entrusted to electronic preservation. This transformation requires identification of all existing methods and methods and the selection of what is appropriate to the environment requesting this transformation. Among the mechanisms adopted by digitization are: scanning, converting a page into an image, or scanning with the use of The OCR character recognition system, or entering the document from a new one via the keyboard, or entering texts according to the HTML standard (collections, 2013).

Based on the above, digitization, computerized, is the processing of the Arabic language, in an automatic way, which has advantages and disadvantages. We will delay commenting to the next element.

1.2. Advantages of digitization: As a result of scientific and technological progress, there has become an urgent need to use modern technologies in all fields, including the linguistic field, as it does not matter how much the Arabic language, using digitization, keeps pace with the ranks of civilization and foreign languages, as much as it matters how well they are used, and achieving productivity and interactivity. its users. There is no difference between two that digitization has more positives and benefits than its negatives, and scholars gather them as follows:

- Preserving rare documents with the possibility of presenting them to researchers.
- Show details and the ability to zoom in and improve the document.
- Easy search according to the topic of the document.
- Retrieval speed and ease of use.
- Savings in storage space (logiciels, 2014, p. 511).
- Provide a good work environment in which mutual appreciation and respect prevail between employees, among themselves and between superiors and subordinates (Firdaws & Zedira, 2025, p.17).

Perhaps one of the most prominent benefits of digitization, which the scholars presented, is the issue of heritage. On the identity and value of information, it became easy to acquire, reduce, and even penetrate the various informational formats, and it became possible to break down the security barriers that protect the information, in particular, in its new digital form. But if we compare the digital language with the ordinary spoken or written language, we find that the digital language has special features and specifications that distinguish it from its traditional counterpart. That the most prominent features of the digital language: it is fast; instantaneous, fragile, fleeting, and changing, and that it has amazing energy and is capable of influencing, is fixed, and that it has a wide horizontal and spatial extension, and that its non-vertical status makes it a tool and facilitator for democratic work and civil society institutions, and this means that it is deliberative and professional, as it is fast and Sometimes it is beyond imagination (harb, 2002).

Aladdin Al-Ajmawi summarizes the characteristics of the Arabic language in his following statement: "The Arabic language is a unique mathematical structure that is not available in any other language. Own, (...) is added to That is clear mathematical laws to add antecedents and suffixes to any word in a way that adds to its meaning and does not diminish from it" (Al-Ajmawi, 2001) and incessant.

2. Digital Arabic in cyberspace.

2.1. The concept of digital: the concept takes several definitions:

It is a type of information that is born digitally, like much of the information that is written on a computer, and then published through electronic media, such as an e-book, or through an electronic periodical, or through the Internet… (Farrag , 2005)

- Or it is a type of information that is converted from paper sources (such as paper books, microfilm, flash or other different media...) to digital, regardless of the conversion mechanism, whether by photocopying, scanner or other mechanisms, Miscellaneous (Ankush , p. 148).

This term "digital" raises a problem for students of Arabic language and literature because of its relationship with another term, which is "interactivity", as some people confuse them and consider them synonymous. The term digital literature is synonymous with interactive literature, which is seen as consisting of two main components:

- Structures / nodes: They are textual structures of the first order, but they can also take a visual or phonetic dimension...

- Relationships/Links: Since these structures will be presented in a way that makes each other independent of each other, the novelist must create relationships between them, and these relationships are achieved in digital communication through liens, which enable us to click on them by moving between structures and nodes (Yaqteen , 2012).

We conclude from the foregoing that interactive is an umbrella term that combines verbal and non-verbal, while digital is written passive texts.

2.2. The reality of the digital Arabic language in the blue space.

Arabic content is everything written in Arabic letters on the Internet, everything that is recorded in Arabic voices, and everything that is pictured in a way that indicates its Arabic source. So it is the reality of the Arabic language in modern means of communication. Its existence is not sufficient to deal with the information society, but content applications must be used to generate knowledge.

The interest in digital content is due to:

- The importance of the Arabic language and the need to preserve it.

Double the percentage of the Arabic language on the Internet.

- The existence of an important market for marketing digital Arabic content software and applications

 - The possibility of building in the field of digital Arabic content.

 The Arabic digital content industry provides new job opportunities for young people, such as universities

- The possibility of marketing Arabic content products nationally, regionally and internationally (ESCWA, 2005).

The interest in the Arabic digital content in order to keep pace with the Arabic language for the digital age, and to preserve it from distortion, disappearance, and extinction, and its promotion lies in the unity of the language, because the promotion of the Arabic language depends, currently, on its success in establishing a content industry. In this regard, Nabil Obaid says:

The Internet affects the methods of communication and expression, and the effect may go beyond the structure of the language itself, which is what we see in our reality today on the Internet of a sloppy linguistic structure, mixing of the vernacular with the classical, and the overlapping of the use of letters and numbers. Rather, Arabic has become written in the Latin letter, in addition to the resulting pressures On the tyranny of the English at all levels: the political level, Economic, technological, informational, and Arabic participates in most of the world's languages, but it faces additional challenges, as a result of the striking campaign waged by globalization against Islam, and then against Arabic (Nabil , p. 242).

Perhaps the question arises: Can the Arabic language withstand this campaign, through its following characteristics:

You write from right to left.

- Do not accept the principle of abbreviation, nor the merging and sticking of words

- Its letters have alternating forms according to the location of the letter, and some of them accept adhesion to what comes after it, and some of them do not.

- Its syllables (diacritics) come through movements that are placed on the letters and have many cases (Le Conseil Suprême de la Langue Arabe, janvier 2009).

In addition to other characteristics such as derivation and metaphor, generation mechanisms, and Arabization, to what extent can Arabic, which is one of the natural languages, meet the user's desire to be a scientific language that uses abbreviations, and accepts machine translation.

Table 1. Frequency of Arabic Script Usage on Social Media Platforms

Platform	MSA (%)	Dialect (%)	Arabizi (%)	Mixed with English (%)
Facebook	30	40	15	15
Twitter	45	25	10	20
Instagram	20	35	30	15
WhatsApp	10	40	35	15

Source: (Al-Saleem, 2010, p. 419).

The current reality of Arabic digital content is described as poor content and suffers from information anemia and cognitive wasting. Studies have shown that the Internet lacks suitable Arabic content. Arabic is one of the six official languages used in the United Nations. However, its digital content is still large in size. It ranks almost twentieth among the world's languages. Despite the large number of Arabic speakers around the world. The Arab world suffers from a shortage of Arabic digital content This resulted in a lot of negative effects, such as the low rate of benefiting from the Internet in the development of education and the economy in the Arab world, and most of the Arabic speakers did not benefit from this network optimally. Studies have shown an example: The Economic and Social Commission for Western Asia estimated ESCWA" in 2012, in a report titled "Regional Features of the Information Society in West Asia 2011": The percentage of Arabic digital content on the Internet ranges from: 5.1% to 3.2%

Arabic Digital Content Share on the Internet (ESCWA Report)
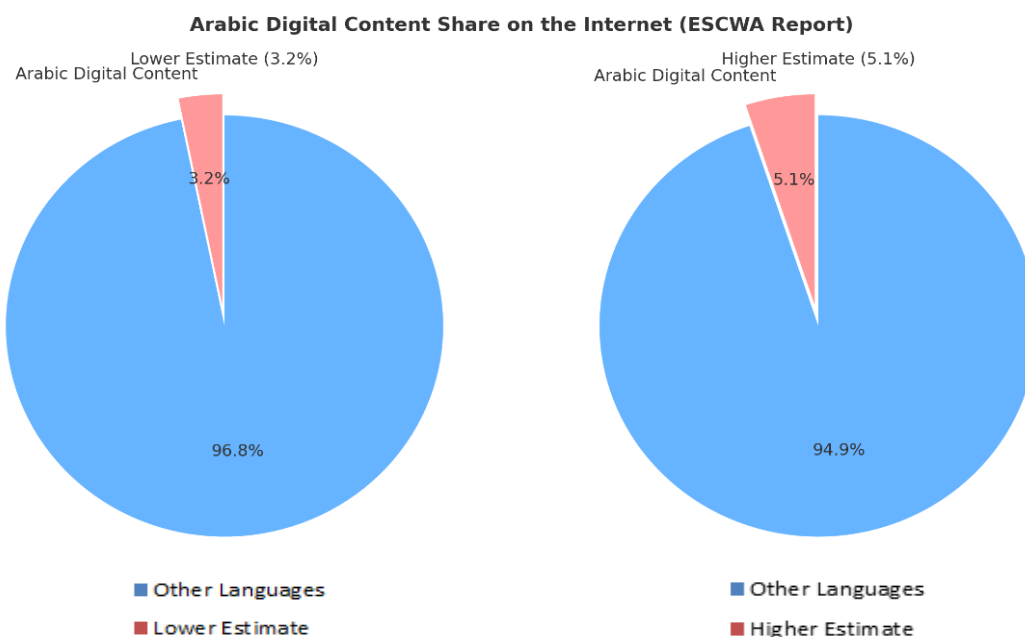
It is remarkable, however, that the use of the Arabic language on the Internet recorded the highest growth rate between the years 2000 and 2011 (logiciels, 2014, p. 04).

Among the problems facing Arabic content, its presence on the Internet remains weak unless the spotlight is shed on reality and its pitfalls, as it is noted that the reality of Arabic content is exposed to multiple obstacles that stand in the way of reaching the knowledge society, and they may be mostly caused by the following reasons:

- Competition of cultures, languages and other information systems.

- The significant increase in the number of applied sciences and technologies, which often do not find a place for them on the Arab knowledge map.

The growth of terminology associated with these sciences and technologies, which often do not find equivalents in the Arabic language

- Issues related to the Arabic language: such as synonymy, homogeneity, Arabization, dialects, and the difference between the language of speech and the language of writing, classical and colloquial.

- Issues of computing and digitizing the Arabic language: machine processing of nature language and its applications, machine translation, scanning, search engines...etc (Dulaimi & Azza Farouk, 2011).

Also, many scholars attribute the reason for the lack of Arabic content to "the high rate of illiteracy, the low level of Arab culture, the lack of electronic management applications, the interest in form at the expense of content in the content industry, the poor financing of research in the Arab world and others, And the failure of the Arab countries to come together in the Arabic digital content industry, without forgetting the weakness of the volume of investments in the content. Putting digital Arabic content as a strategic goal and decision-making and supporting it, on the one hand, and as an economic commodity that has a new market that can be bought and sold and can be invested in this direction" (Dulaimi & Azza Farouk, 2011, p. 08) Accordingly, we can say that the weakness of digital Arabic content is due to the lack of content diversity on those sites, especially educational sites, which we noticed Most of its texts are digital, but it lacks the most important feature of digital content, which is interactive.

Table 2. Types of Arabic Used in Cyberspace

Type of Arabic	Characteristics	Usage Platforms	Example Sentence
Modern Standard Arabic	Formal, codified	News websites, blogs	مرحبا بكم في منصتنا الرقمية
Dialectal Arabic (Darija, Egyptian, etc.)	Informal, region-specific	Social media, forums	شنو رايك فهاد الفيديو؟" (Moroccan)
Arabizi (Franco-Arabic)	Arabic in Latin script with numbers	SMS, WhatsApp, Instagram	7abibi enta 3ala rasi"
Mixed Arabic-English	Code-switching between languages	Twitter, Facebook comments	Ana busy today, tomorrow inshAllah.

Source: (Yaghan, 2008, p.40)

3. Obstacles to digitizing digital content in Arabic:

The obstacles to the development of educational Arabic content in particular can be limited to the most important points:

- The low rate of spread of information and communication technology, its scarcity and inefficiency Weakness of economic exchanges among Arab countries.

- The weakness of scientific and cultural activities with widespread illiteracy, lack of interest in translating the literature of nations and peoples, and the neglect of the Arabic language by its people and killing it in dialects, especially in forums and chat rooms.

- The weakness of the natural processing of the Arabic language, such as machine translation, which would increase the ability to electronically translate foreign scientific content.

- The lack of strong information processing and retrieval systems that simulate the Arabic language and build on it the indexing of sites in search engines, the digitization of Arabic documents, and the correct writing by numbers (ESCWA, 2005).

In addition to some obstacles, which we see, we have tried to collect them in the following points:

- The large number of non-digitized Arabic content, especially in some educational sites, such as digital libraries, such as the Iqra library, which whenever we try to access and browse books, we find that the scanning is not complete.

- Fear of technology and getting used to paper.

- The problem of penetration of digital Arabic content, especially official exams in education.

- Marginalization of the Arabic language, because the World Wide Web is an American industry, and therefore it imposes its English language, which has swept the world today, and expands its culture.

The two tables below show the main challenges or barriers facing Arabic in cyberspace

Table 3. Challenges Facing Arabic in Cyberspace

Challenge	Description	Impact
Lack of standardization	Dialectal variations and spelling inconsistencies	Hinders NLP development
Technical encoding issues	Unicode, right-to-left alignment	Platform display problems
Dominance of English	Users shift to English/Franco-Arabic for convenience	Language shift
Limited Arabic content	Less Arabic web content compared to global languages	Digital inequality

Source: (Darwish, 2014)

Table 4: barriers facing Arabic in Cyberspace

Barrier	Example	Impact
Educational gap	Rural students lack digital literacy	Exclusion from digital content
Age divide	Elderly avoid digital Arabic	Generational disconnect
Class difference	Urban elites code-switch in English	Alienation of lower-income groups

Source: (Darwish, 2014)

4. Sociological Factors Influencing the Development and Evolution of the Arabic Language

This is the main Factors Influencing the Development and Evolution of the Arabic Language:

1. Religious Identity and Cultural Continuity

Arabic is deeply tied to Islamic identity, as it is the language of the Qur'an. This religious connection shapes social attitudes, educational priorities, and intergenerational transmission of the language. Even non-native speakers learn Arabic to perform religious duties, reinforcing its global cultural relevance (Al-Tamimi, 2023, p. 45). In many Arab societies, maintaining Arabic is seen as a way of preserving heritage and resisting cultural assimilation.

2. Social Stratification and Language Variation

Arabic exhibits a strong **diglossic structure**: Modern Standard Arabic (MSA) is used in formal writing and official communication, while regional dialects are used in everyday conversation. This variation creates linguistic hierarchies that reflect **social class**, **education level**, and **urban vs. rural divides**. Access to education in MSA may determine one's ability to participate in public discourse or elite professions.

3. Nationalism and Language Policy

Language policies in Arab countries often promote Arabic as a symbol of national unity and post-colonial identity. For instance, after independence, Algeria emphasized Arabicization in schools and administration to reclaim cultural sovereignty from French influence. However, these policies have also sparked debates over the inclusion of other languages (e.g., Amazigh, French, or English), especially in education and scientific research.

4. Migration and Diaspora Influence

Arab diasporas, particularly in Europe and North America, influence the development of Arabic through bilingualism, language mixing, and adaptation to new cultural contexts. Arabic media and education in the diaspora help preserve the language, but younger generations often shift toward the dominant local language, raising concerns about linguistic erosion.

5. Media, Technology, and Youth Culture

Social media platforms like Twitter, TikTok, and YouTube have become central to Arabic expression, especially among youth. Users often blend classical Arabic, dialects, and foreign languages in innovative ways. Emojis, memes, and transliterated Arabic (e.g., "3arabi" using Latin script) reflect evolving **digital sociolinguistic practices**, reshaping how Arabic is written and spoken online (Al-Tamimi, 2023, p. 45).

6. Educational Systems and Institutional Support

The quality and structure of Arabic language education greatly impact its development. In many countries, outdated curricula, lack of teacher training, and insufficient integration of digital tools hamper the effective teaching of Arabic. On the other hand, institutions like the Mohammed bin Rashid Foundation are investing in digital Arabic content and literacy initiatives.

7. Globalization and Linguistic Competition

Arabic faces increasing competition from global languages like English and French in science, higher education, and technology. This has led to a **sociolinguistic gap**: while Arabic retains cultural prestige, its functional utility in some academic and professional fields is declining. Sociologists study how this affects identity, job access, and social mobility.

5. The Global Relevance and Multidimensional Growth of the Arabic Language

Arabic is one of the most widely spoken and culturally significant languages in the world. Several interrelated factors contribute to its global prominence and continued advancement across diverse fields. These include its widespread native and liturgical use, historical and scholarly legacy, cultural and media influence, economic and diplomatic importance, linguistic impact on other languages, and its growing role in digital and academic contexts (Al-Tamimi, 2023, p. 45).

One of the most influential factors behind the prominence of Arabic is its dual status as both a native and a liturgical language. Arabic is the mother tongue of over 375 million people across more than 20 countries in the Middle East and North Africa, where it holds official language status. Moreover, it is the liturgical language of Islam, making it a religious lingua franca for over 1.8 billion Muslims worldwide. This religious connection ensures that Arabic is studied and used far beyond the borders of Arabic-speaking nations. For example, Muslims in Indonesia, Pakistan, and Nigeria learn Arabic primarily to read the Qur'an and perform religious rituals, further solidifying its global reach and spiritual importance (Al-Tamimi, 2023, p. 45).

The historical and scholarly heritage of Arabic also plays a crucial role in its global relevance. During the Islamic Golden Age (8th to 14th centuries), Arabic served as the primary language of science, philosophy, medicine, and literature. Scholars like Al-Khwarizmi, who introduced foundational concepts in algebra, and Ibn al-Haytham, a pioneer in optics and scientific methodology, wrote their groundbreaking works in Arabic. These texts were later translated into Latin, forming the intellectual foundation of the European Renaissance. The preservation and transmission of Greek, Persian, and Indian knowledge through Arabic translations underscore its historical significance as a language of learning and intellectual advancement (Al-Tamimi, 2023, p. 45).

Cultural and media influence has further enhanced the global status of Arabic. Major news outlets like Al-Jazeera and Al-Arabiya broadcast in Arabic to a wide international audience, shaping political discourse and cultural narratives across continents. Additionally, the popularity of Arabic music, television series, and cinema has spread the language to non-Arabic-speaking audiences. The richness of Arabic literature, including the globally celebrated works of Nobel laureate Naguib Mahfouz, also contributes to the cultural prestige of the language. Arabic calligraphy and poetry are deeply respected art forms that continue to attract admiration and academic interest worldwide (Al-Tamimi, 2023, p. 45).

Economically and diplomatically, Arabic holds a strategic position in global affairs. It is one of the six official languages of the United Nations and is used in numerous international organizations, such as the Arab League and the Organization of Islamic Cooperation. The economic importance of Arabic-speaking countries, particularly in the fields of oil, finance, and international trade, necessitates proficiency in Arabic for diplomats, business professionals, and multinational corporations. Countries such as the United Arab Emirates, Saudi Arabia, and Qatar are not only energy giants but also hubs of innovation and investment, attracting global partnerships and contributing to the international demand for Arabic proficiency (Al-Tamimi, 2023, p. 45).

Arabic's influence on other languages further illustrates its global impact. The language has contributed a significant number of loanwords to many modern languages, particularly Spanish, Portuguese, and Swahili. Terms like "algebra," "algorithm," and "zenith" all have Arabic origins, reflecting the historical transfer of scientific and mathematical knowledge. In Spanish, it is estimated that around 4,000 words are of Arabic origin, a legacy of nearly eight centuries of Muslim rule in the Iberian Peninsula. This linguistic diffusion underscores Arabic's historical role as a bridge between civilizations and its enduring imprint on global vocabularies (Al-Tamimi, 2023, p. 45).

Finally, the growing role of Arabic in digital and academic spaces is a testament to its adaptability and resilience. Arabic is currently among the top five most used languages on the Internet, and efforts are underway to improve its representation in natural language processing (NLP), machine translation, and artificial intelligence applications. Academic institutions around the world are increasingly offering Arabic language programs, and international competitions and awards—such as the Mohammed bin Rashid Award for Arabic Language—support innovative projects that promote the use of Arabic in education, media, and technology. These developments ensure that Arabic remains relevant in the digital age, expanding its influence into new and emerging domains (Al-Tamimi, 2023, p. 45).

In conclusion, the Arabic language's global significance is anchored in its multifaceted role as a native, religious, scholarly, cultural, economic, linguistic, and digital force. These dimensions collectively ensure its continued vitality and relevance in an interconnected and rapidly evolving world (Al-Tamimi, 2023, p. 45).

Conclusions

We point out that the Arabic language, with its lexical, morphological, grammatical (structural), cultural and civilized characteristics, qualifies it to resist violent technological shocks, but it is also able to absorb all the changes that led it to those shocks, thanks to Its heritage stock is full of the greatest scientific, linguistic and literary masterpieces. Therefore, our language needs the efforts of researchers and scholars in order to develop its digital uses and keep pace with the latest technological developments, and contribute to making it spread properly, in the spaces of digitization., through some methods. What we propose is as follows:

- Encourage professors, researchers and students to design their own websites, and provide them with technical and material assistance, to publish content, articles, studies, notes...

Organizing training courses for students and teachers on how to employ new communication technologies.

- Establishing virtual libraries containing Arabic books and resources, and working to scan all Arabic books.
- Launching initiatives to enhance content by academic and cultural institutions.
- Encouraging and motivating professors, students and researchers to digitize their work and research and publish it electronically through special portals and websites belonging to their universities, while preserving copyright.
- Cooperation between Arab countries in establishing electronic databases that contain summaries of research and studies conducted in universities.
- Arabization of Internet addresses to address common errors to expand its use.

REFERENCES

1. Ankush , N. (s.d.). *La Bibliothèque numérique de l'Université algérienne : sa conception et sa mise en place, Bibliothèque universitaire Emir Abdelkader comme modèle.* Université de Constantine.
2. Al-Ajmawi, A. (2001). *Traitement automatique de la langue arabe, entre réalité et enjeux.* Jordanie: Publications de l'Académie jordanienne de la langue arabe.
3. Dulaimi, S., & Azza Farouk, J. (2011). *Problèmes de présence de contenu numérique arabe sur Internet et moyens de le soutenir* (Vol. 25).
4. Yaqteen , S. (2012). *Enjeux du nouveau roman arabe (Existence et frontières)* (éd. 01). Maroc: Al-Ikhtif Publications.
5. collections, G. f. (2013). (A. L. Soni, Ed., & H. Melhem, Trans.)
6. ESCWA. (2005). *«Stimulating the Arabic Digital Content Industry Through Technological Incubators».* egypte: Commission économique et sociale des Nations Unies pour l'Asie occidentale.
7. Farrag , A.-R. (2005). *Concepts de base dans la bibliothèque numérique.* Journal d'informatique.
8. harb, a. (2002). *le monde et ses dilemmes : la logique du conflit et le langage de la délibération* (Vol. 01). Beyrouth: Centre Culturel Arabe.
9. *Le Conseil Suprême de la Langue Arabe.* (janvier 2009). Publications du Conseil Suprême de la Langue Arabe, Logiciels Appliqués en Arabe.
10. logiciels, C. n. (2014). Publications du Laboratoire des Pratiques Linguistiques en Algérie.
11. Nabil , a. (s.d.). *La culture arabe et l'ère de l'information.* Monde du savoir.
12. Zaza, h. (1990). *The Tongue and the Human - An Introduction to Language Knowledge.* Damascus/ Yarout: - Dar Al-Qalam/ Al-Dar Al-Shamiya.
13. Boutarfa Rochdi, & Zedira Khammar. (2024). *DIGITIZATION AND ITS IMPACT ON THE QUALITY OF HIGHER EDUCATION IN ALGERIAN UNIVERSITIES.* International Journal of Innovative Technologies in Social Science, (4(44). https://doi.org/10.31435/ijitss.4(44).2024.3018
14. Firdaws Hafiane, & Zedira Khammar. (2025). *ORGANIZATIONAL COMMITMENT AND ITS RELATIONSHIP TO QUALITY OF WORK LIFE IN LOCAL ADMINISTRATION: A CASE STUDY OF GUELMA.* International Journal of Innovative Technologies in Social Science, (1(45). https://doi.org/10.31435/ijitss.1(45).2025.3140
15. Al-Saleem, K. (2010). Language and identity in cyberspace: The case of Arabic speakers. *Journal of Language and Politics*, 9(3), 419–432.
16. Al-Tamimi, H. (2023). *The global significance of the Arabic language: Bridging cultures, facilitating communication, and promoting understanding.* Arabic Language Institute Publications.
17. Darwish, A. (2014). *Cyber discourse: Language, identity and ideology in the Middle East.* Writescope Pty Ltd.
18. Yaghan, M. A. (2008). "Arabizi": A contemporary style of Arabic slang. *Design Issues*, 24(2), 39–52.