

Digitalization and Diglossia: Assessing the Effectiveness of Arabic as a Tool of Public Diplomacy in the Digital Era

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Abstract: This article examines the urgency and transformation of Arabic language digitalization in strengthening public diplomacy (soft power) and facilitating cross-cultural communication in the era of digital disruption. Arabic, with more than 400 million speakers and its status as one of the six official languages of the United Nations, is no longer understood merely as an instrument of religious ritual but has evolved into a strategic medium within international geopolitical discourse. Nevertheless, a striking paradox emerges: although the number of Arabic-speaking internet users has grown rapidly since the early 2000s, the proportion of Arabic-language content in the global digital sphere remains far behind, with various estimates placing it at only 1 to 5 percent of total web content worldwide. Employing a descriptive-analytical qualitative method grounded in systematic library research of 20 primary and secondary sources published between 2004 and 2026, this study analyzes three aspects: (1) the role of digital technology and artificial intelligence in strengthening the Arab world's public diplomacy, (2) the contribution of digitalization to more inclusive cross-cultural communication, and (3) the structural challenges hindering the optimization of this role. The findings indicate that the use of digital platforms, Arabic-language media such as Al Jazeera, and Natural Language Processing (NLP) technology has expanded the reach of narratives and intercivilizational dialogue; however, their effectiveness remains constrained by the digital content gap and linguistic complexity arising from the diglossia between Fusha (Modern Standard Arabic) and Ammiyah (colloquial dialects). This article recommends strengthening cross-sector collaboration among governments, academics, and technology developers to address this gap.

Keywords: Cross-Cultural Communication; Arabic Language Digitalization; Global Era; Public Diplomacy; Soft Power.

How to Cite?

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1. Introduction

Globalization and the convergence of digital media have fundamentally transformed the landscape of international communication. Within this context, language is no longer merely a passive instrument for the transfer of information but has become a strategic instrument for shaping public opinion and negotiating culture (Nye, 2004). Arabic, as one of the official languages of the United Nations and a language spoken by hundreds of millions of people worldwide, holds a crucial role within this global arena.

Ironically, the rapid growth in the number of Arabic-speaking internet users has not been matched by a corresponding growth in content availability. Various monitoring institutions provide estimates that vary yet consistently point to a gap: the International Telecommunication Union estimates the proportion of Arabic on the internet to be below 1 percent, while Statista records a figure of approximately 4.8 percent (Jordan Times, 2025). Other sources even indicate that Arabic-language content represents only around 3 percent of total global digital content, far below the proportion of its global speaker base (Google Arabic Web Days, as cited in Gulf News; Abusamra, 2018). This gap persists even though the number of Arab internet users grew by more than 5,000 percent between 2000 and 2013 (Wamda Research Lab, as cited in Gulf News). This phenomenon constitutes the point of departure for the urgency of this study: Arabic possesses a substantial speaker base and civilizational value, yet its digital representation remains disproportionate, thereby potentially weakening its soft power on the global stage.

Research on the digital transformation of Arabic is generally divided into two major strands. The first strand focuses on technical-computational aspects, such as studies on the challenges of Natural Language Processing (NLP) for Arabic arising from morphological complexity, orthographic ambiguity due to the optionality of diacritics, and dialectal diversity (Habash, 2020; Darwish et al., 2021). The second strand focuses on aspects of diplomacy and international relations, such as studies on the role of Arabic-language satellite and digital media like Al Jazeera as an instrument of state soft power (Powers, n.d.; Walters, 2018).

To the extent of the author's review, these two strands of research are rarely integrated within a single analytical framework that explicitly links the technical-linguistic limitations of Arabic digitalization to its effectiveness as an instrument of public diplomacy and cross-cultural communication. This article seeks to fill that gap by offering an analytical framework that combines a linguistic-computational perspective with an international-relations perspective simultaneously.

Based on this background, the present study formulates three research questions:

1. How does the digitalization of Arabic function as an instrument for strengthening the public diplomacy (soft power) of the Arab world?
2. How does the digitalization of Arabic contribute to the creation of more inclusive cross-cultural communication?
3. What structural challenges limit the optimization of this role, and what are their characteristics?

This study aims to:

1. Analyze the role of Arabic digitalization as an instrument for strengthening the public diplomacy (soft power) of the Arab world.
2. Examine the contribution of Arabic digitalization to the creation of more inclusive cross-cultural communication.
3. Outline the structural challenges limiting the optimization of this role, and their characteristics.

2. Research Method

This study employs a qualitative approach using a descriptive-analytical method grounded in systematic library research. Data sources were traced through academic databases (Google Scholar, ResearchGate, ScienceDirect, arXiv, ACM Digital Library) as well as reports from credible institutions and media outlets (Internet World Stats, ITU, Statista, Gulf News, Arab News, Jordan Times) addressing the digitalization of Arabic, public diplomacy, and cross-cultural communication. The inclusion criteria comprised: (a) publications in Indonesian, English, or Arabic; (b) publication within the 2004–2026 range, to accommodate both the foundational theory of soft power (Nye, 2004) and current developments in digital technology; (c) direct relevance to one of the three main themes the digitalization of Arabic, public diplomacy/soft power, or cross-cultural communication. The exclusion criteria comprised sources without clear affiliation or credibility, opinion content without a data basis, and duplicate sources.

The analysis was conducted through thematic content analysis comprising three stages: (1) data reduction grouping sources according to the three research themes; (2) data display narrative and comparative synthesis of the findings for each theme across sources; (3) conclusion drawing cross-verification among sources to ensure the consistency of findings, particularly for quantitative data that varies across monitoring institutions. The analysis was carried out in a deductive-critical manner, employing Nye's (2004) soft power theoretical framework as the principal lens for evaluating the strategic role of digital technology in the effectiveness of cross-cultural communication and global diplomacy.

3. Results and Discussion

3.1. The Digitalization of Arabic as an Instrument of Public Diplomacy (Soft Power)

In international relations theory, soft power refers to the capacity of a state or community to influence others through the appeal of culture, values, and language, rather than through military or economic coercion (hard power) (Nye, 2004). The digitalization of Arabic strengthens the dimension of public diplomacy through several key channels:

- **The Dissemination of Global Narratives through Digital Media.** Arabic-language satellite and digital media, particularly Al Jazeera, have long been studied as instruments of state soft power in Qatar's case, this network has contributed to

elevating the country's status and influence on the international stage, including its role as a mediator and disseminator of narratives during regional political upheaval (Powers, n.d.). This phenomenon underscores that command of the Arabic-language media space has become an important part of the national branding strategy of Arab and Gulf states. As a further illustration, Saudi Arabia has made the strengthening of its media ecosystem a pillar of its national strategy, consistent with a pattern also pursued by other states, such as the United Kingdom through the BBC or South Korea through its pop culture (Arab News, 2025).

- **Digital diplomacy does not proceed without contestation.** Recent studies show that non-Arab actors are now also actively producing Arabic-language digital diplomacy content to influence Arab public opinion, as seen in Israeli digital campaigns targeting Arab audiences through narratives centered on technology, cultural tolerance, and development (Frontiers in Political Science, 2026). This finding demonstrates that digital Arabic is not merely a tool for the Arab world's own soft-power projection, but has become an arena of narrative contestation among geopolitical actors.
- **The Integration of Arabic Natural Language Processing (NLP).** Advances in artificial-intelligence-based natural language processing technology enable public sentiment analysis, automated translation, and large-scale monitoring of digital discourse, thereby accelerating the cross-lingual exchange of diplomatic information. Nevertheless as elaborated further in the challenges section the effectiveness of Arabic NLP remains constrained by the morphological complexity and dialectal variation of the language itself (Habash, 2020).

3.2. Building Inclusive Cross-Cultural Communication

From a sociolinguistic standpoint, language cannot be separated from the cultural context of its speakers. Digitalization opens up a broader and relatively more democratic space for intercivilizational dialogue:

- **Eroding Stereotypes through Digital Representation.** The presence of Arab content creators, academics, and journalists on global social media platforms provides space for a more authentic representation of contemporary Arab society. Initiatives such as the Jordanian platform Mawdoo3 which is now among the highest-traffic Arabic-language websites in the world, with tens of millions of visitors per month demonstrate how local digital content production can independently enrich the representation of Arab culture, without relying on Western media filtering (Arab America, 2023; Abusamra, 2018).
- **The Democratization of Cross-Border Access to Learning.** Digital platforms for learning Arabic enable foreign speakers to study not only grammatical structure but also the pragmatic context and politeness conventions of cross-cultural communication, independently and at a much lower cost than conventional methods.
- **Global Intellectual Collaboration.** The digitalization of ancient manuscripts, historical archives, and Arabic-language scholarly journals makes it easier for

international researchers to access the scholarly heritage of Islam and the Middle East, while also enriching intercivilizational academic dialogue (Al-Jarf, 2020).

3.3. Structural Challenges in the Digitalization of Arabic

Despite offering considerable opportunities, the digitalization of Arabic as a means of diplomacy and cross-cultural communication continues to face a number of fundamental obstacles that are structural in nature, rather than merely transient technical issues.

- **The Digital Content Gap.** Various internet-monitoring sources report figures that vary yet consistently point to a substantial disparity: estimates of the proportion of Arabic-language content on the global web range from less than 1 percent to approximately 5 percent (ITU; Statista, as cited in Jordan Times, 2025; GoDaddy, 2025; Azimuth Gulf News, 2023), far below the proportion of Arabic speakers relative to the world's population. Part of the cause lies in the preference of Arab writers and content creators particularly in countries with a more restrictive media climate to publish in English in order to reach a wider audience or avoid censorship (Translation Excellence, 2026). This disparity further weakens the bargaining power of Arabic as a medium of digital soft power, as Arab narratives and cultural values become disproportionately underrepresented in the global information space.
- **Linguistic Complexity: The Fusha–Ammiyah Diglossia.** Search algorithms and machine-translation engines frequently struggle to accommodate the gap between Modern Standard Arabic (Fusha), used in formal and diplomatic settings, and the local dialectal varieties (Ammiyah) that dominate everyday digital communication on social media.
- **Technical Challenges at the NLP Level.** More specifically, computational research identifies at least four principal sources of difficulty in processing digital Arabic: (1) morphological richness, whereby a single Arabic word can represent a meaning equivalent to an entire sentence in English owing to its complex system of affixes and clitics (Habash, 2020); (2) orthographic ambiguity resulting from the optional nature of diacritical marks (harakat/tashkil) in modern writing, which causes a single sequence of consonantal letters to carry multiple possible pronunciations and meanings (Darwish et al., 2021); (3) the diversity of regional dialects, which differ significantly from Fusha at the phonological, lexical, and syntactic levels, while labeled data sources for training AI models on dialectal variants remain far more limited than Modern Standard Arabic data (ACM TALLIP, 2025); and (4) the general scarcity of high-quality digital corpora, which hampers the performance of Arabic-language artificial intelligence models relative to languages with more abundant data resources, such as English or Mandarin.

These three clusters of challenges the content gap, diglossia, and the technical limitations of NLP are interrelated and mutually reinforcing: the scarcity of quality corpora slows the development of adequate Arabic-language technology, which in turn hampers the efficient production and distribution of Arabic-language digital content, thereby perpetuating the content gap.

Research Limitations

This study has several limitations that should be noted. First, as a qualitative library-based study, it does not involve the collection of primary data (surveys, interviews, or direct digital-corpus analysis), so the conclusions drawn are a synthesis of secondary literature rather than new empirical findings. Second, the figures on the proportion of Arabic-language digital content cited in this study vary considerably across sources (ranging from less than 1 percent to approximately 5 percent), reflecting differences in measurement methodology among monitoring institutions; readers should treat these figures as indicative of a trend rather than as a single precise value. Third, some of the sources used are drawn from media outlets and industry reports (rather than indexed academic journals), selected for their availability of current data on digital trends, but nonetheless subject to limitations in terms of peer-review standards compared with scientific journal articles. Further research based on primary data for example, a quantitative analysis of Arabic-language digital corpora or a case study of a specific diplomatic institution is recommended to strengthen the findings of this study.

4. Conclusion

The digitalization of Arabic constitutes a strategic imperative for strengthening the language's position as an instrument of public diplomacy and a means of cross-cultural communication in the global era. This study shows that Arabic-language digital media and platforms including networks such as Al Jazeera and local content platforms such as Mawdoo3 have played a demonstrable role in extending the reach of Arab cultural narratives and enriching intercivilizational representation, while simultaneously becoming an arena of narrative contestation with non-Arab actors. Nevertheless, the effectiveness of this role remains constrained by three interrelated structural challenges: the disproportion between the share of Arabic-language digital content and the proportion of its speaker base, the Fusha–Ammiyah diglossia that complicates the standardization of language technology, and the technical limitations of natural language processing arising from the morphological richness and dialectal diversity of Arabic. To maximize the potential of Arabic as an instrument of digital soft power, sustained synergy is required among governments, academics, language practitioners, and technology developers particularly in expanding high-quality digital corpora and developing NLP technology that is more inclusive of dialectal variation to achieve a more proportionate digital representation of Arabic and a more harmonious form of global diplomacy.

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