Role of Artificial Intelligence Algorithms in Deepening Class Disparities in Algerian Society

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Abstract

This study critically analyzes the role of artificial intelligence (AI) algorithms in exacerbating class disparities within Algerian society, focusing on the digital divide's impact on access to education, economic opportunities, and health services. It examines how unequal access to technology and algorithmic biases widen social inequalities, particularly in developing contexts like Algeria, where data justice remains underdeveloped. Based on a review of local and international literature, the research offers policy recommendations for equitable digital inclusion to mitigate these gaps.

Keywords: Artificial intelligence, Class inequality, algorithms.

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1- INTRODUCTION

The rapid advancement and widespread adoption of artificial intelligence (AI) technologies across various sectors have raised critical questions about their impact on social structures, particularly in developing societies such as Algeria. A central concern is how AI reshapes class disparities: does it exacerbate social gaps, or can it serve as a tool to bridge them? This study addresses this core research question.

To explore this issue comprehensively, the following sub-questions guide the analysis:

- How does growing reliance on AI algorithms affect access to education, economic opportunities, and health services in Algeria?
- What role does the digital divide play in widening or narrowing social disparities?
- How do data justice principles and algorithmic biases influence equal opportunities versus inequality?

This research employs a critical analysis of the technology gap and AI-related social justice issues, culminating in policy recommendations for equitable digital inclusion to mitigate class disparities in Algerian society.

2-Theoretical Framework

2-1 Definition of Artificial Intelligence :

Artificial intelligence (AI) is a branch of computer science concerned with designing systems capable of performing cognitive functions similar to those of the human mind, such as learning from experience, reasoning, understanding the environment, making decisions, and adapting to new situations. This field relies on processing and analyzing large volumes of data to detect patterns and trends, enabling machines to perform tasks that previously required human intervention, including image recognition, natural language processing, and text generation. The concept of AI emerged in the mid-twentieth century, drawing on Alan Turing's work on computation and the possibility of "thinking machines", and has

since evolved into a wide range of technologies that are reshaping contemporary industrial, service, and social sectors.

Basic Components and Mode of Operation:

From a technical perspective, artificial intelligence systems can be understood as a set of interrelated stages that work together in a continuous learning cycle. First, data are collected, cleaned, and organized to provide suitable input for learning processes. Next, machine learning algorithms are applied to this processed data to detect patterns and build models that can generalize to new, unseen data. Artificial neural networks, with their different architectures, rely on interconnected computational nodes to approximate certain mechanisms of brain functioning in mapping inputs to outputs.

In practice, an AI system typically goes through a recurring sequence that includes data input, processing and analysis, parameter or weight adjustment to reduce error, and finally the generation of outputs in the form of predictions, classifications, or decisions, with performance improving as training is repeated. The literature generally distinguishes between narrow artificial intelligence (Narrow AI), designed to perform specific tasks with high accuracy; general artificial intelligence (General AI), which is expected to address diverse problems at a human-like level; and super artificial intelligence (Super AI), which is theoretically envisioned to exceed human capabilities in most domains (Russell & Norvig, 2021).

Categories and Academic Applications:

Artificial intelligence (AI) can be classified, in both research and practice, into three main categories of techniques. First, machine learning includes supervised learning, which relies on pre-labeled data; unsupervised learning, which searches for latent patterns without predefined labels; and reinforcement learning, which is based on trial and error and the reinforcement of successful behaviors. Second, deep learning relies on multi-layer neural networks and has proven highly effective in handling unstructured data such as images, videos, and text. Third, generative AI focuses on producing new content—texts, images, or other media—based on probabilistic patterns learned by models from large datasets. These categories are not only technically significant but also raise important social and

ethical questions, especially when embedded in decision-making systems in education, employment, and social welfare, where biases in data or algorithm design can reproduce or even exacerbate class disparities instead of reducing them.

2-2 Definition of the Algorithm:

An algorithm is a systematic computational procedure comprising a finite, precisely defined sequence of mathematical and logical steps designed to solve a specific problem or derive results from given input data. It emphasizes completion in finite time, producing correct outputs for any valid input, and is characterized by complete clarity in each step, effective executability (manual or mechanical), finiteness after limited iterations, and efficient use of time and memory.

The concept traces its roots to organized computational methods in the Middle Ages, particularly the contributions of Muhammad ibn Musa al-Khwarizmi, and has evolved into the foundation of modern programming and artificial intelligence technologies.

Basic Elements of the Algorithm:

Input: Specified initial data provided for processing, such as numbers, text, or data structures.

Output: The desired final result—either a computed value or logical decision—produced with complete accuracy.

Sequence: A linear arrangement of operations ensuring smooth transition from one step to the next.

Selection: Conditional mechanisms that direct execution based on specific criteria, such as logical expressions for decision-making.

Iteration: Cycles that repeat a set of operations until a specified condition is met, enhancing efficiency for repetitive data processing (Al-Mawsu'ah al-'Arabiyyah, 2007, p. 38).

Its Social and Sociological Dimensions:

In social contexts, particularly in developing societies such as Algeria, algorithms raise critical issues related to implicit or algorithmic biases that stem from unbalanced or incomplete data. These biases can deepen existing class divisions instead of reducing them, especially when algorithms are used in sensitive domains.

For example, algorithmic systems used in recruitment or educational evaluation may systematically favor certain social or economic groups, thereby reproducing historical inequalities rather than correcting them. Such mechanisms help translate pre-existing structural disparities into digital forms of exclusion, reinforcing class stratification in contemporary Algerian society.

2-3 Concept of Class Disparity and Digital Divide in Sociology:

Class disparity refers to the unequal distribution of wealth, education, and social status among groups, resulting in a hierarchical structure that is often reproduced across generations. In classical sociology, Marx emphasizes the exploitation of the proletariat by the bourgeoisie under capitalism, Weber adds the dimensions of power and status, and Bourdieu highlights cultural capital as a key mechanism for reinforcing social hierarchies, including in Arab societies where such inequalities can threaten social cohesion (Al-Omari, 2020).

The digital divide is a contemporary extension of class disparity and denotes unequal access to digital technologies and infrastructure, which can further deepen social divisions between classes. In sociological terms, it represents a technological manifestation of inequality in which privileged groups access advanced tools, including artificial intelligence, while marginalized groups are excluded, transforming economic gaps into knowledge and information gaps in line with structural theories of inequality (Al-Zain, 2015).

2-3-1 Theories of Social Justice and Data Justice:

Social justice in sociology refers to the fair distribution of resources, opportunities, and privileges within a society, with a focus on reducing economic and social inequalities to maintain cohesion and stability. It seeks an equitable

allocation of opportunities in line with Rawls's principles—such as the veil of ignorance and permitting inequalities only when they benefit the least advantaged—while also resonating with elements of Islamic heritage, including zakat, as a mechanism for redistribution (Al-Zain, 2019).

Data justice is a contemporary extension of social justice that concentrates on the fair use, distribution, and governance of digital data, as well as on preventing biases in algorithms that may reinforce class disparities. It is closely linked to Rawlsian theory through the requirement that any differences or advantages generated by data and AI systems should benefit the most vulnerable, meaning that AI algorithms ought to be designed to foster digital equality rather than intensify inequalities, particularly in developing societies. In Arab contexts, applying data justice faces significant challenges due to the digital divide and the lack of comprehensive policies that guarantee inclusive and equitable access to data (Rawls, 2005).

2-4 Sociology of Technology and the Impact of Artificial Intelligence on Social Structures:

Sociology of technology examines the relationship between technological development and society, with particular attention to how modern technologies such as artificial intelligence (AI) shape social structures, relationships, and patterns of behavior. AI is often described as a transformative force that affects multiple dimensions of social life, from work and education to cultural and everyday interaction.

The social impact of AI is inherently dual. On the one hand, it can facilitate services and improve quality of life; on the other, it can exacerbate social divisions by widening gaps in access to technology and employment opportunities. For example, job automation may reduce traditional employment, potentially increasing unemployment and poverty and thereby deepening class disparities. In addition, relying on intelligent systems to make critical decisions—such as university admissions or loan approvals—can diminish the human dimension and entrench existing social biases.

AI is also used to analyze large volumes of data to understand social behaviors and predict societal trends, opening new avenues for studying cultural and social

transformations. Interaction with robots and digital agents can reshape modes of socialization and communication, altering how individuals relate to one another in both online and offline spaces.

However, Arab societies, including Algeria, face major challenges in harnessing these technologies due to the digital divide and limited digital infrastructure, which can increase social disparities and inequalities in access to technology. Studies on the impact of AI on social structures must therefore account for these obstacles to ensure fair and sustainable use of such technologies in developing contexts (Abdel Rahman, 2020). This complex and intertwined impact underscores the need for a comprehensive scientific perspective that integrates technological and sociological insights in order to design policies that promote digital justice and reduce technology-related social gaps.

3. Literature Review

3-1 International Studies on Artificial Intelligence and Social Inequality :

International research suggests that artificial intelligence (AI) plays a dual role in shaping social inequality. On one side, AI contributes to increased productivity—estimated in some studies at around 1.5% to 2% annually in financial and service sectors in advanced economies—while on the other side it tends to widen inequality gaps, particularly in developing countries. A significant share of low-skill jobs is exposed to automation risk, which can translate into higher unemployment and poverty rates. Empirical work also shows that biases embedded in AI systems, often resulting from unbalanced or non-representative training data, reproduce forms of racial and class discrimination, limiting marginalized groups' access to digital services and reinforcing existing social hierarchies rather than reducing them.

Reports by international organizations underline that persistent digital divides may have broader implications, including pressures on irregular migration and international security due to growing disparities between rich and poor countries. Recent analyses, including those published in 2024, warn that most plausible scenarios point toward worsening inequality within countries themselves, where income polarization increasingly benefits high-skill workers at the expense of low- and medium-skill groups, thereby requiring robust social protection and

large-scale reskilling and upskilling programs. In the Arab region, several studies and media reports highlight the social repercussions of AI, such as the widening gender gap in internet and technology access and emerging threats to rights related to work and health, alongside concerns about the concentration of technological power in the hands of a few actors, which amplifies bias and deepens digital disparities.

From a theoretical standpoint, this body of literature conceptualizes AI as a structural instrument that can intensify inequality through the automation of routine tasks, depriving working-class groups of traditional employment opportunities while disproportionately benefiting elites with access to advanced technologies. Within the social sciences, AI is recognized as a powerful tool for interpreting social behavior and predicting future trends, but it simultaneously raises critical ethical questions regarding data privacy, transparency, and accountability for algorithmic bias. Consequently, many international and regional studies call for comprehensive regulatory and legal frameworks aimed at achieving fair digital inclusion, protecting vulnerable groups, and preventing the escalation of social tensions driven by technological inequality.

3-2 The Situation in the Algerian Context: Reality of the Digital Divide and Artificial Intelligence Use:

Algeria faces significant challenges in its digital transformation journey. Approximately 25% of the population remains unconnected to the internet, with stark disparities in connection quality and coverage between urban centers, inland regions, and remote desert areas—some villages entirely lack digital access. This situation exacerbates the digital divide, limiting access to essential digital, educational, and economic services. Additionally, a large segment of Algerians lacks basic digital skills, hindering effective use of modern technologies, including artificial intelligence.

The digital divide in Algeria extends beyond internal citizen disparities to include gaps with advanced countries possessing robust ICT infrastructure. Significant provincial differences persist, alongside a pronounced gender gap in internet usage, where male users substantially outnumber females. National digital content

production remains weak, with digital engagement primarily limited to consumption rather than content creation and enrichment.

Regarding artificial intelligence adoption, Algeria's experiences lag behind advanced nations due to slow digitalization, inadequate legal and regulatory frameworks for digital sovereignty, and limited development of specialized human competencies. Nevertheless, national initiatives aim to advance this transformation through digital infrastructure development, digital skills training, and digital economy stimulation, aligning with Algeria's Vision 2030 goals.

Notable efforts include projects to enhance digital governance, attract digital economy investments, and improve administrative efficiency via unified, transparent electronic platforms. However, these initiatives encounter substantial obstacles in implementation, as reports highlight underutilized digital platforms with insufficient public engagement (Hamdoosh & Ommani, 2023).

3-3 Recent Data and Indicators for Measuring the Digital Divide in Algeria :

Several recent global and local indicators measure Algeria's digital divide, focusing on access, usage, and skills. Key data up to 2025 reveal persistent multi-dimensional gaps:

- **ICT Development Index (IDI)**: Algeria ranked 120th globally in 2022 (score: 72.2), improving slightly from 97th in 2021 (score: 20.1) and 102nd in 2020 (score: 01.2), yet remaining well below the global average.
- **Gender Gap**: Internet penetration shows stark disparities, with males comprising 74.2% of users versus 25.8% for females.
- **Geographical Disparities**: Telecommunications services concentrate in four main regions, leaving desert villages in digital isolation.
- **Communication Density**: Fixed-line penetration reached 17.2% in early 2022, with fiber-to-the-home (FTTH) at 1.02% and 4G LTE coverage at 7.22%, marked by regional imbalances (dspace.univ-eloued).
- **Network Readiness Index**: Algeria lags due to infrastructure deficits and limited user digital skills; digital activity emphasizes consumption over content creation or research, signaling R&D weaknesses.

The COVID-19 pandemic exposed vulnerabilities in education and health sectors, highlighting the digital economy's fragility. Government efforts align with Vision 2030 to accelerate transformation, though implementation pace trails urgent needs (univ-emir-constantine).

3-4 Algorithmic Biases and Their Impact on Vulnerable Social Groups :

Algorithmic biases in artificial intelligence (AI) systems are systematic errors that often arise from unbalanced training data or from algorithm designs that lack fairness, leading to discriminatory outcomes that reinforce pre-existing social biases, including gender, racial, and class discrimination (Ben Ali, 2024). These biases appear in multiple forms across sectors. In financial services, for example, credit-scoring or lending algorithms may favor specific categories over others, resulting in the denial of loans to low-income groups or women. In the employment sector, automated screening tools can reduce the chances of marginalized groups accessing decent jobs, creating a vicious circle that deepens social inequality overall (Qasim, 2025).

In social contexts, algorithms tend to reproduce traditional human forms of discrimination because they are trained on data that already reflect deep-rooted societal biases. As a result, their outputs may become unreliable or even harmful to vulnerable groups, such as the poor, women, and social minorities (Kisa', 2024). The negative effects extend beyond restricted opportunities; inequality can become "frozen" or entrenched through opaque automated processes that are difficult to challenge, particularly in the absence of transparency, accountability, and clear ethical standards in the design and deployment of algorithms (ASJP, 2024).

For vulnerable social groups, algorithmic bias concretely exacerbates their exclusion from economic and social opportunities. In financial services, biased decision-making perpetuates class inequalities by restricting access to credit and loans, limiting the ability of low-income individuals to improve their economic conditions. In the labor market, the use of automated hiring filters and ranking systems can increase unemployment rates among youth and women, as these groups are systematically screened out by biased criteria. This dynamic threatens fundamental human rights, especially the right to decent work, and undermines

trust in institutions while exposing organizations to legal and ethical risks (Al-Zain, 2024).

Algorithmic bias is multi-dimensional: it is institutional, rooted in organizational policies and practices; societal, emerging from existing social disparities; and systemic, embedded in the technical design and operation of AI systems themselves. This complexity underscores the need for continuous auditing and impact assessment of algorithms, alongside robust regulatory frameworks to restrain harmful bias—especially in Arab societies, where such biases are intensified by a wide digital divide that magnifies their negative effects.

4-Analysis of the Role of Artificial Intelligence Algorithms in Deepening Class Disparities:

4-1 Impact of Disparities in Access to Technology on Educational, Economic, and Health Services:

Disparities in access to technology—particularly artificial intelligence (AI)—exacerbate gaps across key sectors: education, economy, and health. In education, urban students benefit from advanced digital tools that enhance academic progress, while rural students face barriers due to limited internet access and device availability, resulting in unequal educational quality and opportunities (Digital Educational Challenges, 2025). Economically, AI widens class divides in the labor market: digitally skilled individuals capitalize on automation-related jobs, whereas low-skill workers lose traditional employment, leading to elevated unemployment and poverty rates (Al-Zain, 2023).

In healthcare, unequal access to AI-driven diagnostic tools diminishes service quality for vulnerable groups, as these technologies cluster in urban hospitals, contributing to higher mortality and disease prevalence in remote areas (Hamdoosh & Ommani, 2023). This creates a vicious cycle that entrenches class hierarchies, positioning AI access as a critical determinant of personal and social advancement and underscoring the need for equitable technology distribution policies.

Technological disparities polarize the labor market sharply. Automation displaces up to 40% of low-skill jobs in manufacturing and basic services in developing

countries, raising unemployment among lower classes and youth by approximately three percentage points in tech-adjacent sectors while generating opportunities for programming and data analysis specialists (AI and Labor Market, 2025).

This replacement intensifies the skills divide between the adequately trained and the digitally excluded, as many lack access to retraining programs, exacerbating structural unemployment and reducing national income by 1-2% annually. Rural areas suffer disproportionately, with unemployment rates reaching 20%—far exceeding urban levels (Double-Edged Technology Impact, IMF, 2023).

Unequal access concentrates jobs among digital elites, fostering "technological unemployment" that could eliminate two million manufacturing positions by 2025. Retraining challenges persist due to high costs, necessitating robust social protection, income redistribution, and policy interventions to avert social unrest from these transformations (Information Technology and Labor Market Security, 2023).

4-2 The Negative Role of Biases in AI Algorithms in Reinforcing Social Divisions:

Biases embedded in artificial intelligence (AI) algorithms play a markedly negative role in reinforcing social divisions, as these systems often reproduce existing patterns of discrimination through their content-recommendation and ranking mechanisms. Algorithms tend to systematically prioritize emotional, sensational, or polarizing content to maximize user engagement, which contributes to the formation of “digital echo chambers” that isolate individuals from diverse or opposing perspectives. This dynamic deepens tensions between social groups—such as classes, genders, or cultural communities—especially when sensitive religious or ethnic issues are exploited in exaggerated or misleading ways.

Such bias exacerbates the gender gap in access to and use of technology, reducing women’s opportunities in employment and education when training data and models are shaped by clear male-centered patterns. Over time, these practices worsen social polarization and pose serious threats to fundamental human rights in the Arab region, as algorithmic preferences become embedded within existing

social and economic structures, thereby normalizing exclusion and inequality (Al-Zain, 2023).

Moreover, algorithmic bias undermines social trust by spreading selectively personalized and potentially misleading information, which widens the distance between social classes and cultural groups. This phenomenon becomes particularly acute in Arab societies, where complex digital divides interact with pre-existing inequalities, generating online conflicts on social media platforms that can gradually spill over into offline tensions, undermining social cohesion and national unity ("Artificial Intelligence and Marginalizing the Marginalized", 2024).

These dynamics show that algorithms are not neutral technical tools but socio-technical instruments with structural implications that reshape social relations in potentially destructive ways. This reality underscores the urgent need for robust regulatory and ethical interventions to govern algorithm design and deployment, ensure fairness in the distribution of digital content and opportunities, and monitor the broader social impacts of AI technologies, especially in contexts marked by fragile social fabrics and pronounced class disparities.

4-3 Applied Models or Cases in Algeria (Based on Secondary Sources):

In November 2024, Sonatrach—the Algerian state-owned energy company—launched its largest national competition to recruit artificial intelligence specialists, aiming to integrate advanced AI technologies into research processes and facilities, primarily in the capital. This initiative seeks to enhance productivity and advance digital transformation but simultaneously widens the divide between a technological elite and traditional energy sector workers lacking digital training, placing thousands of jobs at risk of automation (Sonatrach announcement, 2024). Registration was conducted exclusively through an online platform, targeting university and institute graduates from various provinces with stringent requirements for scientific qualifications and specialized skills.

On a regional level, the Arab Labor Organization convened a seminar in Algiers in November 2025, under the patronage of the Ministry of Labor, to assess generative artificial intelligence's impact on Arab labor markets. Participants

warned of extensive job restructuring and losses in health and manufacturing sectors due to skill disparities among workers, issuing recommendations for equitable transition strategies to safeguard vulnerable groups and facilitate adaptation to technological changes (Arab Labor Organization, 2025).

In education and health, Algeria's digital divide has generated stark service disparities. Urban universities leverage AI tools for academic analysis and development, while remote institutions suffer from inadequate digital infrastructure. Similarly, AI-assisted medical diagnostics are confined to major urban hospitals, contributing to elevated mortality rates in rural areas and intensifying class-based inequalities in healthcare access (Impact of Artificial Intelligence on the Labor Market, 2025)

5-Discussion of Digital Justice and Data Justice Concepts:

5-1 Relationship Between Social Justice and Data Usage and Algorithm Analysis:

Social justice is closely and organically linked to how digital data are used and how algorithms are designed and analyzed. Unequal access to, and representation within, data constitutes one of the main foundations for reinforcing social inequality. Because algorithms operate on datasets that often embed deep-rooted social biases, they can reproduce these biases in crucial decisions related to employment, access to financial services, and social benefits, thereby depriving vulnerable groups of equal opportunities and systematically deepening class divisions (Ethics of Artificial Intelligence and the Emergence of Digital Justice Idea, 2025). Achieving social justice thus becomes impossible without ensuring a high degree of transparency in the processing of big data. In the absence of effective oversight over algorithmic systems, the digital divide between technological elites and marginalized groups widens, threatening social cohesion and underscoring the need for robust legislation to protect personal data, alongside regular audits to detect and curb automated discrimination before it causes irreparable harm (Digital Justice, 2025).

The core problem lies in the fact that the data feeding algorithms frequently mirror existing social inequalities, turning these systems into mechanisms that entrench injustice rather than tools that promote fairness. For example, when

algorithms are employed in hiring or promotion processes, they may systematically favor candidates from certain educational, geographic, or socio-economic backgrounds, thereby excluding marginalized groups from meaningful job opportunities. Addressing this issue requires ensuring balanced and inclusive representation of all social groups in training datasets, coupled with the development of rigorous ethical standards and guidelines for algorithm design that explicitly aim to prevent the reinforcement of pre-existing biases.

This interdependence between social justice and data-driven technologies highlights the urgent need to rethink AI governance frameworks. Transparency, accountability, and participation must become core principles at every stage of AI development and deployment—from data collection and model training to implementation and evaluation—so that these technologies function as instruments of social progress rather than as forces that deepen structural gaps and reproduce class-based inequalities.

Arab Case Studies Illustrating Algorithmic Bias Impact on Social Justice:

Recent Arab studies illustrate the profound impact of algorithmic biases on social justice through concrete applied cases across key sectors:

Bias in Healthcare and Financial Services

Specialized research reveals that AI algorithms in healthcare and finance often exhibit clear racial and gender biases. For instance, certain diagnostic or prioritization algorithms favor light-skinned patients over dark-skinned individuals with comparable health conditions, due to distortions in foundational training data. This systematically deepens class and social disparities by perpetuating unequal access to critical services (Nadi Kalima, 2025).

Bias in Judicial Systems

In the legal domain, algorithmic bias poses a fundamental challenge, as some judicial risk-assessment tools impose harsher penalties on specific racial or gender groups. This has prompted urgent discussions on enacting new legislation that classifies algorithmic discrimination as a distinct offense, thereby strengthening principles of equality, equal opportunities in the digital era, and fairness in judicial decision-making (Al-Zaytouna University Journal, Jordan, 2023).

Digital Discrimination in Algeria:

Research from Constantine 3 University demonstrates how AI systems in Algeria engender digital discrimination that excludes marginalized groups from employment and essential services. These algorithms, trained on biased data favoring privileged social classes, entrench pre-existing inequalities rather than mitigating them—particularly within Algeria's pronounced digital divide context (Kasa, 2024).

5-2 How Digital Equity Policies Can Contribute to Reducing Class Gaps:

Digital equity policies can significantly contribute to narrowing class gaps by ensuring fair and comprehensive access to technology across all social groups. First, expanding and upgrading technological infrastructure to cover rural and remote areas is a crucial step in reducing geographic disparities in internet and digital service access, thereby enabling marginalized and economically disadvantaged populations to participate more fully in the digital economy (World Forum for Sustainable Development Goals, 2025).

Second, digital education plays a pivotal role in addressing the digital divide. Integrating technology and digital skills into school and university curricula, alongside continuous teacher training, enhances individuals' competencies and improves their prospects in the digital labor market. This contributes to reducing both digital and educational inequalities between different social groups (Qudud, 2024).

Third, improving access to technology requires lowering the cost of devices and connectivity and providing subsidized or even free options for low-income groups. Such measures are essential to enable their active participation in economic, educational, and social life (World Bank, 2023).

Moreover, multi-stakeholder partnerships involving governments, educational institutions, and the private sector are vital for expanding access to technology and ensuring its inclusive use. These collaborations help create new educational and economic opportunities for all and support the construction of more just and equitable societies (Digital Knowledge Library, 2025).

Moreover, multi-stakeholder partnerships between governments, educational institutions, and the private sector play an essential role in disseminating technology and ensuring inclusive access to it, creating new educational and economic opportunities for all and helping build more just and equal societies (Digital Knowledge Library, 2025).

6-Policy Recommendations to Reduce Digital Class Gaps:

1. Developing Inclusive Digital Infrastructure

National policies should expand internet coverage to rural and remote areas while improving connection quality, speed, and affordability. Providing reliable and sustainable energy sources is also essential to ensure the operation of digital devices in regions with limited electricity, thereby reducing geographic disparities in access to technology.

2. Enhancing Digital Education and Skills Development

Digital education needs to be integrated into school curricula from early stages, supported by free or subsidized continuous training programs targeting disadvantaged groups. Promoting lifelong learning and adequately training teachers to use technology effectively are key to improving digital competencies and reducing educational and digital inequalities.

3. Reducing Technology Costs and Ensuring Accessibility for All

This can be achieved by supporting startups and initiatives that offer affordable devices and technological solutions, alongside government programs that provide smart devices to students and low-income families at nominal or no cost. Encouraging electronic device recycling and expanding free or subsidized internet access in deprived areas are also critical measures.

4. Encouraging Multi-Stakeholder Collaboration and Partnerships

Bridging the digital divide requires effective partnerships between governments, the private sector, educational institutions, and civil society organizations to expand infrastructure, support local innovation, and deliver training programs. International cooperation should be leveraged to transfer expertise and technologies adapted to the needs of developing countries.

5. Promoting Inclusive and Diverse Digital Content:
Policies that encourage the production of digital content reflecting cultural and social diversity can foster social inclusion and reduce the marginalization of disadvantaged groups. Ensuring that digital content creation is not limited to elites helps build a more just and inclusive digital society that mitigates class disparities and supports sustainable development.

7. CONCLUSION

This study examined the complex and multifaceted role of artificial intelligence in deepening class disparities within Algerian society, particularly through the digital divide and the unequal distribution of opportunities to access technology. The analysis showed that disparities in access to AI tools and digital services widen gaps between social classes in education, healthcare, and the labor market, increasing unemployment risks and threatening social cohesion. It also highlighted how algorithmic biases inherited from unbalanced data reinforce discrimination against vulnerable groups such as women, youth, and residents of marginalized regions, thereby confirming the central question regarding whether AI promotes social justice or deepens divisions.

The sub-questions explored how unequal access to technology affects basic services, how algorithmic bias entrenches social disparities, and how digital equity policies can help narrow these gaps and foster more inclusive justice. The discussion indicated that improving digital infrastructure, strengthening technical and digital education, supporting inclusive and diverse digital content, and developing legal frameworks that guarantee algorithmic transparency and accountability are all necessary and complementary steps.

Accordingly, the study underscores that addressing the digital divide is not optional but an urgent requirement for achieving sustainable social justice in Algeria. Adopting inclusive and balanced policies for the deployment and regulation of digital technologies can contribute to building a more equitable society capable of benefiting fairly from technological progress, while limiting the reproduction of class-based inequalities in the emerging digital order.

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