



The People's Democratic Republic of Algeria
Ministry of Higher Education and Scientific Research
University of Ghardaia
Faculty of Humanities and Social Sciences
Department of Information and Communication Sciences

Journal of Communication and Social Studies Research

A Peer-Reviewed Biannual Journal

Issn: 2992-1821

Volume: 02 - Issue: 01

January 15, 2026 – Sha'ban 7, 1448 AH

الجمهورية الجزائرية الديمقراطية الشعبية
وزارة التعليم العالي والبحث العلمي
جامعة غرداية
كلية العلوم الاجتماعية والانسانية
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مجلة البحوث و الدراسات الاتصالية و الاجتماعية

مجلة دورية نصف سنوية علمية محكمة

Issn:2992-1821

المجلد 02 العدد 01

15 جانفي 2026 – 08 شعبان 1448 هـ

Table of Contents (Published Articles)

*Organizational Justice at the Intersection of Culture and Structure :
Theoretical Insights
Ahmed Bedjadj*

Ghardaia University, Algeria
Bedjadj.ahmed@univ-ghardaia.edu.dz

13-26

**Facebook as a Tourism Promotion Tool: Its Role in Encouraging Algerian Desert
Tourism among Young People
A Field Study Conducted in the City of Sétif**

Leila Azdi
Mohamed Lamine Debaghine University – Sétif 2, Algeria
Email: Zed_ilya@yahoo.fr

27-39

*Theoretical Foundations of Information and Communication Sciences
from a Cybernetic Paradigm
An Analytical Study of a Sample of Publications from Cairn.info*

Batāhir Hicham
University of Jijel
betahar.hicham1@gmail.com

40-50

**Strategic Management in Action: The Role of Small and Medium Enterprises in Driving
Economic Growth
Houa Mohamed**

University of Algiers 2
Houa.mohamed@univ-ghardaia.edu.dz

52-63

*Beyond Representation: Augmented Reality as a Narrative Medium in the Third Wave
Media Landscape
Lahoual Ahmed Borhane Eddine*

PhD Student, University of Ghardaïa (Algeria)
lahoual.ahmedborhaneeddine@univ-ghardaia.edu.dz

64-77

اسم المجلة: مجلة الدراسات و البحوث الاتصالية و الاجتماعية
Journal of Communication and Social Studies Research اسم المجلة باللغة الاجنبية

ISSN: 2992-1821

E-ISSN: 2992-1821

اختصار التسمية JCSSR

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تنبيه

ما ينشر في المجلة يعبر فقط عن رأي صاحب المقال
ولا يعبر بالضرورة عن وجهة نظر المجلة ولا عن هيئة تحريرها



تقديم (تعريف) المجلة

مجلة علمية محكمة نصف سنوية تصدر بانتظام كل ستة أشهر عن قسم علوم الاعلام و الاتصال / كلية العلوم الاجتماعية و الانسانية بجامعة غرداية ، تعنى بنشر البحوث و الدراسات في شتى تخصصات العلوم الاجتماعية و الانسانية ، و باللغة الانجليزية كما تختص هذه المجلة في نشر الأبحاث التي تتناول مختلف جوانب الدراسات الاجتماعية و التواصلية، مسلطة الضوء على كيفية تشكيل التواصل وتأثره بالمجتمع. تغطي المجلة مجموعة واسعة من الموضوعات، بما في ذلك دراسات الإعلام التي تبحث في دور وسائل الإعلام الجماهيرية في التأثير على الرأي العام، و التواصل بين الأشخاص الذي يركز على ديناميات التفاعل و جهماً لوجهه. كما تستكشف المجلة الدراسات الثقافية، محللة كيفية تأثير السياقات الثقافية على ممارسات التواصل، و الاتصال الرقمي الذي يتناول تأثير التكنولوجيا على التواصل في الفضاءات الرقمية. بالإضافة إلى ذلك، تعرض المجلة أبحاثاً حول الاتصال المؤسسي و الاتصال السياسي و الاتصال الصحي، متناولة كيف يؤثر التواصل على المؤسسات و العمليات السياسية و الصحة العامة. كما تُعنى المجلة بالعلاقات العامة و الصحافة، مستعرضة استراتيجيات إدارة التصور العام و عمليات جمع و نقل الأخبار. وأخيراً، تتناول المجلة علم العلامات الذي يدرس دور الرموز و الإشارات في التواصل. من خلال تشجيع الأبحاث متعددة التخصصات، تهدف المجلة إلى تعزيز الفهم النظري و التطبيق العملي في هذه المجالات

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This journal is dedicated to publishing research that delves into various aspects of social and communication studies, offering insights into how communication shapes and is shaped by society. It covers a broad spectrum of topics, including media studies, which examines the role of mass media in influencing public opinion, and interpersonal communication, focusing on the dynamics of face-to-face interactions. The journal also explores cultural studies, analyzing how cultural contexts influence communication, and digital communication, which looks at the impact of technology in digital spaces. Additionally, it features research on organizational communication, political communication, and health communication, addressing how communication affects organizations, political processes, and public health. Public relations and journalism are key areas of focus, examining strategies for managing public perception and the processes involved in news dissemination. Finally, semiotics studies the role of signs and symbols in communication. By promoting interdisciplinary research, the journal aims to advance both theoretical understanding and practical application in these fields.

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تأثير تقنيات الإعلام الجديدة على المجتمع
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تمثيل الفئات المهمشة في الإعلام
دور الذكاء الاصطناعي في الاتصال
الاتصال في الأزمات وإدارة السمعة

استراتيجيات العلامات التجارية في العصر الرقمي
المسؤولية الاجتماعية للشركات (CSR) والاتصال المستدام
الحملات الإعلامية في السياقات السياسية والاجتماعية
الهوية والثقافة والاتصال
دراسات النوع الاجتماعي والإعلام
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اللغة وانحطاب وديناميكيات القوة
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النشاط الاجتماعي عبر الإنترنت والمواطنة الرقمية
انحصورية والمراقبة والحقوق الرقمية
المجتمعات الافتراضية والتفاعلات الجماعية عبر الإنترنت
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أخلاقيات الصحافة والإبلاغ الرقمي
دور الإعلام في تشكيل الرأي العام والسياسات
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Organizational Justice at the Intersection of Culture and Structure:

Theoretical Insights

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Abstract

In this article, we aim to highlight the role of organizational justice as both a social and ethical value. It is part of the broader set of values that shape the cultural domain of an organization, while also serving as a concept that guides management approaches and decision-making to address organizational challenges and enhance institutional effectiveness. We argue that justice forms a foundational pillar of the value system that constitutes the cultural world of a social entity. In this sense, justice should be understood first and foremost as a culture, before being seen merely as bureaucratic administrative rules or legal regulations that reflect the organizational domain.

Keywords: Organizational justice, cultural domain, organizational domain.

Problem Statement:

Organizational justice is widely recognized as a central value that plays a pivotal role in managing and administering human resources within an institution. It addresses key organizational challenges such as absenteeism, negligence, tardiness, and malingering, while also motivating employees to enhance organizational effectiveness through improved individual and team performance. This occurs when employees, regardless of their professional category, perceive that their work environment and organizational practices reflect fairness and equity across its various dimensions—distributive, procedural, and interactional.

This raises an important question: Is organizational justice primarily a matter of legal rules and the administrative enforcement of these rules across different professional groups, or is it a product of the institution's cultural domain, reflecting the system of values and norms that guide employee behavior?

To address the main question of this article, we draw on literature from multiple disciplines, including management and administrative sciences, organizational and work psychology, political science, philosophy, and sociology. This interdisciplinary approach is justified by the fact that both justice and culture are concepts that transcend any single field of study. While some basic definitions of justice and culture are necessary, we aim to minimize repetition and focus directly on the discussion, presenting the topic according to the conceptual framework outlined below.

Conceptual Framework**1. Organizational Justice**

The roots of organizational justice can be traced back to Equity Theory. Adams (1964) suggested that individuals evaluate fairness by comparing the ratio of their inputs and outcomes to those of others. When they perceive inequality, it can generate tension, which negatively affects organizational outcomes (Al-Abadi, 2010, p. 70).

Greenberg (2011) defines organizational justice as “the way individuals judge the fairness of the methods used by managers in their treatment of employees, both functionally and humanely.” This highlights the processes of exercising authority, distributing resources, and managing individuals and groups within the overall organizational system, thus providing structural support for the organizational community (Al-Abadi, 2010, p. 46).

Saal and Moore (2006) define organizational justice as “the value derived from employees' perceptions of the fairness and objectivity of procedures and outcomes in the organization.” Perceived organizational justice serves as an indicator of the health of the overall organizational climate and the quality of social relationships among members. It encourages members to maintain cooperation, affirm group membership, and contribute to the cohesion and stability of the social structure. In other words, justice becomes a social demand embedded in the collective conscience, where the group enforces it as a human value, turning

these principles and their implementation into a shared organizational culture (Al-Jazzar, 2008, p. 9).

Organizational Justice as an Administrative Concept

Organizational justice, as an administrative concept, operates within a system of values that governs individual behavior and actions, either through conscious reasoning or unconscious processes (Al-Jazzar, 2008, p. 100). In other words, it is part of an interconnected and functionally coherent value system manifested through organizational and managerial practices among members of the institutional community. These values play a central role in guiding actions toward the objectives for which the organization was established. Values encompass the mental processes that determine our choices and are linked to beliefs about what is good or bad, important or trivial (Hijan, 1992, p. 17).

However, values are not limited to internal perceptions; they extend into real-world practice. As the philosopher Augustine observed, “Value is both an object of belief and an object of action, because it is not sufficient to identify a value; it must be updated—or rather, enacted—through living practice, making it an object of communication, action, and participation” (Ben Jeddo, 2012, p. 22).

When individuals perceive the value of work positively, it is reflected in behavior and practical performance, indicated by cooperation, commitment, effectiveness, creativity, and trust. Similarly, organizational justice, understood as employees’ perception of the fairness of resource distribution and managerial treatment of all personnel, whether in material terms (e.g., salaries, bonuses) or non-material terms (e.g., recognition, information sharing), fosters positive attitudes toward work and the organization.

Employees’ sense of fair and equal treatment by supervisors and peers in social exchanges leads to improved attitudes, affects behavior, and sustains professional and social relationships, ultimately enhancing job performance. It also strengthens trust in management and in other members of the organizational community.

2. The Cultural Domain

Social action within an organization is governed by specific rules that shape behavior and conduct. These rules allow us to assess the nature and quality of actions and even predict them. The cultural domain serves as a reference framework reflecting actors’ perceptions and the background of their actions and behaviors within the organization. A domain “is the physical or conceptual space occupied by an individual or group within the organization, which they continually defend because it represents the center of their vital interests and a source of power within the organization” (Kasimi, 2011, p. 112).

In other words, it represents what is collectively agreed upon as the outcome of communication and interaction within the organization’s social entity. This process gives rise to the characteristics of the cultural and social group, which then guide behavior in both social and professional relationships. Organizational behavior, from a sociological perspective, emerges as the result of interactive and reciprocal social relations among members of the

organizational community. When referring to the “community of an organization,” we necessarily imply the existence of one or more cultural patterns that represent this social entity.

These cultural patterns provide individuals with behavioral scripts that allow them to understand one another due to their shared cultural framework, thereby increasing the stability and balance of the social system (Jaghloomi, 2012, p. 133). This means that organizational practices follow a socio-professional logic, and social actions are governed by values and standards that reflect the social structure of the organization.

3. The Organizational Domain

The organizational domain represents the set of administrative rules and legal frameworks that define an institution’s organizational identity. These rules require actors to comply and maintain discipline in order to enforce authority and control across different professional groups, based on task allocation, job classification, and division of labor. The organizational domain is “the domain that determines the degree of formalization and task segmentation characteristic of the structure, as well as the level of autonomy or dependence enjoyed by actors within the organization, and defines the principle upon which the composition and organization of internal units are based” (Ben Issa, 2010, p. 122).

In other words, it subjects employees to bureaucratic logic, which emphasizes office-based authority. Bureaucracy is considered one of the organizational models increasingly prevalent in modern society, even though many people associate the term primarily with government organizations or administrative routines and complexities (Lotfi, 2007, p. 37). Bureaucratic structures often produce rigidity and reduce initiative among employees, negatively affecting performance and organizational effectiveness.

Field observations in Algerian institutions have shown that management approaches following a formal bureaucratic style, often characterized by arbitrariness, frequently encounter resistance and rejection from actors. These observations demonstrate that “bureaucratic management is unable to achieve external adaptation and internal integration; therefore, it is necessary to rely on alternative cultural frameworks that perform the function of social regulation” (Ben Issa, 2005, p. 142).

II. Theoretical Perspectives

1. Justice as a Social Value

When we speak of justice within an organization, we refer to employees’ awareness and recognition of the importance of this value, and their perception of its necessity in organizational life—as a practice and as a civilized behavior rather than merely a slogan or ideology. Justice reflects the consciousness of those who uphold it and is deeply rooted in the organizational culture. Historically, justice has been considered an inherent value demanded by humanity since time immemorial.

Sociologists define values as “based on a standard of comparison in light of individual interests on one hand, and the means and opportunities provided by society to achieve these interests on the other. Values involve a selection process conditioned by societal circumstances” (Khalifa, 2016, p. 33). Auguste Comte also emphasized that the primary purpose of values is to build a new society founded upon shared principles and beliefs (Al-Jazzar, 2008, p. 97).

Justice, as a human social value, has held a permanent place across societies worldwide, serving as the foundation for all principles that aim to ensure social security. It is also a fundamental principle for combating injustice and promoting human dignity through a cohesive social structure. The Qur’an explicitly links justice with benevolence and social responsibility:

“Indeed, Allah commands justice and good conduct and giving to relatives, and forbids immorality, bad conduct, and oppression. He admonishes you that you may take heed” (Al-Nahl, 16:90).

This verse connects justice with ethical behavior, social care, and the elimination of social ills, establishing a framework for a cohesive social entity guided by Islamic values.

In social philosophy, justice is understood as “a moral principle for social life, based on recognizing and respecting the rights of others. Such rights may be natural, referred to as equity, or established by law” (Al-Hilali et al., 2014, p. 5). There is a functional relationship between legal rules and shared moral principles. Justice is a key societal value because “the purpose of achieving justice is to realize human dignity, and human dignity is necessary for fulfilling humanity’s vicegerency role on earth, in accordance with the divine vision” (Shamiddin, 2016).

Thus, justice as an ethical social value reflects the culture and social philosophy of a given society.

2. The Relationship Between Justice and Culture

The terms justice and culture are closely linked, as both signify a transition from a state of subjection to nature toward a state in which nature is organized for the benefit of humanity and society. Culture, as defined by Guy Rocher, is “an interconnected set of ways of thinking, feeling, and acting, which are learned and shared by a large number of individuals, and are used both materially and symbolically to create a distinct and cohesive group” (Rad & Rezaei, 2016, p. 16). In other words, culture creates a foundation of values or a symbolic framework that facilitates communication, interaction, and shared understanding, thereby promoting reciprocal relationships and strengthening social bonds.

Justice, on the other hand, is a term rich in meaning. In Arabic, it encompasses moral and social values and refers to fairness, balance, moderation, and uprightness (Khodouri, 1998, p. 21). Justice reflects the social, cultural, and ethical reality of a society. It is not solely enforced through legal texts; more importantly, it is embedded in social, cultural, and ethical dimensions, forming an integrated moral and social system. Justice is defined as “a social

arrangement that recognizes each individual's rights and entitlements, allows them to enjoy these rights, and ensures they fulfill their accompanying obligations under certain conditions" (Nassar, n.d., p. 237). Justice, therefore, shares with culture the characteristic of being a product of interactive social relations.

In modern times, justice has been associated in Western political and social philosophy with the social contract. Justice is regarded as the foundation of social life, distinguishing the social state from the natural state. Rousseau argued that the transition from the state of nature to civil society produces a profound transformation in human behavior, replacing instinct with justice (Zouaoui Baghoura, 2012, p. 117). In other words, human action becomes guided by rational principles aligned with the meaning of justice. Similarly, Imam Ali (may Allah be pleased with him) stated, "Among the marks of intelligence is acting according to the way of justice" (Hakimi, 2016, p. 52).

Justice as an Ethical Value in Social and Professional Relationships

The idea of justice as an ethical value is deeply rooted in individuals' social and professional relationships when it stems from genuine conviction and belief in its virtue, rather than compliance with law out of reluctance. Justice becomes internalized when it emerges from the daily realities of individuals and reflects the values and norms of society—that is, it is both a product of and a contributor to the cultural context of the community. As Jensen (2012) notes, "the idea of justice can only be applied when there are strong bonds between human beings" (p. 123), meaning that justice as a social value requires the presence of at least two individuals in a relationship, whether cooperative or competitive.

Rawls (2009) emphasizes that the primary condition for justice is the existence of a group capable of distinguishing individuals from one another. Whenever a group exists, shared values and rules arise to regulate their collective life and daily interactions, ensuring continuity and acceptability of social relations. Such a value system fosters harmony, integration, cooperation, and mutual recognition, creating trust among all actors while guaranteeing rights and duties for each party.

Justice as an ethical value takes precedence over other social or cultural values. The extent to which justice is respected depends on the content of prevailing cultural values and the alignment between cultural norms and daily practices, ensuring justice's requirements are met. Sandel (2009) emphasizes that the priority of justice arises from the inherent multiplicity of humanity and the moral obligations of individuals within society. Sacrificing justice for the sake of the public good violates its inviolability and disrespects individual differences (Sandel, 2009, p. 59).

According to Friedrich von Hayek, just behavior is behavior that secures rights within a legitimate legal system in a free society. In this sense, justice is closely linked to law and freedom. However, the nature of the law plays a critical role in realizing human justice: if the

law is arbitrary or controlled by a select group, justice is undermined and loses its value and content (Tiyatat, 2014). This underscores the importance of perceiving justice as a cultural and behavioral value rather than as commands, coercion, or laws arbitrarily applied—an issue commonly observed in organizations where bureaucratic and autocratic administrative practices concentrate power within certain professional groups at the expense of less empowered groups.

Rawls (2009) further argues that “for a group of humans to agree on a shared concept of justice, there must exist shared interests, language, culture, and a set of values and customs that morally bind us to one another.” At the same time, culture should not merely justify the status quo as inevitable but should cultivate scientific critique, transparency, and inquiry into the mechanisms shaping social relations. The significance of culture lies in its expression of the collective spirit and the strength of the community, which derives from the strength of its culture.

From another academic perspective, in the algorithmic society, justice is no longer regulated solely through formal legal structures but is increasingly embedded in networks of meaning, algorithmic governance, and shared cultural norms that shape social behavior and power relations (Cheriti, 2025a).

3. The Importance of Perceiving Organizational Justice

An individual perceives justice or its absence through the community or group to which they belong, via mental processes and direct observation of the various participants in reciprocal social relationships. This perception is also shaped by the prevailing culture and the extent to which individuals recognize the importance of adopting fairness, equality, equal opportunities, and mutual recognition.

The awareness of one’s social reality, work conditions, and the prevailing organizational climate is a fundamental factor in guiding behavior and determining attitudes. Perception is defined as “the process of receiving external stimuli and interpreting them in preparation for translating them into behavior” (Zolif, 2000, p. 24). The process of perception relies on two main factors: mental activity and the functioning of sensory organs. How an individual interprets sensory stimuli depends on their experience, interest in the stimulus at that moment, the sensitivity of the sensory organs, and the degree and type of integration among these factors. Knowledge of reality develops through the use of various senses.

According to Thayer (n.d.), there are two types of reality:

- a) Physical reality:** Primarily perceived through the senses, making it easier for individuals to interpret.
- b) Social reality:** The reality in which an individual lives, including aspects that are difficult to measure accurately, such as attitudes, emotions, and values (Dadi Adoun, n.d., p. 98).

In the organizational context, perception is essential for diagnosing professional and organizational realities, understanding the nature and quality of labor relations, and the methods by which organizational functions are managed. Based on this perception, individuals classify events, behaviors, and the professional social environment.

Maher Mahmoud Omar summarizes the main characteristics of social perception as follows (Zahran, 2000, p. 266):

1. Emotional process: Involving feelings of connection, affection, acceptance, or, conversely, dislike, resentment, and hostility.
2. Experiential process: Perceptions are colored positively or negatively based on previous social experiences, whether pleasurable or painful.
3. Reciprocal process: Social perception is often bidirectional, occurring between individuals and others, or between groups. Feelings of love, trust, appreciation, respect, and cooperation are strongest when mutual.
4. Comparative process: Individuals compare their own reference frameworks with those of others, which enhances perception of those similar to them and reduces recognition of those who differ in personality traits, social standards, cultural background, or socio-economic levels.

Besides all of this, the success of AI-based organizational models depends not only on efficiency or pricing strategies but on perceived fairness, ethical compliance, and trust, which constitute core elements of organizational justice in digital and emerging-market contexts (Cheriti, 2025b).

Perception of Social Reality and the Cultural Field

An individual's awareness of social reality and the system of values that guide behavior, along with adherence to justice as a human social phenomenon, serves as a reference for interactions between the self and others. This awareness is an indicator of the formation of the cultural field within society, which strengthens social bonds and fosters a communal spirit among members through processes of social and professional exchange.

According to Ben Issa (2010), trust is a fundamental component of this cultural field:

“Each party in a relationship has no doubt that the other will respect the rules of the game and will act according to the norms of reciprocal or cooperative relations that govern them” (p. 236).

Such trust emerges from the presence of justice among actors, which is perceived within the group during reciprocal interactions—not as a utopian moral philosophy, but as a social horizon and civilized behavior that explains how and why relationships persist. Values confer legitimacy on the social organization in which they appear (Group of Authors, 2010, p. 19).

Max Weber similarly emphasizes the role of shared values in legitimizing and sustaining social structures, illustrating how cultural norms underpin both social cohesion and organizational stability.

4. Organizational Justice and Its Relationship with the Cultural Domain of the Institution

The cultural domain contributes to building social and organizational identities for various professional groups. Organizational culture fosters harmony and alignment through shared responsibilities and professional and social roles, preparing the ground for qualitative improvements in management practices that enhance both individual and collective performance (Bashir, 2007, p. 9).

Organizational justice functions as a roadmap within the socio-cultural context, guiding the achievement of individual and collective goals while ensuring that the rights and duties of all professional groups are respected. This aligns with the organizational domain and preserves the cultural symbols of various professional identities through the principle of mutual recognition. Organizational culture can be understood as “the homogeneous set of shared attitudes of all employees in the work setting” (Bashir, 2007, p. 9). Therefore, employee behavior aligns with shared principles, and any unjust behavior is met with rejection, disdain, or resistance. When individuals internalize the meanings of culture and adhere to its values, they adopt its normative logic, rejecting deviations from established patterns. Linguistically, the Arabic term for culture, *thaqafa*, literally implies straightening or correcting irregularity; similarly, “to adjust balances and measures is to straighten them” (Zouaoui Baghoura, 2012, p. 114). Justice and culture converge in this linguistic sense, emphasizing the importance of aligning situations with natural and functional relations.

The content of culture—including religion, values, ethics, rituals, heritage, and norms—constitutes the core and guiding framework of culture, as highlighted by Kluckhohn (Bouguerra, 2008, p. 59). These elements form the foundation that governs patterns of individual and collective behavior and societal structures. The effectiveness and presence of organizational justice within an institution depend primarily on cultural and civilizational conviction, rather than merely on administrative laws and regulations imposed by the organizational domain. As Bouguerra (2008) emphasizes,

“Any malfunction experienced by an individual, group, or organization is fundamentally a disruption in its cultural world, encompassing cognitive, behavioral, and spiritual dimensions” (p. 15).

Societies that produce and embody culture cannot achieve stability unless their members perceive alignment with their cultural values. Organizational justice reflects this alignment, serving as a social phenomenon that expresses human sociality and reinforces societal cohesion.

From the preceding discussion, the importance of organizational justice within an institution’s cultural domain becomes evident. Justice reflects satisfaction with the ways in which actions

are taken, decisions are made, and information is distributed. It manifests in individuals' perceptions as meanings, symbols, and tangible entities that they believe in and defend. Organizational justice does not reduce the human being to an economic entity concerned only with wealth accumulation or material claims within a framework of distributive justice. Rather, it considers the human as a social being whose concerns include not only material rights but also dignity, recognition, mutual respect, freedom of expression, and opportunities for interaction.

Thus, organizational justice—across its distributive, procedural, and interactional dimensions—establishes a socio-cultural framework that explains employees' behavior. This aligns with modern perspectives that view organizations as social entities with their own values, open to the surrounding cultural environment. In this sense, organizational justice contributes to the production and reproduction of shared values and norms. As Khalifa (2016) notes,

“Values are an integral part of the objective reality of life and human experience. Things are not inherently associated with sublime values; the value of things emerges from our interaction with them, our striving toward them, and the formation of our desires and attitudes toward them” (p. 32).

Organizational justice, therefore, reflects the culture of the society or organization as a social entity. Among the key value elements that guide behavior and help predict it are organizational commitment, organizational loyalty, organizational citizenship, and organizational trust. These variables are closely associated with organizational justice and have been the subject of numerous empirical studies across various disciplines, demonstrating the positive impact of justice on organizational effectiveness. As Zouaoui Baghoura (2012) emphasizes,

“The question of justice cannot be reduced to the distributive allocation of goods; there are other aspects of individuals' and groups' lives that must be treated justly” (p. 14).

These aspects are essential in expressing social and cultural identity within the organizational context.

Conclusion

Scholars agree that “values play a fundamental role in preventing psychological, social, and economic disruptions, thereby achieving social justice and economic prosperity within society” (Al-Jazzar, 2008, p. 96). The more these values, including justice, are internalized by individuals based on cultural conviction and manifested through social relationships, the more they encourage individuals to embody these values in their actions and behaviors. This alignment also corresponds with the rules and legal frameworks of the organizational domain, thereby legitimizing membership within the group. As Diab (2006) emphasizes,

“Justice is a social phenomenon, and its evaluation does not occur in a vacuum; rather, it is carried out by the individual under the influence of the social and cultural environment of the society in which they live” (p. 47).

The prevalence of organizational problems indicates neglect of a fundamental component within the administrative system—namely, the system of values. Modern management philosophy emphasizes understanding organizational behavior through the lens of prevailing values within the institution and their impact on employee performance, aiming at the ethicalization of organizational practices. This approach gives equal attention to the cultural domain alongside the organizational domain. While organizations are inevitably shaped by conflict and competition for power—“the law that governs all forms of social life” (Hamed, 2008, p. 109)—the goal is to balance law and values. The cultural domain can guide social and professional regulation, strengthen interpersonal bonds, and orient behaviors toward transparent competition, mutual recognition, and trust, thus creating conditions for all actors to work effectively and enhance organizational outcomes.

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Facebook as a Tourism Promotion Tool: Its Role in Encouraging Algerian Desert Tourism among Young People

A Field Study Conducted in the City of Sétif

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Abstract

This study examines the role of Facebook as a digital tourism media platform in promoting and encouraging Algerian desert tourism among young people. To achieve this objective, a field study was conducted on a sample of young Facebook users in the city of Sétif. A questionnaire was employed as the primary data collection instrument, comprising a set of questions designed to address the main research problem.

The findings reveal that Facebook ranks first -alongside YouTube- among social networking platforms used by young people to explore and discover various desert tourist destinations. The results also indicate that user-generated content shared on social media, particularly photographs and videos exchanged among friends, represents an effective and influential promotional tool for desert tourism. Furthermore, the study emphasizes the need for tourism professionals and institutions to actively manage their social media pages to enhance their promotional impact and ensure a more professional and strategic approach to communication.

Keywords: Desert tourism; Facebook; Youth; Social media marketing; Digital communication; Tourism promotion.

Introduction

Tourism activity has become one of the major concerns of many countries today due to the significant revenues generated by this sector on the one hand, and the comfort, leisure, and recreation it provides for large numbers of people seeking relaxation and enjoyment on the other. Tourism is considered a human phenomenon that dates back to ancient times; it is as old as humanity itself and deeply rooted in the history of nations and civilizations (Al-Dughaim, 2012).

It is well known that human beings are characterized by dynamism and mobility, and they naturally tend to change their environment rather than remain in the same place and condition. Travel offers individuals a sense of security and stability, as well as pleasure, relaxation, entertainment, and recreation. However, the tourism sector in Algeria remained neglected for many years, particularly due to the difficult conditions the country experienced during the past decades, especially the period known as the “Black Decade.” This period instilled fear and anxiety among Algerians, making travel for tourism purposes from one place to another a difficult and often unattainable dream. In recent years, with the return of security and stability, Algerians’ perceptions of tourism have changed significantly. Many Algerian families now prefer to spend their holidays within the country, visiting various destinations such as forests, mountains, and desert areas during winter, as well as the country’s attractive beaches during the summer season.

Mass media and communication technologies have played an important role in the tourism sector through advertising and promotion using print, audio, and visual media, exhibitions, films, and other communication tools. These media have contributed to introducing tourist destinations, promoting tourism services, and raising tourism awareness related to tourism activities. In the contemporary digital environment, communication practices are increasingly shaped by screen-based technologies and algorithmic platforms. Recent research highlights that digital media—particularly smartphone-centered and social networking environments—do not merely transmit information but actively structure users’ perceptions, attention, and decision-making processes (Cheriti, 2025). In this sense, social networking sites such as Facebook function as cognitive and cultural mediators, influencing how users interpret visual content, evaluate destinations, and construct tourism imaginaries.

As Cheriti (2025) explains, prolonged engagement with digital platforms fosters new forms of screen-centered interaction, where images, short videos, and algorithmically prioritized content play a decisive role in shaping attitudes and behavioral intentions. This dynamic is particularly relevant to tourism promotion, where visual storytelling and peer-generated content strongly affect users’ motivations to travel and explore new destinations.

As a result of major technological developments in the field of information and communication, electronic media and social networking sites have emerged, creating a qualitative shift in the world of communication. These platforms have connected distant parts of the world, facilitated interaction among societies, and enabled the exchange of opinions, ideas, and interests. Users have benefited from the diverse services provided by these

networks, including the ability to express concerns and share photos and videos, which have become important sources of information for many users.

Within this context, several tourism institutions and facilities have benefited from social networking platforms -particularly Facebook- as a promotional tool used to introduce and promote various tourist regions and cities, as well as their cultural heritage. This has contributed significantly to improving Algeria's tourism image both locally and internationally. Tourism in Algeria is diverse and includes thermal, mountain, religious, and cultural tourism. Among the most important forms is desert tourism, as Algeria possesses a vast desert that attracts a large number of tourists, especially foreigners. Accordingly, this study seeks to explore the opinions of Facebook users regarding the extent to which this platform encourages them to visit and discover desert regions.

Based on this, the research problem of the study is formulated as follows:

- How does Facebook contribute to promoting a culture of desert tourism among young users?

The main research question gives rise to a set of sub-questions, which can be formulated as follows:

- What is meant by desert tourism?

- Do young people rely on social networking sites in the field of tourism?

- What role does Facebook play, compared to other social networking platforms, in encouraging Algerian desert tourism?

Significance of the Study

The importance of this study stems from the significant role that social networking sites, particularly Facebook, can play in informing users and encouraging them to engage in desert tourism in Algeria. It has become common for many Algerians to prefer traveling abroad for their holidays, despite the fact that their country possesses exceptionally attractive tourist destinations that remain unknown to a large segment of the population. In this context, Facebook plays a vital role through the diverse content published on its pages, including photographs, videos, and other shared materials, which contribute to promoting Algerian desert tourism and improving its image both at the local and international levels.

Methodological Procedures

Type and Method of the Study

The present study falls within the framework of descriptive research, which is based on the collection, analysis, interpretation, and presentation of data in accordance with the objectives defined by the researcher. Descriptive studies aim to provide both quantitative and qualitative descriptions of various phenomena. In media studies, this type of research is widely used to describe individuals and groups, analyze attitudes, motivations, needs, patterns of media use, preferences, and levels of interest (Abdelhamid, 2002). The research method is defined as the

systematic approach through which the researcher seeks to uncover the truth in studying a particular problem by following a set of scientific rules (Zerouati, 2002). It is also described as the path taken by the researcher to reach specific conclusions (Bouhouch, 1991), or as the art of organizing a series of ideas either to discover or to demonstrate a particular truth (Bouziyan, 1990).

For the purposes of this study, the survey method was deemed the most appropriate. In order to avoid conducting a comprehensive survey—which would require more time and effort—the study adopted a sample survey approach. This method is particularly suitable for descriptive studies that aim to describe the structure and characteristics of media audiences... and their behavioral patterns. This approach also aligns with the objectives of the study, as it allows for the collection and analysis of data related to Facebook users and helps determine the extent to which this platform contributes to providing them with a tourism culture related to the Algerian desert.

Research Population and Sample

The study population consists of young Facebook users in the city of Sétif. Due to the large size of the population, the difficulty of reaching all users, and time constraints related to the implementation of the study, the researcher opted for a purposive sampling method. The sample consisted of 111 respondents from the city of Sétif.

Two main conditions were established for selecting the sample: first, participants had to possess a personal Facebook account; second, they had to follow pages related to tourism.

I. Theoretical Framework of the Study

Concept of Desert Tourism

Before defining desert tourism, it is necessary to briefly introduce the general concept of tourism.

Tourism. Definitions of tourism vary depending on the perspective from which it is examined. It has been described as a social phenomenon, an economic phenomenon, and as a factor contributing to the development of human relations and cultural growth. Among the notable definitions is that proposed by the German scholar Göber Fröiler (1903), who defined tourism as:

“A phenomenon of our time arising from the growing need for rest and a change of environment, the development of an appreciation of natural beauty, and the sense of joy and pleasure derived from staying in areas with distinctive natural characteristics. It also results from the growth of communication, particularly among peoples and different social groups, which emerged as a consequence of the expansion of trade and industry—whether large, medium, or small—and the advancement of mass media.”

The World Tourism Organization (UNWTO) defines tourism as the movement of individuals from one place to another for various purposes, for a period exceeding 24 hours and not exceeding one year. Desert tourism. Desert tourism is considered a form of ecotourism that aims to visit desert and archaeological areas and explore ancient sites located deep within the desert sands (Kerkouche, 2012). According to Algerian legislation, desert tourism is defined as “any tourist stay in a desert environment that is based on the exploitation of various natural, historical, and cultural resources, accompanied by activities related to this environment such as entertainment, leisure, and exploration.” Desert tourism is viewed as a new tourism product that deserves increased attention and development due to its importance in supporting economic and social development.

II. The Reality of Desert Tourism in Algeria

The importance of desert tourism in Algeria is reflected in the diversity of its sectors and activities, including ecotourism, cultural and heritage tourism, as well as safari and exploration tourism. Desert tourism serves as a source of national income, contributes to the inflow of foreign capital, and generates hard currency through the arrival of foreign tourists. Focusing on this sector also helps to break the isolation of remote desert regions, transforming them into active and dynamic areas, thereby linking them to major urban centers. Furthermore, it promotes the cultural heritage of these regions through the display and marketing of traditional crafts. These factors collectively contribute to environmental preservation, protection of wildlife, and conservation of archaeological sites (Sebti, 2012).

To understand the current state of desert tourism in Algeria, it is essential to consider the country’s natural, cultural, and historical assets. Algeria possesses significant cultural, historical, and natural wealth, encompassing numerous high-value tourist sites with remarkable aesthetic qualities. Its strategic geographic location and favorable climate further position it as a leading tourism destination. Located in North Africa, Algeria is the largest country on the continent, sharing extensive borders with seven neighboring countries across the east, west, north, and south, which contributes to its rich cultural diversity (Sebti, 2012).

The southern region accounts for approximately 20% of Algeria’s total area and features a rich and diverse desert tourism product that must be protected and sustainably utilized to promote desert tourism. Southern Algeria is characterized by numerous scattered oases, palm groves, fertile soil, sand dunes, misty landscapes, springs, and rocky plains. Key desert areas include Adrar, Illizi, Tamanrasset, Tindouf, Oued M’zab, Hoggar, Tassili, Djanet, Ouargla, and Béchar (Sebti, 2012). Algeria also possesses a rich cultural and historical heritage, reflecting the succession of human civilizations and historical stages across the region. Many cultural and natural sites have been recognized by UNESCO as World Heritage Sites, including the Hoggar and Tassili regions.

The vast southern region is home to numerous historical landmarks, palaces, and prehistoric rock engravings found in various desert provinces. Notable examples include the Written Rock in Naâma, Tinhanan in Tamanrasset, the old palace in Tiout, Timimoun Palace, Roman ruins in Biskra, and rock inscriptions in Béchar, Illizi, Hoggar, and Risha in Laghouat. In addition, the region contains historic Islamic corners and mosques with distinct architectural

designs, such as the Tijaniyah corner in Laghouat, along with traditional urban constructions in Ghardaia and other provinces (Salami, n.d.).

Despite Algeria's rich natural, cultural, and historical assets, desert tourism faces several challenges that hinder its development. The main obstacles include:

- a) Lack of tourism awareness among the population.
- b) Instability in the management and organizational structure of the tourism sector.
- c) Insufficient infrastructure and basic facilities for the tourism industry.
- d) Limited governmental attention to the tourism sector.
- e) Security conditions experienced in Algeria in previous decades (Tghlissia & Bougazhi, 2012).

III. Social Networks and Tourism

An Overview of Social Networking Sites

Social networks (English: social networks) are websites that allow individuals who share similar interests to connect, share information, photos, and videos. These platforms rely on online communication tools to enable interaction among friends, family, and colleagues (Al-Hiyari, 2021). Social networking first emerged in the United States as a way for school students to interact. The first social networking site for American students, Classmates.com, appeared in 1995. The site divided the American population into states, each state into regions, and each region into schools. Users could search for their school and reconnect with classmates to share concerns and information (Shdan, 2015).

This was followed by another early social networking attempt, SixDegrees.com, launched in the fall of 1997. This platform focused on direct connections between individuals regardless of academic, ethnic, or religious affiliation, marking the beginning of borderless social networking. It allowed users to create personal profiles and send private messages. However, the platform eventually shut down due to insufficient funding for its services (Shdan, 2015).

The Emergence of Facebook and Social Networking Sites

Following the introduction of social networking platforms in the 1990s, several niche social networks emerged targeting specific groups, such as AsianAvenue.com for Asian Americans and BlackPlanet.com for African Americans. However, these platforms did not achieve significant success between 1997 and 2000 (Shdan, 2015). Facebook, on the other hand, became one of the most important and widely used social networking platforms. It is not merely a social forum but a technological base that allows users to perform a wide range of activities online (Sadiq, 2012). Facebook was created in 2004 by Mark Zuckerberg, a student at Harvard University. The platform's name was inspired by the "face books" distributed at universities at the time to help students meet and connect with each other, especially upon graduation. Initially, Facebook was limited to Harvard University but gradually expanded to other universities, schools, and organizations (Shaqra, 2012).

Today, Facebook functions as a virtual community where users choose their friends and communicate after mutual consent. Beyond personal use, the platform offers broader services for businesses and organizations, enabling them to display products and advertise services, thus introducing a new form of digital marketing. Facebook currently leads in usage in many countries, including Algeria, where it is widely used across various segments of society. Statistics from December 2019 to December 2020 indicate that Facebook users accounted for 29.22% of social media users, followed by YouTube at 11.21%, Twitter at 2.21%, Pinterest at 2.21%, Instagram at 0.92%, and LinkedIn at 0.02% (StatCounter, 2020).

Characteristics of Social Networking Sites

Social networking sites are characterized by an interconnected network structure, linking users not only to one another but also to other social networking platforms. This interconnectedness facilitates and accelerates the flow of information across networks (Shdan, 2015; Sadiq, 2012; Shaqra, 2012).

- a) Most social media platforms provide open services that allow user interaction, content creation, or editing of pages. They encourage voting, commenting, and information sharing, and there are rarely barriers preventing access to or use of the content (Shdan, 2015).
- b) Pages on social networks typically function by providing information about a product, person, or event. Users can browse these pages through specific categories, and if they are interested, they may add the page to their personal profile.
- c) Many social media platforms also offer the option to create interest-based groups. These groups can be established with a specific name and purpose. The platform provides the group owner and members with a space similar to a mini discussion forum, a photo album, and tools to organize events (événements) where members can be invited, and attendance tracked. This structure enables users to communicate, share experiences, and coordinate activities efficiently (Shdan, 2015).
- d)

IV. The Role of Facebook in Promoting Desert Tourism among Algerians

Data from tourism forums indicate that social media platforms play an increasingly significant role in promoting desert tourist destinations, functioning similarly to advertising channels. Consumers often obtain direct information about tourism products from individuals with personal experience, frequently shared voluntarily without compensation through photos, videos, and reports.

The importance of social media in desert tourism has grown with the rise of electronic tourism, which has become essential today. Online promotion is fast and efficient, significantly reducing the costs associated with traditional marketing campaigns that can reach millions. Digital marketing aligns with contemporary trends, particularly as social media users are present everywhere. Facebook has also enabled the development of innovative tourism programs, helping to break the routine of traditional packages and continuously meeting the evolving needs of tourists. Social networks enjoy considerable credibility among decision-makers, tourism companies, hotels, and service providers, who use

these platforms to market their tourism products. In some cases, this has allowed users to bypass travel agencies entirely, making direct bookings with tourism establishments or airlines.

Consequently, some Facebook pages have played a vital role in introducing previously unknown or overlooked desert tourist sites by sharing photos of natural landscapes or videos captured by friends during their visits (Shdan, 2015).

Some Facebook pages are specifically dedicated to promoting tourist destinations, such as Tourism and Travel in Algeria, Algeria Tourism, Tourism in Algeria, and the tourism magazine Assihar, which maintains an active Facebook page sharing photos, videos, and links to various tourist sites, particularly in the vast Algerian desert (Assihar, n.d.).

It is important to note that e-tourism, whether via social networks or dedicated online platforms, requires several prerequisites for effective implementation, especially in developing countries. These requirements extend beyond the existing tourism infrastructure to include:

- a) Institutional and organizational frameworks: Coordination between ministries and relevant authorities to integrate e-commerce applications into all tourism operations.
- b) Research and knowledge dissemination: Access to global research on e-tourism and e-commerce applications in various tourism sectors, made available to tourism companies and projects.
- c) Readiness assessment: Evaluating the preparedness of tourism companies, travel agencies, hotels, and other intermediaries to implement e-tourism, identifying financial, human, and technical constraints, and proposing solutions, including the role of government bodies.
- d) Support for small enterprises: Providing material and technical support to small tourism companies and hotels that face financial or expertise limitations, including hardware, software, and employee training.
- e) Monitoring potential negative impacts: Studying the long-term effects of e-tourism expansion on the traditional tourism sector, which may reduce benefits for traditional intermediaries such as tour operators, travel agencies, booking networks, and distributors who traditionally connect service providers like hotels, restaurants, airlines, and tourist attractions in integrated packages.

Facebook represents a key aspect of this evolution, enabling the adoption of innovative tourism programs. This flexibility helps break the routine of traditional tourism offerings and continuously meets the evolving expectations of tourists. The growing importance of Facebook in promoting desert tourism among Algerian youth can be understood within contemporary media theory. Social networking platforms do not merely transmit tourism information but function as active media that shape perception, experience, and cultural imagination. Drawing on McLuhan's concept that "the medium is the message," Cheriti (2025) argues that digital and AI-driven media actively structure how audiences interpret content and make decisions. In this sense, Facebook contributes to constructing a tourism

culture by visually framing desert destinations, prioritizing specific narratives, and influencing users' cognitive and emotional engagement with tourism spaces .

Discussion

The results of the field study indicate that the youth sample primarily rely on social networking sites to explore desert tourist destinations in Algeria. Traditional media, such as radio and television, follow in importance, while a smaller proportion of respondents use tourism magazines or other sources.

For example, the Assihar tourism magazine maintains a Facebook page that publishes videos, photos, and links to various tourist sites across Algeria, with particular focus on the country's vast deserts. The page currently has 45,461 likes and 22,172 followers, providing an accessible source of information and inspiration for potential tourists (Assihar, n.d.; Oushan, n.d.).

- a) Respondents indicated that they rely on their friends and acquaintances to obtain information about tourism, both domestically and internationally. This underscores the significant role that social networks play today as an alternative to traditional media and highlights the emergence of virtual tourism via the Internet. Virtual tourism contributes to promoting and familiarizing tourists with destinations by offering rich and rapidly accessible information about various tourist areas.
- b) The study revealed that Facebook and YouTube ranked first among social networks used to learn about Algerian desert tourism. Respondents primarily use these platforms to access information regarding the services provided by various travel agencies and hotel establishments. Instagram followed, with other dedicated tourism websites ranking lower. The main reasons for this preference are the popularity and wide usage of Facebook and YouTube among Algerians. According to an international report published by Echorouk Online, as of January 2023, Facebook had over 21 million subscribers in Algeria, representing 23.2% of the population aged over 18 (Echorouk Online, 2023).
- c) The respondents confirmed that photos and videos shared on Facebook featuring desert tourist destinations stimulated their interest in visiting these locations. This demonstrates the effective role of visual content and links published on tourism-related pages in attracting potential tourists and creating curiosity about these sites.
- d) Additionally, respondents indicated a preference for visiting locations previously explored by their online friends, using their experiences as a source of practical information about suitable destinations, the quality of hotel services, pricing, and other relevant details.

- e) Respondents are also highly influenced by positive or negative feedback shared by friends regarding desert tourist destinations, including the quality of tourism services. This feedback often determines whether they decide to visit particular locations.
- f) Moreover, respondents tend to share photos and videos of their own trips on Facebook to inform their friends about different destinations, encourage them to travel, and express admiration for the aesthetic appeal of various desert areas in Algeria.
- g) However, the study also highlighted that existing posts do not fully meet the needs of page visitors. Information is often insufficient, and guidance or answers to specific questions regarding prices, service quality, tour programs, and the nature of tourist sites are frequently lacking (Echorouk Online, 2023).

The limited interaction on tourism-related Facebook pages and groups is largely due to the fact that administrators are often not professional tourism promoters or practitioners. Most of them are young enthusiasts of desert tourism or local residents who aim to introduce certain areas in their provinces out of personal interest rather than professional expertise (Shdan, 2015).

Respondents emphasized that Facebook is an extremely important tool, particularly in light of recent technological advancements, for spreading awareness and promoting desert tourism among users. They highlighted the necessity for qualified tourism professionals to supervise Facebook pages. Such specialists would possess the skills and capabilities to effectively conduct electronic promotion, attracting both domestic and international tourists. Professional oversight ensures that users receive comprehensive information on tourist activities, including advertisements for events, festivals, and tourism exhibitions targeting both local and international markets.

Conclusion

In conclusion, the use of social networks to promote tourism culture among users has become a necessity driven by recent technological developments. Social media platforms, particularly Facebook, are among the most important tools for modern tourism marketing.

Recommendations

- 1 Leverage information and communication technologies, especially social media of all types, to develop desert tourism culture among Algerians by promoting southern Algeria and other tourist destinations in engaging and efficient ways.
- 2 Encourage tourism agencies to actively use these platforms to raise awareness of desert tourism and to promote their services effectively.

- 3 Relevant authorities, particularly the Ministry of Tourism and Handicrafts, should develop strategic plans to advance desert tourism, utilizing the capabilities offered by various social media networks.

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**Theoretical Foundations of Information and Communication Sciences
from a Cybernetic Paradigm
An Analytical Study of a Sample of Publications from Cairn.info**

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Abstract

The establishment of any scientific field requires three fundamental conditions: a clearly defined subject, a specific methodology, and a coherent theoretical framework. These conditions were gradually fulfilled in the field of Information and Communication Sciences during the 1950s. After the identification of media phenomena as a legitimate object of study, attention turned to theory—more specifically to paradigms, which encompass both theoretical perspectives and methodological approaches. During this period, the cybernetic paradigm emerged as one of the most influential frameworks guiding and regulating research in information and communication. This study examines the relationship between the cybernetic paradigm and Information and Communication Sciences by applying an open systemic approach and a content analysis method to a selected sample of cybernetics-related publications available on the Cairn.info platform. The objective is to assess the extent to which this paradigm has contributed to the development of media and communication studies.

The research highlights the significant role played by the cybernetic paradigm in shaping key themes and analytical perspectives within the media field. Through theoretical analysis and content analysis of publications issued by three academic institutions indexed on Cairn.info, the study reveals that although cybernetics is considered a foundational paradigm in Information and Communication Sciences, it no longer receives sufficient scholarly attention or in-depth scientific analysis. This relative neglect has negatively affected research topics associated with the cybernetic paradigm in media studies. Moreover, it has led to the marginalization of its founding scholars across successive generations, from the first to the third, along with a diminished use of the concepts and models developed within this framework. This decline is particularly evident in the nature and orientation of contemporary academic research.

Keywords

Theoretical Foundations; Cybernetic Paradigm; Analytical Study; Cairn.info

Introduction

Despite the profound developments witnessed in the field of information and communication technologies, the cybernetic paradigm continues to occupy a central position in intellectual reflections on communication. This paradigm has long represented a priority for scholars working in the domain of media and communication technologies. From this perspective, an essential question arises: can the cybernetic paradigm be considered an almost exclusive crucible of communication thought?

Bernard Miège addresses this question in his book *Communication Thought: From Its Foundations to the Turn of the Third Millennium*. He argues that answering this question affirmatively would carry a significant implication—namely, the neglect of a wide range of intellectual currents and theoretical contributions that emerged within different frameworks. These currents first appeared and developed in the United States during the 1940s, before later expanding geographically into Europe (Miège, 2000, p. 9).

This observation highlights the major role played by the cybernetic paradigm in the epistemology of Information and Communication Sciences, particularly given that both emerged during the same historical period. This simultaneity fostered a strong and enduring relationship between cybernetics and communication studies. Indeed, scholars affiliated with the cybernetic paradigm were among the earliest to integrate their ideas into the emerging field of communication, as clearly illustrated by Shannon's mathematical model of communication. Despite having been introduced more than six decades ago (in 1948), this model remains widely applied in contemporary media research. Furthermore, some technical scholars continue to recognize Shannon's model as the only legitimate framework for studying Information and Communication Sciences. This stance has significantly influenced the orientation of research within the media field and has contributed to reinforcing a technically driven understanding of communication processes. Cybernetic studies published on the Cairn.info platform provide a clear example of how media research has been directed toward specific epistemological concerns, such as the analysis of communication through the binary logic of inputs and outputs. These elements are treated as measurable and analyzable variables within media studies. However, the validity and relevance of the results derived from such analyses remain closely dependent on the degree of methodological rigor and on the theoretical framework adopted to approach the subject, particularly when communication is treated as a documented theoretical construct.

Research Problem

Humanity's scientific journey has consistently sought to uncover truth, whether in the natural or social and human sciences. Achieving this goal typically relies on three fundamental pillars: theories, methodology, and research subject. Theories aim to interpret, understand, and explain phenomena while reflecting the researcher's perspective on the studied object within their knowledge domain and area of expertise. Methodology serves as a roadmap for theorizing and guiding the research process, providing a structured set of tools to explore

diverse scientific inquiries. Finally, the research subject itself determines the choice of method and shapes the interpretive framework, enabling the researcher to exercise greater control over the study.

As scientific literature expanded and knowledge became increasingly specialized, the emergence of “hyper-specialization” influenced all fields, including Information and Communication Sciences. This discipline began drawing on theories from technical sciences at some stages and from social and psychological sciences at others. By the early 21st century, these studies faced fewer challenges in establishing methodological rigor compared to theoretical frameworks. Consequently, attention shifted to macro-level theoretical frameworks, known as paradigms, which provide overarching structures for understanding and organizing knowledge. Researchers ultimately identified four major paradigms in Information and Communication Sciences: the behavioral, functional, interpretive, and cybernetic paradigms. As highlighted by Saad (2010), these paradigms, each grounded in distinct principles and perspectives, established new rules for studying communication phenomena. They also opened significant avenues for scholars to enrich, critique, modify, and refine theories, facilitating a deeper understanding of media and communication processes. Each paradigm offers a unique approach. The behavioral paradigm focuses on stimulus–response mechanisms, analyzing actions and reactions as measurable events. The functional paradigm emphasizes the societal role of media, viewing media institutions as structures that maintain social stability, and highlighting that failure of these media to fulfill their functions may lead to systemic dysfunction. The interpretive paradigm, in contrast, seeks to understand, explain, and interpret phenomena without generalization, treating each communication event as unique and non-reproducible.

Despite the limited attention given to the cybernetic paradigm by researchers in the field of Information and Communication Sciences, as reflected in the holdings of many academic libraries, this paradigm has maintained significant recognition among scholars in the natural sciences in general and among technical researchers in particular. The foundations of cybernetics were established in the 1940s, primarily within technical fields such as mathematics, ballistics, and early missile science. Shannon’s mathematical model of communication, introduced in 1948, exemplifies the adaptation of cybernetic concepts to media studies. Shannon, a student of Norbert Wiener—the founder of cybernetics—later developed his own model, which laid the groundwork for subsequent research.

Although studies applying the cybernetic paradigm in communication research remain limited, important contributions can be found in specialized databases, particularly Cairn.info, which documents a range of related publications. The paradigm’s significance is further highlighted in foundational works, including Bernard Miège’s *Communication Thought* and Hassan Saad’s *Dominant Paradigms in Information and Communication Sciences and Their Epistemological Issues*, illustrating how cybernetics contributed to the theoretical foundations of Information and Communication Sciences.

Consequently, the central research question guiding this study is as follows:

What theoretical foundations has the cybernetic paradigm provided to Information and Communication Sciences, based on publications from Cairn.info?

Sub-questions

To address this central question, the study is further divided into the following sub-questions:

- a) Does the cybernetic paradigm represent an epistemological rupture or a continuity of knowledge in the field of Information and Communication Sciences, according to publications on Cairn.info?
- b) What specific topics have been studied in detail under the cybernetic paradigm, as evidenced in Cairn.info publications?
- c) Do the studies on the cybernetic paradigm within Cairn.info reflect the actual nature and practice of media research?
- d) What contributions has the cybernetic paradigm made to the development of Information and Communication Sciences, based on Cairn.info publications?

Hypotheses

In response to these questions, the study proposes the following preliminary hypothesis:

Based on publications indexed on Cairn.info, the cybernetic paradigm emerged as the result of an epistemological rupture with prior theoretical approaches in Information and Communication Sciences.

Based on publications indexed in Cairn.info, the cybernetic paradigm primarily examined the mechanisms through which communication processes are controlled and regulated. However, these publications do not fully reflect the actual nature and practice of media research, indicating a gap between theoretical models and empirical realities. Despite this limitation, the cybernetic paradigm has opened new avenues for inquiry in Information and Communication Sciences, providing a conceptual framework for exploring communication phenomena in innovative ways. Notably, these findings reflect a tension between two perspectives: one emphasizing the paradigm's limitations, and the other highlighting its positive contributions.

Study Objectives and Significance

This study aims to achieve several key research objectives:

- a) Clarify the nature and scope of the cybernetic paradigm and resolve ambiguities surrounding its conceptual framework.
- b) Identify theoretical elements that have been neglected in studies associated with the cybernetic paradigm.
- c) Examine the theoretical models proposed within the cybernetic paradigm in Cairn.info publications, with a focus on diverse media topics, supported by practical examples.

- d) Provide the researcher's own conceptual models within this paradigm, while considering the specific characteristics of Information and Communication Sciences and ensuring compatibility with both traditional and cybernetic frameworks.

The significance of this study is closely tied to the historical importance of the cybernetic paradigm for Information and Communication Sciences. Its emergence coincided with the foundational period of the discipline in the 1950s and 1960s. Furthermore, the models offered by the paradigm have been adapted across various media research topics, providing a ready-made epistemological framework for future studies within the paradigm.

Methodology

The methodology reflects the researcher's overall conceptualization of the study and is designed to ensure both rigor and validity. Following Angers (2014), methodology is understood as a structured set of carefully considered procedures that enable the researcher to implement the study systematically. The approach integrates well-considered tools and techniques to ensure reliable outcomes, while also allowing for critical assessment of the research process. This framework ensures that the study's objectives are pursued effectively and that findings are robust and applicable within the context of Information and Communication Sciences. Given that this study concerns the cybernetic paradigm, which is distinguished by its application of the open-system analysis method, this approach was adopted as the core methodological framework. The method relies on the input–output logic, which is governed by a set of principles:

- a) Examining the relationship and boundaries between the system and its broader environment.
- b) Analyzing the nature and effects of inputs on the environment, as well as the resulting outputs (Bouamama, 2012, p. 102).

To operationalize this methodology, the study employed content analysis as its primary analytical tool. The inputs consisted of the language used in the publications, the category of actors involved, and a subsequent classification of these actors according to their specific roles. Additional input categories included the research methodology and the type of source used. The system, or the entity processing these inputs, was represented by the typological category of each study. Outputs were coded under the topic category, which included conceptual units, theories, models, generations of research, and the fields of application of the cybernetic paradigm. Content analysis, as defined by Sankour (2019), is “the scientific analysis of communication messages” (p. 232). It is commonly applied in studies where data collection tools rely on both printed and unprinted documentary sources (Qandilji, 2012, p. 12). In this study, content analysis was supplemented with techniques to ensure the reliability and consistency of the coding form. This was achieved through a process of expert validation involving three judges, following the formula for calculating reliability proposed by Tamar (2012, p. 20):

$$\text{Reliability coefficient} = (N_0 + N_1 + N_2) / M \times N$$

Where:

- a) NNN = number of judges
- b) MMM = average agreement between judges
- c) N0N_0N0 = number of categories coded by the first judge
- d) N1N_1N1 = number of categories coded by the second judge
- e) N2N_2N2 = number of categories coded by the third judge

This rigorous procedure ensured the validity and reliability of the content analysis instrument, allowing for a systematic and scientific examination of the cybernetic paradigm within Cairn.info publications.

Reliability Assessment and Review of Previous Studies

Reliability Assessment

To ensure the consistency of the content analysis instrument, the reliability coefficient was calculated using the previously described formula. The result was 1.92, indicating a very high level of reliability.

A second method was also employed to confirm this result. In this approach, the average agreement among the three judges was calculated and then divided by the total number of coded pairs. The resulting reliability coefficient was 1.93, further confirming the robust consistency of the instrument and the validity of the coding process.

Review of Previous Studies

A comprehensive review of the literature was necessary to identify key concepts and terms related to the study topic. This involved consulting reference books, journal indexes, and other academic sources (Angers, 2014, p. 32). Based on this review, the primary terms relevant to the study were identified as cybernetics and open-system methodology.

Accordingly, previous studies were categorized into two groups:

- a) Studies focusing on the cybernetic paradigm
- b) Studies focusing on open-system methodology

Studies Focusing on Cybernetics

Books

Assar (2012) authored *An Introduction to Social Cybernetics: An Attempt to Control Human Behavior*, published by the National Office of University Publications in Algiers. The book emphasizes the long-standing human effort to control and guide behavior, linking these efforts to cybernetic theory. Assar also explores the conceptual roots of cybernetics, tracing them back to their Greek origins, and distinguishes between mathematical and non-mathematical models within cybernetics. This work provides a foundational framework for understanding how cybernetic concepts have been applied to social and communication phenomena.

Bouajim, J. (2019) authored *La “société de l’information” et son impact sur les pays en développement* [Information institutions and their impact on developing countries], published by Hassnaoui Publications in Algiers. This work examines the ambiguity and multiplicity of meanings associated with terms such as “media,” “information,” and “informatics” in their early usage. Bouajim highlights how cybernetic studies, particularly those initiated by Robert Wiener, helped clarify these ambiguities. The book also discusses communication through cybernetics and Shannon’s mathematical communication model, demonstrating the theoretical foundations of information and communication sciences from a cybernetic perspective.

Oshy, R. (1916) published *Introduction to Automatic Control* through Chapman & Hall in London. Oshy discusses the interest of psychologists, sociologists, and physiologists in adapting principles of automatic control to their respective fields, emphasizing the interdisciplinary relevance of cybernetic theory.

Articles

Several articles provide further insights into the application of cybernetics in organizational and communication contexts.

Espinoza, A., & Leonard, A. (2016) published two studies in the *International Journal of Systems and Cybernetics*, Issue 31, Emerald Group Publishing Limited, Algiers. The first article emphasizes the importance of employee knowledge management, likening employees to DNA codes containing all relevant information about operational mechanisms and potential challenges to optimize system efficiency.

The second article, titled “The Gap: The Contradictory Nature of Organizational Closure (Organizational Gap)”, analyzes organizational gaps by dividing them into levels interconnected through communication channels. These channels implement mechanisms for controlling and monitoring the overall system, a concept referred to as self-regulation.

Other notable articles reviewed include:

- a) Diagnosis (2013)
- b) The Gap: Cybernetic-Automatic Control in Sri Lanka Peace Negotiations (2012) and Sociology
- c) From Systems Analysis to Case Study Analysis
- d) Automatic Control and Networked Systems (www)

Collectively, these studies highlight a central theme: the description and development of automated communication systems as conceptualized within cybernetic frameworks. They illustrate both theoretical and applied aspects of cybernetics in communication research, reinforcing its foundational role in understanding and regulating complex informational and organizational systems.

Dissertations

Bouamama, Z. (2012/2012) completed a doctoral dissertation entitled *The Policy of President Bill Clinton in Rebuilding the European Security System after the Cold War* at the Faculty of Political Science and International Relations, University of Algiers 3. This study facilitated the application of open-system analysis by providing a methodological framework through which a systematic extraction of input–output models could be conducted. The dissertation serves as a key reference for understanding how open-system methodology can be applied to analyze complex political and organizational phenomena, offering guidance for applying similar analytical frameworks in the field of Information and Communication Sciences.

Articles on Open-System Methodology

Ghiali, M. (n.d.) conducted a study titled *Open-System Methodology and Its Applications: An Attempt to Apply the Method to the Study of “The Nation in All Its Controversial Unity and Diversity”* by Dr. Bahjat Qurani. The study begins by examining the origins of open-system methodology and its key proponents. It then explores the concept by connecting it to two theoretical orientations: structural-functionalism and the cybernetic paradigm. These orientations influenced the development of two system-based approaches: the open system and the closed system. Ghiali identifies the five essential components of a system as: manifestation, communication, control, adaptation, and hierarchy. Applying the open-system methodology, the study reached several conclusions:

- a) Open-system analysis fosters a holistic perspective, emphasizing the system rather than individual institutions or the state.
- b) It directs research toward macro-level analysis, rather than intermediate or narrow-scale studies.
- c) The methodology has evolved over time, adapting to societal changes.
- d) Open-system methodology draws upon multiple disciplines—including sociology, anthropology, and mathematics—rather than relying on a single scientific field.
- e) This study highlights the interconnection between the cybernetic paradigm and open-system methodology, demonstrating how the latter serves as a practical tool for analyzing complex phenomena within communication and social sciences.

Paradigm:

A paradigm is a guiding framework that structures research of a particular type, providing mechanisms for conducting, controlling, and interpreting studies. Paradigms are generally grounded in epistemological approaches and can be categorized as quantitative or qualitative.

Cybernetic Paradigm:

The cybernetic paradigm is primarily quantitative and is one of the four major paradigms in the field of Information and Communication Sciences. It focuses on control and regulation in communication processes across multiple levels, typically four, to achieve effective management and understanding. It also examines input–output interactions,

including machine–machine, machine–human, and human–human interactions, reflecting its technical and operational foundations. Key models include Shannon’s Mathematical Communication Model (1948), Beer’s Viable System Model (1972), and the JPR Model by José Peres Ross (2008).

Cairn.info:

Cairn.info is an electronic academic database launched in 2011 through a partnership of four publishers: Belin, De Boeck, Découverte, and Érès, headquartered in Liège, Belgium. It provides publications in the humanities, social sciences, and related disciplines. In 2016, Cairn.info was integrated into the National Library of France, becoming a key resource for researchers.

Results

The study results are presented in two main sections: content analysis outcomes and findings according to the study hypotheses.

1. Content Analysis Results

The content analysis of Cairn.info publications on the cybernetic paradigm revealed several notable patterns:

- a) The term “control” was the most frequently used concept in cybernetic studies of organizations, appearing in 34.60% of the publications, whereas “guidance” was the least used, at 0.14%.
- b) Topics related to the cybernetic paradigm were heavily centered on models and theories, accounting for 21.33% of the studies.
- c) The use of media-related models, such as Shannon’s model and the Black Box model, was very limited, comprising only 2.92% of the analyzed models.
- d) No study discussed Beer’s Viable System Model (VSM).
- e) Attention to closed-system analysis methods was very low, representing only 6.16% of methodological approaches.
- f) Among communication disciplines, public relations was the most frequently addressed in cybernetic studies, accounting for 29.23% of the publications.

2. Results According to Hypotheses

Hypothesis 1: The first hypothesis, suggesting that the cybernetic paradigm emerges from epistemological rupture, was rejected. The analysis indicated that, based on Cairn.info publications, the cybernetic paradigm results from knowledge continuity and interaction with other fields, including military, mathematical, and physical sciences, as well as connections across the three generations of the paradigm.

Hypothesis 2: The second hypothesis, regarding the specific topics studied by the paradigm, was confirmed. Publications focused primarily on human–machine

communication, as well as key cybernetic concepts, including control (34.60%), regulation (24.09%), and guidance (0.14%).

Hypothesis 3: The third hypothesis, questioning whether cybernetics is a true reflection of reality or merely a conceptual construction, could not be conclusively tested due to the lack of an appropriate tool. To address this, the study applied a cybernetic measurement model designed to assess the validity of this question within the research framework.

Hypothesis 4: The fourth hypothesis, concerning the practical contribution of the paradigm to society, was confirmed. Studies demonstrated how cybernetic mechanisms can optimize the use of machines to serve human objectives. This finding was linked to the third hypothesis and further supported through an axiological measurement model, as detailed in the documentation section of the study.

Recommendations and Proposals

During the course of this study, several recommendations and proposals were identified to enhance the quality, direction, and rigor of knowledge-based research in the field of Information and Communication Sciences:

Emphasize theoretical and library-based research:

Information and Communication Sciences are still in their early developmental stages compared to other knowledge disciplines that have advanced over multiple decades. The seven-decade evolution of this field demonstrates the need to strengthen theoretical and conceptual studies alongside empirical research.

Focus on the technical dimension of research:

Universities that integrate both theoretical and technical aspects of communication studies achieve higher global rankings. For example, the University of Missouri leads in media studies due to its balanced combination of theory and technical application, exemplified by its historical connection to Marconi, the inventor of the radio.

Incorporate the concept of entropy into Shannon's model:

While noise negatively affects message transmission, entropy reflects the inherent uncertainty within the message itself. Including this concept provides a more complete theoretical framework for analyzing communication processes.

Introduce new cybernetic terminology:

- a) **Infocybernetics:** Refers to information exchange between machine and human without feedback loops.
- b) **Communicybernetics:** Refers to machine-to-machine or machine-to-human communication with feedback mechanisms.
- c) These terms clarify distinctions between cybernetic processes in communication and other domains, such as sociocybernetics in social sciences.

- d) Propose the fifth system in Beer's Viable System Model (VSM) as a central concept:
- e) The fifth system contains the core cybernetic concepts and can serve as a comprehensive framework. By emphasizing this component, it is suggested to refer to the model as the "Effective System Theory" rather than the traditional VSM, reflecting its theoretical primacy.

Conclusion

This study provided a structured set of cybernetic concepts grounded in the procedural definitions developed for this research. These concepts reflect the key indicators and dimensions that define terms associated with the cybernetic paradigm. The study introduced the terms infocybernetics and communcybernetics to distinguish between automated information processes without feedback (machine-to-human) and with feedback (machine-to-machine or machine-to-human). This distinction represents a significant conceptual contribution compared to previous literature. Additionally, the study applied the concept of entropy dynamically, addressing its prior neglect in cybernetic research and providing a more nuanced understanding of uncertainty in communication systems.

Overall, the research offers a refined theoretical framework for cybernetic studies in Information and Communication Sciences and presents practical terminology and methodological insights that can guide future research in this field. The cybernetic paradigm has provided a fertile ground for a wide range of communication studies. These studies span both theoretical foundations of the paradigm and applied research, facilitating human interaction with machines. In recent years, machines have become a central component not only in daily life but also in the organization of scientific research, guiding studies toward new patterns of human behavior even before influencing broader knowledge frameworks. This has been made possible by the precise conceptual and thematic organization of the cybernetic paradigm, which allows for systematic exploration and application in both theoretical and practical domains.

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Strategic Management in Action: The Role of Small and Medium Enterprises in Driving Economic Growth

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Abstract

Small and medium enterprises (SMEs) are essential drivers of economic growth, innovation, and employment, particularly in developing countries where large enterprises cannot fully meet economic needs. This study explores the role, financing methods, strategic management, and challenges faced by SMEs, emphasizing their contribution to sustainable economic development and competitiveness. SMEs face significant financial constraints due to limited access to traditional banking, high borrowing costs, and administrative barriers. Alternative financing mechanisms, such as self-financing, bank loans, Islamic finance instruments (Murabaha, Musharaka, and Qard al-Hasan), and financial leasing, provide crucial solutions that allow SMEs to secure resources while maintaining operational flexibility. Strategic management is equally critical for SME success, enabling enterprises to plan, implement, and evaluate strategies that align with internal capacities and external opportunities. SMEs adopt various strategic options, including specialization, stability, differentiation, cost leadership, diversification, and focus strategies, depending on their market position, resources, and growth ambitions. Effective strategic planning allows SMEs to optimize resource allocation, exploit market niches, and achieve a sustainable competitive advantage.

The study concludes that SME growth and sustainability depend on integrating effective financing, strategic management, and adaptive organizational practices. By addressing financial and operational challenges and adopting suitable strategies, SMEs can enhance productivity, competitiveness, and socio-economic impact. Policymakers, financial institutions, and support organizations must recognize SMEs' importance and provide targeted support to facilitate their contribution to economic development, social well-being, and innovation.

Keywords: Small and medium enterprises, strategic management, financing methods, economic development, competitive advantage, organizational sustainability

Introduction:

The new orientation adopted by many countries- especially developing countries and those on the path of growth -requires the transfer of economic policies applied in large or giant enterprises to small and medium-sized enterprises (SMEs). This is due to the importance of SMEs in supporting economic development and future planning, stemming from their role in job creation, their high contribution to added value, the volume of investments resulting from their establishment, their rapid spread, and their importance in forming the mechanisms of a free-market economy. Therefore, most countries, despite differences in their economic capabilities, have sought to allocate special privileges to small and medium enterprises within their legislation and laws related to trade, investment, and loans. They have also worked to provide the necessary means for their development and growth, starting with offering advice and guidance and ending with financial assistance, tax exemptions, customs facilities, and the simplification of loan-granting procedures for such enterprises.

Given the limited capabilities of small and medium enterprises compared to large enterprises, it has become necessary, under current changes, to support them so that they can survive, develop, and occupy an important position in the economic structure of any country, especially after the decline in the role of large enterprises. Undoubtedly, the care and attention given by these countries to SMEs has contributed to strengthening their survival and developing their capabilities. As a result, small and medium enterprises have played a major role in achieving a steady increase in economic growth rates in these countries.

In this research, we address the topic of financing small and medium enterprises. In order to delve into this subject, it is first necessary to define the problem, or, in other words, to identify the underlying issue related to financing such enterprises.

Accordingly, in this modest work, we will attempt to answer the following questions:

- a) What is the definition of small and medium enterprises?
- b) What is their role and the position these enterprises occupy in the national economy?
- c) What are the sources on which these enterprises rely for their financing, and what problems do they face?
- d) What is the reality of qualifying and rehabilitating small and medium enterprises in Algeria in light of the current global economic changes?

Small and Medium Enterprises

Small and medium enterprises (SMEs) have experienced remarkable growth and have drawn considerable attention from international organizations and economic researchers alike. They are widely regarded as one of the most effective drivers of economic development, owing to the speed with which they can be established, their unique characteristics, and the vital role they play in supporting economic activity.

This chapter examines the following issues:

- a) The concept of small and medium enterprises.
- b) The key characteristics that distinguish them.
- c) Their sources of financing and the challenges they face in this area.

Their importance and the active role they play in light of current developments, as well as issues related to their upgrading and capacity building.

Section One: The Nature of Small and Medium Enterprises

Researchers agree that these enterprises play a major role in advancing the economy, particularly in light of current economic transformations. Despite the rapid changes in their environment -whether structural, market-related, or regarding employment creation -they have come to occupy a significant position. Before delving into their importance and role, it is necessary to first explore their definition and examine the key characteristics that distinguish them, which will be the focus of this section.

Topic One: Definition of Small and Medium Enterprises

European Union Definition:

A small enterprise employs between 10 and 49 workers, while a medium enterprise employs between 50 and 249 workers. Both are characterized by a degree of independence.

International Labour Organization (ILO) Definition:

Small and medium enterprises are units that produce goods or provide services, usually consisting of straightforward products aimed at local markets in urban areas of developing countries. Some rely on family labor, some hire workers or artisans, and some operate from a fixed location. They generally generate low and irregular income and offer unstable employment opportunities. The ILO adds that many of these enterprises belong to the informal sector, meaning they are not formally registered with government authorities or included in official statistics.

U.S. Economic Development Committee Definition:

These enterprises rely on independent management, where the owner manages the business directly. They are usually composed of a small group of individuals, often family members, and the owners typically reside in the same area where the enterprise operates. According to the European Union, small and medium enterprises are categorized based on the number of employees: micro-enterprises employ 1–9 workers, small enterprises employ 10–99 workers, and medium enterprises employ 100–499 workers (Shaabaf, 2003).

Definition of Small and Medium Enterprises According to Algerian Legislation

It is not possible to provide a single, precise definition for this type of enterprise, as several criteria have been established to define them, such as the number of employees, the amount of

capital, added value, and others. Among these, the most commonly used criterion is the number of employees. Based on this criterion, Algerian legislation defines small and medium enterprises as follows:

Definition: According to Algerian Legislation

Small enterprises: Defined as those employing 1–49 workers and generating a turnover of less than 20 million Algerian dinars.

Medium enterprises: Defined as those employing 50–250 workers, with a turnover ranging between 200 million and 2 billion Algerian dinars.

Topic Two: Characteristics of Small and Medium Enterprises

Small and medium enterprises (SMEs) are distinguished by the following characteristics:

- a) Simple organizational structure: They do not require large capital for establishment; most start with protected, limited resources and rely on basic production inputs.
- b) Lower technological requirements: They generally use simpler technologies suitable for their limited resources and do not require complex or imported technology.
- c) Limited space needs: SMEs operate in small areas or simple facilities, which keeps their costs low.
- d) Flexibility in operations: They focus on local markets and adapt production and operations according to the available resources and the surrounding environment.
- e) Rural and urban outreach: They often contribute to spreading economic activity from urban centers to rural areas and help diversify industrial activity in rural regions.
- f) Simple organizational management: They rely on clear, defined roles with minimal hierarchy.
- g) Basic administrative systems: Decision-making processes are straightforward, using simple systems that suit the enterprise's scale and capacity.

Topic Three: Importance and Role of Small and Medium Enterprises in Economic Development

1. The Importance of Small and Medium Enterprises:

Small and medium enterprises (SMEs) occupy a crucial position in the global economy in general and in the national economy in particular. They form essential components of economic activity in every country and are considered a primary engine for economic growth and development. SMEs help build industrial bases, provide infrastructure, and serve as a fundamental pillar for achieving both economic and social development. Several factors have contributed to the adoption and support of small and medium enterprises:

Financial conditions: Especially in developing countries, where limited investment capacity and the inability of large enterprises to sustain themselves create opportunities and a necessity for SMEs.

Global economic transformations: Programs such as privatization have significantly influenced the growth of SMEs. These changes are considered key factors that have promoted the development and expansion of small and medium enterprises, particularly within the private sector (Lakrabet, Bekkache, & Katia, n.d.).

2. The Role of Small and Medium Enterprises in Achieving Economic and Social Development

Given the crucial importance of small and medium enterprises (SMEs) in developing economies, their role can be summarized as fundamental and can be outlined in the following points:

Economic Role:

- 1 ***Mobilizing the workforce:*** SMEs utilize labor intensively, often relying on labor rather than technology, which helps create jobs.
- 2 ***Mobilizing financial resources:*** These enterprises gather funds from multiple sources. They often originate from families or households, pooling their resources, and can also attract contributions from individuals or employees. By organizing these resources into productive units, SMEs generate additional capacity and highlight managerial and financial efficiency.
- 3 ***Increasing worker productivity:*** Through effective monitoring and continuous supervision, SMEs ensure smooth operations and maintain control over work processes, partly due to their smaller size.
- 4 ***Raising GDP contribution:*** SMEs contribute significantly to the private sector's share of national income.
- 5 ***Promoting foreign trade:*** Like other enterprises, SMEs participate in trade activities, including imports and exports, thus supporting the country's external economic engagement (Lakrabet, 2003).
- 6 ***Meeting the needs of goods and services:*** SMEs fulfill the requirements of the market similarly to larger enterprises, but on a smaller and more flexible scale.
- 7 ***Protecting the industrial character of products:*** In light of current developments—such as global market liberalization, trade opening, reduced customs controls, and the elimination of tariffs—SMEs face external competition that can affect protected products. Therefore, these enterprises work to safeguard their products through quality monitoring, cost management, and enhancing competitive advantages. By doing so, they can maintain the value of their protected products in the face of competition.

Social Role:

SMEs also play an important role in social development and improving living conditions. Their social impact can be summarized as follows:

Reducing unemployment: By creating jobs and expanding employment opportunities.

Limiting rural-urban migration: Establishing projects in rural or remote areas brings job opportunities closer to local populations.

Addressing social challenges: SMEs help combat social issues in rural areas by improving living standards.

Optimizing resources: They make efficient use of both human and material resources available to them.

Section Two: Methods of Financing Small and Medium Enterprises and the Challenges They Face

As with all businesses, small and medium enterprises (SMEs) require financial resources to operate. These enterprises are constantly seeking sources of funding to support their activities and growth. However, SMEs, in particular, face numerous challenges related to financing, in addition to other operational and structural difficulties. These issues will be discussed in detail in this section.

Topic One: Methods of Financing Small and Medium Enterprises

Small and medium enterprises (SMEs), like other businesses, obtain financial resources through the following methods:

1. **Self-financing:** This refers to when the business owner relies on their own capital or internal resources to finance the enterprise.
2. **Loan financing:** This involves obtaining loans with interest or interest-free loans from banks or financial institutions.
3. **Islamic financing methods:** There are several Sharia-compliant financing techniques, known as Islamic financial tools, which can be summarized as follows:

- Profit-based financing (Murabaha or cost-plus financing): This refers to a bank purchasing a specific asset on behalf of a client and selling it at a predetermined profit or fee. Within this method, there are different forms:

- a) Agency with a fee
- b) Agency with profit
- c) **Partnership (Musharaka):** This involves pooling resources from investors and banks to invest in a project, with profits shared according to an agreed ratio.

- **Zakat funds and interest-free loans (Qard al-Hasan):** Many Islamic institutions establish Zakat funds and Qard al-Hasan programs. The resources collected through Zakat are used for:

- a) Increasing investment
- b) Expanding the number of products and employees
- c) Widening the scope of trade and business activity

Chapter Two: The Reality of Strategic Management in Small and Medium Enterprises

Strategic management is extremely important for enterprises of all sizes, as it serves as a protective mechanism for both the organization and its environment. It allows the enterprise to respond effectively to sudden changes and challenges in its environment, enabling it to adapt and maintain a competitive advantage that ensures its survival (Cheriti, 2025). While most strategic management concepts have traditionally been developed within large or public organizations, small and medium enterprises (SMEs) also operate in dynamic and often uncertain environments. They must apply strategic management principles to survive and grow (Cheriti, 2025).

Section One: The Nature of Strategic Management

Strategic management is essential for both large organizations and, in particular, SMEs. In this section, we will provide a simple definition of strategic management and outline its main stages, which will serve as a foundation for understanding its application in SMEs in the following section.

Topic One: Definition of Strategic Management

Strategic management can be defined as the process of formulating, implementing, and evaluating functional decisions that enable an organization to achieve its objectives. From this definition, we can conclude that strategic management seeks to integrate all functions of the organization, including marketing, finance, production, research and development, and information systems, to achieve the organization's overall goals.

Topic Two: Stages of Strategic Management

Strategic management typically involves three main stages, which can be summarized as follows:

Stage One: Strategy Formulation

This stage includes the following steps:

- a) Setting long-term objectives.
- b) Developing the organization's mission statement.
- c) Identifying external opportunities and threats facing the organization.
- d) Determining internal and external strengths and weaknesses.
- e) Formulating alternative strategies.
- f) Selecting the strategies to be implemented.

When formulating strategies, organizations often consider the following questions:

1. What are the new areas of activity that the organization can enter, and which activities should it prioritize?
2. How can resources be distributed within the organization most effectively?
3. How can the organization diversify its operations and undertake different types of activities?
4. Should the organization expand into international markets? (Al-Maghrabi, 1999; Al-Aradi, 2002)

Stage Two: Strategy Implementation

This stage is often the most complex. It involves creating an organizational environment that supports strategy execution, establishing plans and policies, organizing work, allocating necessary resources, and developing an appropriate organizational structure. It also includes human resource planning, leadership development, and coordinating all activities related to marketing, finance, and other functional areas to ensure successful implementation (Al-Maghrabi, 1999; Al-Masdi, 2000).

Stage Three: Strategy Review and Evaluation (Control)

The final stage of strategic management involves reviewing and evaluating the strategy to ensure its effectiveness. Strategies must be regularly adjusted and improved due to changes in both internal and external factors. There are three main activities in strategy evaluation:

- a) **Reviewing internal and external factors** to detect changes or challenges.
- b) **Measuring performance** by comparing actual results with planned objectives.
- c) **Taking corrective actions** to adjust strategies or implementation methods as needed (Al-Masdi, 2000; Al-Aradi, 2002).

Strategic Considerations in SMEs

Several factors, including technological fluctuations, the size of the enterprise, strategic ambitions, and the intensity of capital investment influence strategic planning in small and medium-sized enterprises (SMEs). It is worth noting that strategic planning in these organizations is often closely linked to the psychological and personal traits of the manager.

Strategic planning in SMEs can be associated with the following aspects:

- a) **Strategic vision:** This refers to the forward-looking perspective of the organization's future while taking into account environmental changes.
- b) **Strategic intent:** This is the set of goals that the organization aims to achieve in the future, guiding managers in optimal decision-making to realize the strategic project.
- c) **Resource optimization:** SMEs constantly seek to rationalize their resources, aiming for the best possible use according to their limited capacities. This approach, known as strategic resource management, allows the enterprise to achieve a competitive

advantage by utilizing both ordinary and distinctive resources effectively (Al-Qatami, 1996; Helfer, Kalika, & Orsoni, 2000).

Strategic Options for SMEs

There are several strategic options that SMEs can adopt, including:

1. **Specialization:** This strategy is often used by newly established SMEs, focusing on a specific activity or niche that is profitable and requires a high level of specialized knowledge.
2. **Stability strategy:** Adopted by SMEs seeking gradual growth, motivated by:
 - a) Owners' desire for incremental expansion
 - b) Satisfaction with current profit levels
 - c) Avoidance of excessive risk in the external environment
3. **Differentiation strategy:** A competitive strategy that focuses on offering unique products or services in the market sector, allowing the enterprise to achieve a competitive advantage.
4. **Cost leadership strategy:** This strategy focuses on reducing production costs, either by targeting a specific market segment or serving a particular group of customers.
5. **Diversification strategy:** This involves expanding the company's offerings by introducing new products or services, which can be either related diversification or unrelated diversification.
6. **Focus strategy:** The enterprise concentrates its efforts on a specific market segment, specializing in a particular mix of technology, processes, or products (Al-Qatami, 1996; Helfer, Kalika, & Orsoni, 2000).

Conclusion

Small and medium enterprises (SMEs) occupy a pivotal role in both national and global economies. They serve as engines of economic growth, job creation, and innovation, particularly in developing countries where large enterprises may be scarce or unable to meet all economic demands. As this study has highlighted, SMEs are not only significant in terms of employment and production but also in driving economic diversification and resilience. Their flexibility, ability to adapt to changing market conditions, and capacity to exploit niche markets give them a distinct competitive advantage compared to larger organizations, as SMEs in emerging markets often rely on adaptive and hybrid economic practices to overcome structural constraints (Cheriti, 2025).

The sustainability and growth of SMEs are strongly linked to their ability to secure and manage financial resources. Financing remains a core challenge, as SMEs often face limited access to traditional banking systems, high borrowing costs, and stringent administrative requirements. At the same time, alternative financing solutions, such as self-financing, Islamic financial instruments, and leasing options, provide SMEs with essential tools to overcome these barriers. Self-financing allows owners to maintain full control while ensuring that

investment aligns with the organization's priorities. Islamic financing methods, including Murabaha, Musharaka, and Qard al-Hasan, offer ethically guided, interest-free approaches that support both investment and social responsibility. Financial leasing also enables SMEs to access high-value assets without large upfront costs, enhancing operational flexibility. Despite these options, SMEs must continuously navigate financial, administrative, and market-related challenges, including taxation pressures, high operational costs, and limited managerial capacity. Addressing these challenges is essential for ensuring long-term stability and competitiveness (Nasser, 2003; Mahfoukh, 2003). Equally critical is the application of strategic management within SMEs. Strategic management provides a structured approach to defining objectives, analyzing internal and external environments, formulating strategies, implementing plans, and evaluating outcomes. While traditionally associated with large corporations, SMEs can also benefit from adopting strategic management principles to cope with uncertainty, align resources effectively, and create a sustainable competitive advantage. This study has shown that strategic planning in SMEs is closely tied to the vision, intent, and psychological traits of managers, who often make key decisions in dynamic environments. By developing a clear strategic vision, SMEs can identify new opportunities, diversify operations, and expand into domestic or international markets. Implementing strategies requires careful resource allocation, organizational structuring, and leadership development, while continuous monitoring and evaluation allow SMEs to adapt to changes and maintain alignment with organizational objectives (Al-Aradi, 2002; Al-Maghrabi, 1999; Al-Masdi, 2000).

Moreover, SMEs have several strategic options available depending on their market position, resources, and ambitions. Specialization, stability, differentiation, cost leadership, diversification, and focus strategies offer different pathways for growth and competitive advantage. Selecting the appropriate strategy requires an understanding of the enterprise's strengths, weaknesses, opportunities, and threats, as well as a realistic assessment of available resources and market conditions (Al-Qatami, 1996; Helfer, Kalika, & Orsoni, 2000).

In conclusion, the development and sustainability of SMEs depend on a careful balance of effective financing, strategic management, and operational flexibility. By addressing financial and administrative constraints and adopting strategic approaches tailored to their size and market environment, SMEs can not only survive but thrive, contributing significantly to economic development, employment, and social well-being. Policymakers, financial institutions, and support organizations must recognize the importance of SMEs and provide targeted support to enable them to fulfill their critical role in fostering innovation, competitiveness, and inclusive economic growth. Ultimately, SMEs represent both the backbone and the dynamic potential of modern economies.

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16



Beyond Representation: Augmented Reality as a Narrative Medium in the Third Wave Media Landscape

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Abstract

This article offers a theoretical and analytical examination of the relationship between Alvin Toffler's Third Wave framework and the structural transformations in the media industry amid the rise of immersive media. Particular attention is given to augmented reality as an emerging narrative medium that is reshaping media production processes, narrative forms, and audience engagement. The study is grounded in the hypothesis that immersive media does not merely represent a technological enhancement of modes of presentation, but rather embodies a profound manifestation of Third Wave logic, characterized by fragmentation, decentralization, de-massification, personalization, and interactivity. The article aims to construct an integrated theoretical framework linking the concepts of the Third Wave, immersive media, and interactive storytelling. It also provides a critical analysis of the role of augmented reality in redefining news and media narratives, transforming audiences from passive consumers into active participants, and transcending traditional boundaries between physical reality and digital representation.

Keywords: Third Wave; Immersive Media; Augmented Reality; Interactive Storytelling

Introduction

Since the mid-twentieth century, the media industry has undergone profound transformations that extend beyond mere technological advancement to encompass the epistemological and communicative structures governing the production and circulation of meaning. Alvin Toffler's Third Wave framework has emerged as one of the most influential interpretive models for understanding these structural shifts, conceptualizing them as a historical transition from an industrial society based on standardization, linearity, centralization, and material industrial foundations, to an information- and knowledge-based society characterized by fragmentation, plurality, flexibility, and the erosion of uniformity.

Within this context, media is no longer merely an institutional apparatus for the one-way transmission of messages; rather, it has become a dynamic space for the production of experience, interaction, and participation (Cheriti et al., 2025). This transformation is particularly evident in the rise of what is commonly referred to as immersive media, which encompasses technologies such as virtual reality, augmented reality, mixed reality, 360-degree video, and spatial computing. Among these, augmented reality stands out as one of the most significant manifestations of this shift, given its capacity to integrate digital layers into physical space and to reconfigure the relationship between medium, content, and audience. Accordingly, the central problem of this article is articulated through the following question: To what extent can augmented reality be considered a new narrative medium that embodies the logic of the Third Wave in media production?

Objectives of the Study

This study aims to achieve several key objectives, including:

- a) Analyzing the logic of the Third Wave and its impact on contemporary transformations in the media landscape.
- b) Exploring the concept of immersive media and identifying its fundamental components.
- c) Clarifying the role of augmented reality as a new narrative medium.
- d) Opening new research perspectives for examining augmented media practices within the communicative context of the Third Wave.

I. Background

The Concept of Immersive Media

The core idea of immersive journalism lies in enabling participants to actively enter a virtually reconstructed scenario that represents the news story. Participants often appear as a digital avatar, a three-dimensional animated representation of themselves (de la Peña, Ausias Pomés, Spanlang, Friedman, Sanchez-Vives, & Slater, 2010). Slater and Wilbur define immersive media and immersive systems as “digital media systems designed to generate a psychological and spatial sense of presence, allowing users to interact with the

content as if it were part of reality” (Slater & Wilbur, 1997). Pavlik describes it as “an advanced stage of digital journalism that relies on extended reality technologies to create multi-sensory, interactive news experiences that enhance understanding, engagement, and trust” (Pavlik, 2019).

Similarly, Eva Dominguez argues that immersive media represents “an evolution in journalistic publishing that transcends the traditional linear structure of news, reorganizing the relationship between the story and the audience through immersion, interaction, and exploration” (Dominguez, 2017).

Definition of Augmented Reality

The term “augmented reality” was first coined by researcher Tom Caudell at Boeing in 1990, when he was tasked with improving schematics and instructional tools used to guide workers on the factory floor. He proposed replacing large wooden boards containing electrical wiring instructions for each aircraft with a head-mounted device that could display airplane schematics through high-tech glasses and project them onto reusable panels. Milgram and Kishino defined augmented reality as “all cases in which the perception of a real environment is enhanced by virtual (computer-generated) elements.”

Azuma described augmented reality as “a form of virtual environment” that allows “users to see the real world with virtual elements integrated or overlaid within the same display” (Saeghe, Abercrombie, Weir, Clinch, Pettifer, & Stevens, 2020).

Another definition presents augmented reality as a live, direct or indirect view of the physical, real-world environment, whose elements are enhanced with computer-generated inputs such as audio, video, graphics, and digital data. Using advanced AR technologies and object-recognition systems, this creates a more interactive layer of information about the surrounding real world. Due to the novelty of the concept, several terms have emerged to refer to it, including “augmented reality,” “enhanced reality,” and “merged reality” (Yahya, 2020).

Yet another definition describes augmented reality as “a collection of computer-generated graphics, text, video, and audio digitally overlaid on the real world, which interact in real time via a smartphone, tablet, computer, or specialized glasses equipped with appropriate software and camera” (Al-Shammari, 2017).

Characteristics of Augmented Reality

Since augmented reality (AR) integrates the real world with the virtual world, it possesses a set of defining characteristics. According to Anderson and Liarokapis, these include:

- a) The integration of digital objects into the user’s real environment.
- b) The seamless blending of digital objects with the real-world environment.
- c) Immediate and real-time interaction between digital and physical elements.
- d) Concise and clear access to information.

- e) The combination of interpretation and digital objects (Al-Baradai & Al-Akiah, 2019).

Azuma also identifies three key characteristics of AR:

- a) The merging of real and virtual elements within a real environment.
- b) Real-time interactivity during use.
- c) The presence of three-dimensional (3D) objects (Azuma, Bailiot, Behringer, Feiner, Julier, & Macintyre, 2001).

These features collectively make AR a powerful tool for enhancing perception, interaction, and understanding within both educational and media contexts.

Applications of Augmented Reality

The importance of augmented reality (AR) lies in its ability to enhance users' perception of the real world and their interaction with it. AR has been applied across a wide range of fields, including:

- a) **Medical Field:** Medical AR aims to visualize patient data within the same physical space, requiring direct and synchronized display of collected information. Roberts and his team implemented the first medical AR system. Another application involves ultrasound imaging, where technicians can see a three-dimensional image of a fetus overlaid on the mother's abdomen.
- b) **Military:** AR has been used for urban training simulations, displaying dynamic terrains for military intervention planning. Canada developed an AR-based night vision system for helicopters to extend operational range and improve pilots' navigation in low-visibility conditions. AR also enables training for complex combat scenarios, including real-time simulation of enemy actions.
- c) **Industrial and Manufacturing:** Research focuses on developing AR-based manufacturing systems to enhance production processes, improve product development, reduce time and costs, and increase quality. AR supports understanding of assembly tasks by projecting instructions and animations directly onto products on the assembly line as needed.
- d) **Visualization and Graphic Representation:** AR can be integrated with printed books to provide 3D content for children, enhancing comprehension of abstract or invisible concepts.
- e) **Entertainment and Gaming:** AR has been used in gaming and sports broadcasting to highlight important elements, display virtual advertisements, or overlay products. For example, AR allows precise tracking of hockey pucks (Fox-Trax system), cars, or balls in races and sports arenas.
- f) **Robotics:** AR serves as a platform for human–robot collaboration. It has been applied in medical robotics and image-guided surgery, with predictive displays for remote control. AR has been integrated with robotic surgery systems to visualize inputs, outputs, and the robot's status.
- g) **Education:** Educational researchers increasingly recognize AR's potential for teaching and learning. By co-locating virtual objects and real environments, learners can visualize complex spatial relationships and abstract concepts. AR is expected to be a major emerging technology in education over the next five years.

- h) **Marketing:** AR was first used in advertising within the automotive industry. Special printed materials were recognized by webcams, displaying a 3D model of the advertised car on screen. This approach has since expanded to computer games, films, footwear, and furniture marketing.
- i) **Navigation and Route Planning:** Narzt et al. discussed pedestrian and vehicle navigation models displaying routes, highway exits, accompanying vehicles, hazards, and fuel prices via PDAs and mobile phones. Results showed a significant reduction in navigation errors when using AR screens compared to conventional displays.
- j) **Tourism:** The ARCHEOGUIDE project is an AR-based cultural heritage field guide providing visitors with archaeological information. Interactive AR systems have been developed to enhance cultural tourism experiences, including historical tours on mobile devices.
- k) **Geospatial Applications:** AR hardware and software have been used to represent and process collaborative geographic data. AR can visualize environmental barriers and their locations on terrain. Integrating AR with Geographic Information Systems (GIS) allows immersive visualization of landscape changes.
- l) **Urban Planning and Civil Engineering:** AR supports decision-making in architecture and interior design. Distributed AR systems have been developed for collaborative design applications, exploring the relationship between perceived architectural spaces and structural systems. AR has also been used to improve construction inspections, building restoration, and visualization of architectural designs in outdoor environments (Mekni & Lemieux, 2014).
- m) **Media:** AR has been widely adopted across print, television, and online journalism. Its impact on media and communication structures is profound: visual storytelling has become multi-layered, immersive, and interactive, transforming audiences from passive recipients of linear news into active participants engaged with rich, multidimensional narratives.

Stages of Designing and Producing Augmented Reality Applications

The process of designing and producing augmented reality (AR) applications involves a series of integrated methodological stages aimed at achieving effective integration between virtual digital elements and the real environment, thereby ensuring a successful user experience. These stages can be outlined as follows:

1. Identification Stage:

The identification stage forms the structural foundation of any AR application. During this phase, the main objectives of employing the technology are determined, whether they are educational, journalistic, cultural, or entertainment-oriented. This stage also involves selecting the real-world subjects and elements on which AR will be applied, while taking into account the nature of the communicative context and the target audience.

2. Creation Stage:

In this phase, the digital content to be used in the augmented experience is prepared and developed. This includes producing images, videos, sound effects, 3D models, and other virtual elements. When designing this content, it is important that it is derived from or complements the real world, in order to serve the application's objectives and enhance its visual and cognitive impact.

3. Linking Stage:

The linking stage involves establishing a technical and synchronous connection between virtual elements and real-world scenes. The goal of this phase is to present digital elements as an integral part of the real scene, achieved by accurately adjusting spatial, motion, and temporal coordinates. This ensures visual and functional harmony between the real and virtual worlds.

4. Detection / Recognition Stage:

The detection stage occurs when the camera of an AR-enabled device—such as a smartphone or tablet—is directed toward the target real-world element or scene. The system then recognizes this element based on a database associated with the application. Once the element is accurately identified, the corresponding virtual content is retrieved and the augmented scene is displayed to the user.

5. Integration Stage:

The integration stage represents the final outcome of the AR design and production process. Pre-prepared virtual elements are merged with the real-world scene captured by the camera into a single visual frame. This produces a fully immersive augmented experience in which the added digital elements appear as a natural part of reality, enhancing the sense of realism and supporting user understanding and interaction (Hassan, 2025).

The Concept of the Third Wave and Wave-Based Division of Civilization

Alvin Toffler was born in the 1930s in Pennsylvania, USA, into a modest working-class family. He became one of the most prominent futurists, gaining global recognition; his writings influenced thinkers in China, Russia, including Mikhail Gorbachev, and many other countries. Early in his career, Toffler focused on social problems and political change. In the 1940s, he married Heidi, who collaborated with him on much of his scholarly and intellectual work. His fame grew after the publication of *Future Shock* (1970) and later *The Third Wave* (1980), his most influential work, in which he divided human civilization into three major historical waves, predicting the characteristics and outcomes of the Third Wave (Al-Mahbashi, 2022). Toffler approached history in an unconventional way, reversing the traditional methodology. Whereas historians typically examine the past to understand and explain the present, Toffler sought to predict the future in order to inform the present. His historical analysis emphasized social processes and communication between past and present, using the concept of “wave progress” as a research tool to track societal developments and identify change as the central driver of historical events (Mahmoud, 2025). Toffler classified humanity into two major historical waves that reshaped human civilization before introducing the Third Wave:

- a) The First Wave emerged with the discovery of agriculture as a primary source of wealth, taking thousands of years to develop fully.
- b) The Second Wave corresponded to the Industrial Revolution, which lasted roughly three hundred years, reflecting the acceleration of societal change.

The Third Wave, which Toffler heralded, is the era of technological and communication revolutions in which we currently live. He described its transformative impact: “This wave will affect every individual; families will fragment, economies will be disrupted, political systems will be paralyzed, and traditional values will be overturned. It challenges the old power relations and elite privileges, creating the grounds for future struggles” (Abdel-Al, 2021). According to Toffler, the Third Wave civilization began emerging in the United States and Europe in the mid-1950s. Although not yet fully consolidated, it is rapidly evolving due to the accelerating pace of scientific progress, particularly in computer science and electronics, ushering in the Information Age. The Third Wave arose from within the Industrial Civilization of the Second Wave, and its advance inevitably encounters resistance, as it disrupts familiar patterns and structures of the preceding industrial era (Abdel-Basset, 2018). In *The Third Wave* (1990), Toffler predicted the gradual dismantling of Second Wave structures: standardized uniformity would erode, specialization would be targeted, centralization would give way to decentralization, and linear processes would transform into circular, interactive systems. The roles of producer and consumer would merge, giving rise to the “prosumer” or “consum-ducer,” in which the relationship between production and consumption becomes reciprocal.

Toffler symbolically divided the world into three competing civilizations: the First Wave represented by the axe, the Second Wave by the assembly line, and the Third Wave by the computer. Each contributes differently: the First Wave provides agricultural and mineral resources, the Second Wave provides cheap labor and mass production, while the Third Wave seeks to dominate through knowledge creation and its strategic application (Toffler, *Building a New Civilization*, 1996).

Consequently, Third Wave nations export information, media, innovation, advanced management, high culture, technology, software, education, vocational training, healthcare, financial services, and other high-value services. They also possess superior military capabilities rooted in advanced technology—a phenomenon demonstrated by technologically advanced countries supporting Kuwait and Saudi Arabia during the Gulf War, where Third Wave “products” rather than Second Wave commodities dominated. Toffler’s predictions have been remarkably accurate. The technological revolution, particularly in communications, the internet, and digital technologies, has transformed societies as he anticipated. He also foresaw the information overload problem, the economic and technological shifts, the spread of democracy, advancements in cloning, and the personal computer revolution (Al-Samarai, 2021). Toffler argues that we are the last generation of an old civilization and the first generation of a new one, and that a certain degree of personal disruption, anxiety, and confusion can directly manifest as conflict within ourselves and within our political institutions—a struggle between the declining Second Wave civilization and the emerging Third Wave civilization (Toffler, *The Third Wave*, 1990).

The Third Wave emerged from the womb of industrial civilization—the Second Wave—which had reached its peak. The final historical turning point occurred in 1955, a decade that witnessed the widespread adoption of computers, commercial jet aviation, and the birth control pill. It was during this decade that the Third Wave began to consolidate its strength in the United States. The Third Wave introduced a completely new lifestyle based on diverse and renewable energy sources, production methods that rendered traditional factory assembly lines obsolete, and institutions of a new type, which Toffler termed the

“electronic cottage”, spanning schools, companies, and labor unions. The Third Wave would establish new behavioral norms and progressively reduce reliance on partners in First- and Second-Wave countries, except for markets, while intra-wave trade within Third Wave nations would increase (Toffler, *Building a New Civilization*, 1996).

Americans, according to Toffler, are moving toward a knowledge-based science rather than one grounded in agriculture or manual labor. This does not mean that the Third Wave sector is confined to information, electronics, or biotechnology alone; it extends to various fields such as finance, software, entertainment, media, advanced communications, healthcare, and, in general, any domain based on intellectual activity rather than physical labor (Filali, 2003). The primary resource of the Third Wave is what Toffler calls “actionable knowledge”, encompassing data and information in textual and visual forms, as well as culture, ideology, and values. The Third Wave thus ushers in a new era—the Knowledge Age (Heath, 2013). The computer, with all its capabilities, represents humanity’s greatest achievement. It enhances the power of our minds, making them more attuned to an intelligent environment. We will learn to communicate with computers and to use them with agility in ways that are difficult to imagine today (Toffler, *The Third Wave*, 1990). The commercial world that Toffler envisioned reflects familiar trends: the end of mass production, the fragmentation of media, intelligent environments, the decline of traditional secretarial roles, the rise of remote work, accelerated transactions within companies, the disintegration of mass society, and increasingly diverse family structures.

II. Methodology

This study adopts a descriptive–analytical approach, as it is considered the most appropriate method for exploring communication phenomena. This approach is primarily employed to identify and analyze the core concepts of the Third Wave, augmented reality, immersive media, and their applications. In addition, a critical approach is integrated to examine the structural transformations imposed by modern technologies on the architecture of traditional media and on the key actors within the communication process—namely journalists and audiences—and to assess how these transformations relate to the predictions articulated by Alvin Toffler’s Third Wave theory.

III. Manifestations of Third Wave Logic in Augmented Reality

Through his social analysis of civilizational waves, Toffler highlighted the importance of media and its transformations in the Information Age or post-industrial society. In this context, **augmented reality (AR)** can be understood as a modern technical expression of media and a knowledge-based intermediary, demonstrating Third Wave logic in several ways:

- a) **Augmented Reality as an Embodiment of Knowledge and Immateriality:**
In analyzing media transformations in the Third Wave, Toffler anticipated an environment in which computers interact with users through voice, capable of recognizing and responding to a vocabulary of a thousand words or more. Companies are in a constant race to expand vocabularies and simplify technology, eventually programming smart environments, including walls, to “speak” (Toffler, *The Third*

Wave, 1990). This vision parallels AR, where computers integrate virtual elements with real-world environments, creating interactive, intelligent experiences.

b) **Transition from Material to Knowledge-Based Economy:**

The Third Wave marks a shift from a material-industrial economy to a knowledge-based economy, where “things” become “information” and “products” transform into “data-driven services.” AR aligns with this transformation by:

1 **Converting media content from material to digital knowledge layers:**

AR overlays real-world visuals with digital data that explain, expand, or reinterpret sensory information. Thus, a media event transforms from a mere “image” into a dynamic set of information layers integrated with reality—illustrating the immateriality central to the Third Wave.

2 **Enhancing the knowledge economy:**

AR relies on real-time data processing, algorithmic integration, and delivery of information through cognitive interfaces. These elements reflect the transition from material value to data and cyber-intelligence value.

3 **Accelerating the knowledge cycle:**

AR converts raw or complex information into interactive visual representations delivered instantaneously to users. Interactive maps, visualizations, and real-time overlays simplify complex concepts and immerse audiences in enhanced environments where real and virtual realities merge. This facilitates faster, more efficient knowledge transfer, realizing the Third Wave principle of accelerating the *information time* compared to traditional media.

Media Personalization and the Role of Data: Toward Individualized Media

The concept of “audience fragmentation” and the shift from mass broadcasting to personalized media is one of the core pillars of the Third Wave. Augmented reality (AR) plays a central role in this transformation through:

- a) Customized content based on user preferences: AR platforms analyze location, interests, personal activity, and usage context to deliver unique media content tailored to each individual. Each user receives “their own version of the event”, surpassing the one-size-fits-all model of Second Wave mass media.
- b) Location-based content: This approach exemplifies decentralization and personalization. A user at a specific journalistic event or geographic location experiences information layers that differ from those seen by another user elsewhere.
- c) Integration of AR with artificial intelligence: AI enables AR systems to understand user patterns and behaviors, allowing the creation of highly personalized content. This realizes a key principle of the Third Wave: the fragmentation of mass production and its replacement with individualized micro-production.

In light of Toffler’s Third Wave perspective, AR represents a qualitative shift in the nature of the media intermediary, rather than merely a technological advancement. The Third Wave does not simply replace one medium with another; it profoundly reorganizes the relationship between knowledge, time, space, and the individual’s role within the communication system. AR operationalizes this shift, moving media from the logic of pre-packaged industrial messages to the logic of integrated, information-rich environments embedded in reality.

Fragmentation of Industrial Time in Favor of Interactive Time

In industrial media associated with the Second Wave, messages were produced as complete units and broadcast to a wide audience within a fixed temporal framework, reinforcing a linear pattern of narration and reception. In augmented reality, meaning is not delivered as a closed unit; rather, it forms dynamically through informational modules that activate during use, depending on spatial context, moment in time, and user interaction. Media thus shifts from a transmission act to a procedural, knowledge-based process, consistent with Third Wave logic, which reproduces value through knowledge and context rather than through quantity and uniformity. This shift results in a clear deconstruction of industrial media time. Instead of the fixed rhythm that governed broadcasting and publishing in the Second Wave, AR operates in real time and nonlinearly, linking information to action rather than to a schedule. This temporal restructuring reflects Toffler's prediction of societies moving toward flexible, multiple temporalities that adapt to individual needs instead of enforcing a unified, collective pace (Cheriti, 2025).

Redefining Space

Temporal transformation is inseparable from the reconfiguration of space within the communication process. Industrial media separated messages from the physical environment, delivering them through independent channels. AR, by contrast, integrates information directly into lived space, making location an active element in meaning-making. Reality itself becomes a media intermediary, linking knowledge to sensory experience and spatial context, effectively reintegrating information into daily life instead of isolating it within closed industrial institutions.

Transformation of the Audience Role

In this context, the audience's position changes without eliminating the logic of structure and control. In augmented reality (AR), the user is no longer a passive recipient; instead, they actively engage with the content and guide the trajectory of their experience. However, this interactivity occurs within a pre-programmed technical framework, accurately reflecting Toffler's concept of the prosumer, where production and consumption roles overlap—not as complete liberation, but within new patterns of organization and indirect control.

IV. From Message Uniformity to Structural Uniformity

AR should not be seen as a mere tool for dismantling uniform media messaging; rather, it represents a shift from message uniformity to structural uniformity. Despite the apparent diversity of AR experiences, they remain governed by unified platforms, algorithms, and interaction models, establishing a shared cognitive framework. This shift exemplifies one of the most significant dimensions of the Third Wave highlighted by Toffler: the transfer of authority from visible institutions to invisible technical structures.

Immersive Participation and Reconfiguring the Audience-Content Relationship

AR fundamentally transforms the relationship between the audience and content, aligning with Third Wave principles of knowledge democratization and liberation from hierarchical media reception:

- a) Turning the audience into active participants: AR allows users to interact with content, explore data, and control the course of their experience, dissolving the old boundaries between sender and receiver and making the media process a circular exchange of information.
- b) Enhancing the sense of presence: Augmented presence creates a deeper cognitive experience, enabling users to feel inside the event rather than merely observing it. This type of presence embodies the shift from linear media to interactive, immersive media.
- c) Modifying reality perception: Through visual and informational layers, AR reshapes audience perception of events by linking them to other knowledge contexts. This transformation exemplifies the “multi-layered reality” characteristic of the information society described by the Third Wave.

Thus, the Third Wave manifests in AR not by promising absolute freedom or unlimited multiplicity, but by deeply restructuring the logic of media itself: converting the message into an experience, time into an interactive moment, space into a semantic medium, and the audience into a cognitive actor within a complex system, turning immersion into a rich, multi-dimensional experience. In this sense, AR is one of the most compelling expressions of Third Wave thought, representing a post-industrial stage that reshapes authority, knowledge, and media experience without eliminating the principles of control or structural coherence.

Information Society and Its Impact on Media

In *The Third Wave*, Alvin Toffler discusses the fragmentation of media as part of the broader transformations accompanying the shift from industrial society to a post-industrial, information-based society. His central argument is that the media is no longer centralized and hierarchical as it was in the industrial era, when channels were few and large, such as national newspapers, radio, and television. Media has now become fragmented, diversified, more specialized, and interactive. Toffler describes how mass media, which once addressed a broad audience with uniform messages, began to collapse. Audiences no longer consume media homogeneously; instead, they can choose what content to follow from an increasingly diverse and specialized media landscape.

In the Third Wave, media and communication channels have multiplied: specialized newspapers, magazines, satellite television, local radio, the Internet, and digital content. This proliferation fragments informational and media messages, giving audiences greater agency in selecting what they read or watch. Media is no longer confined to newspapers or television; it extends to smart, information-rich environments that allow users to exchange news and content directly. In other words, audiences themselves become part of the media production process—a phenomenon Toffler describes with the emergence of the prosumer, in which the line between producer and consumer dissolves. This shift profoundly affects power and knowledge. The fragmentation of media alters the traditional authority of information: major media institutions are no longer the sole sources of facts or news. Information power is thus distributed across multiple layers of society, increasing the complexity of oversight and guidance.

Conclusion

This article concludes that augmented reality, as a new narrative medium, embodies Third Wave logic in media production across structural, narrative, and communicative dimensions. AR contributes to dismantling linear media models, enhancing interactivity, redistributing roles between producer and audience, and transcending traditional boundaries between reality and representation. These findings open new avenues for future research on immersive media, including semiotic analyses of immersive narratives, studies on the social and psychological impact of immersion as a new reality, and explorations of interactive reception, ethical considerations, and cognitive dimensions of AR technologies in journalism and media.

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