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The Philosophical Essence Of The Concept Of The Information Society And Its Stages Of Formation

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Abstract: This article examines the philosophical foundations of the concept of the information society and analyzes its historical stages of formation. Drawing on classical and contemporary theories—from post-industrialism and knowledge economics to digital civilization studies—the paper argues that the information society represents not merely a technological transformation but a profound ontological and epistemological shift in how societies generate, distribute, and legitimize knowledge. The study identifies four major stages of formation: proto-informational developments, industrial–informational transition, early digitalization, and the current algorithmic–networked civilization. It concludes that the information society must be understood as a complex socio-philosophical process in which information becomes the dominant factor of social organization, human agency, and global interdependence.

Keywords: Information society; philosophy of information; digital civilization; ontology of information; epistemology; axiology; knowledge society; algorithmic governance; digital transformation; networked society; informational ecosystems; stages of information society; post-industrial society; information ethics.

Introduction: The concept of the information society has emerged as one of the defining frameworks for understanding the transformation of modern civilization. Unlike traditional socio-economic models grounded primarily in industrial production, the information society is structured around the creation, distribution, and utilisation of information as its central organising principle. The philosophical foundations of this concept extend beyond technological development and encompass ontological, epistemological, and axiological dimensions that shape human existence, social structures, and cultural meaning-making. Classical works on the post-industrial society by Bell (1999) and Toffler (1980) laid the groundwork for analysing how information reshapes economic and social life, while contemporary theorists such as Castells (2010) and Floridi (2011) have expanded this discourse into the domains of digital networks, algorithmic governance, and the ontology of the infosphere.

Despite the extensive literature on the sociotechnical features of the information society, significant divergence persists in academic debates concerning its philosophical essence. For example, Webster (2014) argues that no single definition adequately captures the multiplicity of informational transformations, while Mansell (2021) emphasises persistent structural inequalities that complicate traditional narratives of technological progress. In contrast, Floridi (2014) conceptualises the information society as a fourth revolution, radically altering human identity by embedding individuals within digitally mediated environments. These differing interpretations illustrate the conceptual instability surrounding the term and highlight the need for deeper philosophical analysis.

Recent studies have attempted to clarify specific elements of the information society but often approach the topic from sectoral perspectives. For instance, Zuboff (2019) analyses the rise of surveillance capitalism and the commodification of human experience, focusing on the political and economic implications of data extraction. Coeckelbergh (2021) explores how algorithmic systems influence moral agency, raising concerns about autonomy and responsibility in digitally mediated environments.

Meanwhile, Lyon (2020) highlights the ethical tensions inherent in widespread digital surveillance and datafication processes. Although these studies offer valuable insights, they often treat information as a technological or political phenomenon rather than examining its deeper ontological and axiological foundations.

A growing body of research has attempted to situate the information society within broader civilizational and ethical frameworks. Bawden and Robinson (2020) discuss the increasing importance of information literacy in shaping human cognition and behaviour, while Pieterse (2022) examines global interconnectivity as a cultural force driving new forms of identity formation. Scholars such as Van Dijk (2020) and Couldry & Mejias (2019) highlight the emergence of new forms of digital dependency and informational power asymmetries, demonstrating how information structures social relations and value systems. Nevertheless, the philosophical implications of these transformations—particularly their impact on spirituality, meaning-making, and human self-understanding—remain insufficiently theorised.

The present study seeks to address this gap by examining the philosophical essence of the information society, focusing on the ontological and axiological transformations that accompany the shift from industrial to informational modes of organisation. It further explores the stages of formation through which the information society has developed historically, from early proto-informational systems to the contemporary algorithmic-networked civilization. Drawing on interdisciplinary scholarship from philosophy, information science, digital ethics, and social theory, this article aims to develop an integrated conceptual framework for understanding how information shapes human existence and structures contemporary civilizational change.

METHODS

The study was carried out between January 2023 and December 2024 and involved an extensive theoretical analysis of classical philosophical literature, foundational works in information theory, and contemporary academic publications addressing the conceptual evolution of the information society. Key philosophical sources—ranging from early reflections on knowledge and communication to modern digital ontology—were examined to identify the underlying ontological, epistemological, and axiological principles informing the concept of the information society. Special attention was given to authors whose works significantly shaped the intellectual discourse surrounding information, including Bell (1999), Toffler (1980), Castells (2010), Webster (2014), and Floridi (2011; 2014). Their contributions were analysed in order to trace both continuities and divergences in the interpretation of information as a structuring principle of social organization.

Foundational texts in the philosophy of information were reviewed, including Floridi's The Philosophy of Information (2011), which elaborates the informational ontology underlying digital environments, and The Ethics of Information (2013), which extends moral responsibility to all informational agents. Bateson's (1972) formulation of information as "a difference that makes a difference" was analysed as a key ontological premise, shaping subsequent interpretations of meaning-making and communication. Works by scholars such as Shannon (1948), Wiener (1950), and Coeckelbergh (2021) were consulted to understand the development of information theory from mathematical, cybernetic, and ethical perspectives.

In addition, contemporary sociological and philosophical studies on digitalization and networked societies were analysed in detail. Castells's multi-volume work on the network society (2010) was used to contextualize informational development within global socio-economic transformations. Zuboff's (2019) analysis of surveillance capitalism and Lyon's (2020) research on digital surveillance were examined for their insights into the political and ethical dimensions of informational power. Publications by Bawden and Robinson (2020) on information literacy and Pieterse (2022) on global cultural dynamics were reviewed to assess how information reshapes cognition, identity, and cultural integration.

The study also incorporated historical sources addressing early communication technologies, print culture, and proto-informational systems. These were used to contextualize the developmental stages of the information society, from pre-modern record-keeping systems to contemporary algorithmic infrastructures. Furthermore, interdisciplinary works bridging philosophy, digital ethics, and cultural studies were evaluated to highlight how information both reflects and transforms human values, identity, and collective life.

To analyse and synthesise these materials, the study applied multiple methodological approaches:

Content analysis was used to systematically examine primary philosophical texts, academic articles, and conceptual frameworks relating to information, knowledge, meaning, and digital transformation. This method allowed for the identification of recurrent themes such as information as ontology, technological mediation of human experience, and ethical challenges

in digital environments.

The comparative method was applied to examine differences in how various theorists—across disciplines and historical periods—define and conceptualize the information society. This included comparing sociological models (Bell, Toffler, Castells) with philosophical approaches (Floridi, Bateson) to highlight both complementarities and conceptual tensions.

The historical-legal method used in the Islamic law study is replaced here with a historical-conceptual method, which facilitated tracing the evolution of ideas about information from ancient symbolic systems to contemporary digital ecosystems. This approach was essential for reconstructing the stages of formation of the information society and demonstrating how conceptual shifts corresponded to technological and cultural developments.

A systemic approach was used to analyse the interaction between informational infrastructures, human cognition, social institutions, and value systems. This allowed the concept of the information society to be examined within an integrated philosophical model, revealing how informational dynamics shape ontology (forms of being), epistemology (forms of knowing), and axiology (forms of valuing).

As a theoretical and philosophical study, the research does not involve empirical fieldwork or quantitative data. Its strength lies in conceptual integration rather than empirical measurement. Future studies may complement this approach with case studies, digital ethnography, or empirical research on human interaction with digital systems.

RESULTS

From a philosophical standpoint, the information society emerges at the moment when information itself becomes the primary determinant of social being, surpassing material production as the foundational principle of societal organization. This transformation signifies a profound civilizational shift from economies centered on tangible goods to systems grounded in symbolic production, data flows, and knowledge generation. In such a context: information functions as the core structuring principle of social relations, shaping power configurations, modes of interaction, and the distribution of resources; communication systems assume a constitutive role, mediating nearly all forms of human activity—from economic exchange to political deliberation and cultural participation; the boundaries between physical and virtual realities dissolve, resulting in hybrid environments where digital and material practices interpenetrate and mutually transform one another.

Ontologically, the rise of the information society challenges classical philosophical categories by destabilizing traditional understandings of space, time, identity, and community. Spatial relations lose their dependence on physical proximity, temporal rhythms accelerate through continuous digital connectivity, identities become fluid and multiple across online platforms, and communities reorganize themselves into flexible, dynamic networks rather than territorially bounded entities. These transformations give rise to networked forms of existence in which human beings navigate complex informational ecosystems and increasingly co-create reality through digital interactions. As a result, the information society not only represents a technological development but also signals a fundamental reconfiguration of human ontology.

Epistemological dimension: knowledge as a strategic resource. The epistemological essence of the information society lies in the profound transformation of knowledge from a shared cultural good into a strategic, highly instrumentalized resource that underpins economic competitiveness, political influence, and social organization. This shift reflects the emergence of new modes of producing, validating, and disseminating knowledge within digitally mediated environments. In this context: knowledge becomes codified, digitized, and globally accessible, allowing it to circulate instantaneously across borders and disciplinary boundaries while eroding traditional monopolies over information; expertise becomes distributed across decentralized networks rather than concentrated within classical institutions such as universities, academies, or state bureaucracies, thereby reshaping the social geography of intellectual authority; decision-making processes increasingly depend on data analytics, algorithmic modeling, and artificial intelligence, which transform human cognition by introducing new forms of automated reasoning and predictive logic.

As a result, the information society inaugurates a new epistemic regime in which truth claims, legitimacy, and authority are no longer grounded solely in human judgment or institutional prestige but are mediated through digital infrastructures, algorithmic processes, and platform-based systems of verification. This epistemic shift challenges long-standing philosophical assumptions regarding the nature of knowledge, the conditions for its validation, and the relationship between human agency and technological systems. In such an environment, epistemic power becomes inseparable from technological capacity, making the architecture of information systems a critical determinant of what societies recognize as credible,

authoritative, or true.

Axiological dimension: New value systems The elevation of information to a central societal value generates a complex spectrum of ethical, cultural, and political dilemmas that redefine the normative foundations of contemporary life. As information becomes the primary medium through which social interaction, governance, and economic exchange are organized, longstanding moral categories are destabilized and compelled to adapt. Within this shifting axiological environment: privacy and transparency increasingly stand in tension, as individuals seek protection of personal data while institutions, markets, and states demand openness, traceability, and continuous surveillance to enhance efficiency or security; human autonomy encounters new constraints under conditions of algorithmic governance, where decision-making processes are shaped, guided, or even replaced by automated systems that may influence behavior, preferences, and opportunities in opaque ways; digital inequality deepens, as unequal access to information, technological infrastructure, and digital literacy results in asymmetries of informational power that reinforce existing social hierarchies and create new forms of exclusion.

Philosophically, these tensions constitute the core of the normative landscape of the information society, raising fundamental questions about justice, rights, responsibility, and the moral status of algorithmic systems. They challenge classical ethical frameworks by introducing unprecedented forms of mediation between individuals and their socio-technological environments. As such, the information society demands the development of new normative paradigms capable of addressing issues of agency, fairness, and accountability within increasingly digitalized and data-driven contexts.

Stages of formation of the information society

Proto-informational stage: This initial stage encompasses the emergence of writing systems, early record-keeping practices, libraries, postal routes, and other foundational communication technologies that enabled societies to store, preserve, and transmit knowledge across time and space. Although these systems were not digital, they represented a decisive break from purely oral cultures by introducing new modes of abstraction, objectification of knowledge, and institutional memory. Writing and archiving created the epistemic infrastructure upon which later informational societies could be built. Philosophically, this stage marked humanity's first significant step toward externalizing cognition and constructing shared symbolic environments capable of sustaining complex civilizations.

Industrial–Informational Transition (18th–20th centuries). The Industrial Revolution brought about profound transformations that laid the groundwork for modern informational civilization. During this period: mechanized communication technologies such as the telegraph, telephone, radio, and later cinema accelerated the speed and scale of information exchange; mass education and rising literacy levels democratized access to knowledge and enabled broader participation in scientific and industrial development; scientific bureaucracies and early data collection systems institutionalized knowledge production, creating centralized repositories of information for governance, commerce, and research.

Philosophically, this era signifies the transition from a primarily labor-based ontology—where economic and social value were derived from physical work—to a knowledge-based ontology, in which expertise, intellectual labor, and information processing increasingly shaped societal organization. The human subject began to be understood not only as a producer of material goods but also as an agent embedded within expanding networks of information and communication.

Early Digitalization (mid-20th – early 21st century)

The mid-twentieth century ushered in a transformative phase driven by computing, cybernetics, and the global expansion of the Internet. This period established: ubiquitous computation, as digital devices became increasingly integrated into everyday life; global information networks, enabling instantaneous communication and unprecedented flows of data across national and cultural boundaries; the rise of virtual communities, where social identities and collective practices were reconfigured within digital environments.

During this stage, information evolved into both an economic resource—fueling the knowledge economy, innovation systems, and digital markets—and a cultural environment, shaping new forms of interaction, identity, and meaning-making. The digital realm became a distinct ontological space in which sociality could unfold independent of physical constraints.

Algorithmic–networked civilization (21st century). In the current stage, often described as the era of algorithmic governance or platform society, the defining features include:artificial intelligence and machine learning, which automate increasingly complex forms of cognition and reshape decision-making processes;big data and predictive analytics, enabling new modes of surveillance, behavioral

forecasting, and social management;platform economies, where global digital platforms mediate commerce, communication, and social interaction;automation of cognition, as algorithms curate information, influence preferences, and frame the conditions under which individuals perceive and engage with the world.

Philosophically, this stage underscores a profound transformation of human agency. Individuals coexist with algorithmic systems that both extend and constrain their cognitive capacities. This produces a paradoxical condition: the expansion of digital freedoms—enhanced access to information, global connectivity, self-expression—coexists with heightened forms of technological dependency, informational asymmetry, and algorithmic control. Human beings increasingly inhabit hybrid environments where agency is distributed across human and machine actors, redefining traditional notions of autonomy, responsibility, and collective life.

DISCUSSION

The formation of the information society should not be understood as a straightforward or merely linear trajectory of technological development. Rather, it represents a multidimensional civilizational transformation in which technological innovations interact with cultural, political, and philosophical shifts to produce new forms of social organization. At its core, the philosophical essence of this transformation reveals:a shift from material to informational modes of production, wherein value is increasingly created through knowledge, symbolic processes, and digital assets rather than physical labor or industrial output;the reconfiguration of epistemic authority, as traditional institutions—such as academia, the state, and expert communities—share or lose their monopolies over knowledge production to decentralized networks, algorithmic systems, and participatory digital cultures;the emergence of global interdependence mediated by digital infrastructures, which bind individuals, economies, and political systems into a tightly interconnected web of informational flows, making societies simultaneously more integrated and more vulnerable.

These transformations carry profound implications for democratic governance, cultural identity, social justice, and the nature of human autonomy. Democracies must confront new challenges related to algorithmic influence, digital misinformation, and shifting public spheres. Identities become fluid and hybrid as people navigate multiple online and offline worlds. Social inequalities may deepen when access to data, digital literacy, and technological resources becomes uneven. Human autonomy itself is reshaped through interactions with predictive algorithms and surveillance systems that subtly influence behavior, preferences, and decision-making.

Given these complexities, understanding the philosophical dimension of the information society becomes indispensable. Without a robust conceptual grounding, ethical norms and regulatory frameworks risk being reactive, fragmented, or insufficiently attuned to the deeper structural forces shaping digital civilization. By illuminating how information transforms human experience and societal organization at its most fundamental levels, philosophical analysis provides the intellectual foundation necessary for crafting coherent policies, safeguarding human agency, and fostering a just and sustainable informational future

CONCLUSION

The information society represents a profound ontological, epistemological, and axiological transformation that reshapes the foundations of human existence. Its historical stages demonstrate that information has gradually evolved from a secondary social element—supporting economic and cultural activities—to the central organizing principle of contemporary civilization. This shift has redefined how societies produce value, construct knowledge, form identities, and govern collective life. As humanity enters the algorithmic–networked era, where digital infrastructures, artificial intelligence, and data-driven decision-making permeate nearly all spheres of activity, philosophical inquiry becomes not merely relevant but indispensable. Only through rigorous philosophical analysis can we fully grasp how information structures human experience, mediates social relations, and shapes emerging forms of global governance.

In this context, future research must extend beyond technical innovation to critically engage with the ethical, political, and cultural dimensions of digital civilization. Priority areas include:the ethical design of digital systems, ensuring that technologies support human dignity, autonomy, and justice;the investigation of the political implications of algorithmic power, particularly its impact on democratic processes, public deliberation, and the distribution of authority; the creation of inclusive informational environments that mitigate digital inequality and promote equitable participation in the knowledge economy.

Taken together, these research directions underscore the urgent need for interdisciplinary approaches that integrate philosophy, technology studies, social sciences, and policy analysis. Only through such integrative efforts can societies navigate the

opportunities and risks of the information age and cultivate a digital future that is not only efficient and innovative, but also humane, equitable, and ethically grounded.

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