Journal of Social Media Research
ISSN: 3062-0945
2025, 2(3), XX-XX
https://jsomer.org

REVIEW ARTICLE OPEN ACCESS

Information and communication technologies: the expansion of individual freedom and the gradual conquest of the universal

Nikolaos P. Sfakianos[1]*

1 1Department of Psychology, Panteion University of Social and Political Sciences, Athens, Greece
* **Correspondence:** Panteion University of Social and Political Sciences, 136 Syngrou Avenue. 17671 Athens, Greece. n.sfakianos@panteion.gr

Article Info

DOI: 10.29329/jsomer.40

Article History:
Received: 26/04/2025
Revised: 11/06/2025
Accepted: 20/06/2025

Keywords:
Information and Communication Technologies,
Cosmosystemic Gnosiology,
Social Biology,
Individual Freedom,
Universal Freedom

Highlights:

- Integration of cosmosystemic gnosiology with technology's impact on freedoms in historical and modern contexts.
- Explores ICT's role in enhancing agency but risking social freedom in professional settings.
- ICT may shift voting to participatory decision-making, fostering collective thinking and societal evolution.
- Stresses embedding individual freedoms within collective structures for meaningful technological participation.
- Highlights that tech-driven participation does not guarantee legal rights or true individual freedoms.

Abstract

The field of Information and Communication Technologies (ICT) has experienced exponential growth over the past decade. As a tool that has become integral to people's daily lives, ICT is used extensively on both individual and societal levels, influencing the way people interact with one another. This treatise employs the theory of cosmosystemic gnosiology to investigate and explain the influence of ICT on the expansion of individual freedom, the necessary integration of individuality into the collective, and the possibility of society's transition to universal freedom, contingent on the realization of the cosmosystemic time to which the present era relates. From this perspective, the practical challenges that societies of the early anthropocentric era face are elucidated, including the dismantling of privatization, fostering collective consciousness, and navigating the citizen-authority dynamic. This paper concludes by delineating the critical pathways through which these obstacles can be surmounted and by speculating on the prospective dimensions of advancement contingent upon the responsiveness of societies to the aforementioned issues. Pointing toward a future direction where the harmonization of technological progress and human values can become not only a theoretical study, but also essential for sustainable societal evolution.

Citation: Sfakianos, P. N. (2025). Information and Communication Technologies: The expansion of individual freedom and the gradual conquest of the universal. *Journal of Social Media Research, 2*(3), XX-XX. https://doi.org/10.29329/jsomer.40

1. Introduction

Before embarking upon the analysis of this particular issue, it is first necessary to define the conceptual framework within which we will conduct our investigation. Information and communication technologies (ICT) are of paramount importance in society, largely due to the exponential growth and advancement that these technologies have undergone over the past decade. Particularly through faster data exchange, ICT are profound and far-reaching across multiple sectors of society. From enhancing the volume and accessibility of information to transforming communication processes, educational methodologies, healthcare delivery, economic operations, and research capabilities, ICT continues to reshape the foundational structures of modern life (Duma & Monad, 2013). In accordance with the definitions provided in the Eurostat glossary, Information and Communication Technology (2023), the term "Information and Communication Technology" encompasses all technical means that facilitate communication and information processing, including software, services, and equipment. Such devices include computers, mobile phones, smart televisions, and other equipment that enable users to access the Internet. Consequently, internet access serves as a crucial indicator for gauging the extent of ICT utilization and integration within society. Greece has made noteworthy advancements in its population's internet access from 2012, when only 55% had access, to 2023, when 85% have access. Although this percentage appears to be relatively high, it is among the lowest observed in the EU-27, which has an average of 91.4%. The Nordic countries have the highest internet access rates, with Norway at 99.6%, Luxembourg at 99.3%, and the Netherlands at 99.1% (ICT Access and Usage by Households, 2023).

No boundaries constrain the application of these technologies. The aforementioned technologies can be utilized in many contexts, including personal, economic, and political spheres. In the realm of personal life, they can be employed for entertainment, information, and communication purposes. In the economic sphere, they facilitate transactions, aid in employment searches, and serve as a medium for advertising. In the political sphere, they can be leveraged for consultation and the dissemination of information to citizens. It is acknowledged from the outset that, despite the plethora of possibilities afforded by ICT, the user's freedom is constrained to the domain of their individual life. However, it provides the requisite foundation for the acquisition of political freedom.

As Contogeorgis (2022) notes, cosmosystemic gnosiology is a framework that enables the definition of an evidential system of knowledge, thereby facilitating the interpretation of the present time and the prediction of the evolutionary perspective of social humans in the future. This is achieved through the reading of the past in a universal cosmosystimic time. This epistemology derives its scientific legitimacy from the cosmosystemic reconstruction of the Greek anthropocentric phenomenon, as well as from its despotic counterpart and the anthropocentric clarifications of modern times. Consequently, the dramatic transformation that technology has undergone over the past 100 years, driven by exponential advancements in the field of ICT (Arthur, 2011), did not occur in a vacuum. The impact of this theoretical framework on ICT is predicated on its capacity to situate technology within a historical and social timeframe, thereby underscoring the notion that each historical period develops the specific technologies it requires to fulfill its functional needs. This perspective enables a more nuanced comprehension of the technological landscape, emphasizing the need to shift the focus from the utilization of ICT to its governance. This is not done arrogantly, but because in human history only the Greek world has demonstrated a complete anthropocentric paradigm (Amarantos, 2022). In conclusion, the central objective of this study is to shed light on the research hypothesis that the development of Information and Communication Technologies (ICT) brings about significant transformations in the global communication system, while simultaneously creating the conditions for a transition from individual freedom to economic and political freedom—concepts that will be further clarified in the following sections.

Purpose and aims

Having established the fundamental structure within which the present study is situated, the central issue that the study seeks to address is presented. The combination of new technologies with the theory of cosmosystemic gnosiology enables the interpretation of the changes they bring about at the individual level of social beings, the mapping of the evolutionary historical time in which the present era is situated, and finally, the proposal for integrating individuality into the collective. and over time, the transition from individual freedom to universal, as will be presented in the following sections. Considering the practical implementation of the above argument, such an outcome is feasible through the institutionalization of social collectivity. In other words, beyond acting within their individual sphere, individuals may also participate as collective subjects in decision-making processes, for example, through the use of Information and Communication Technologies,

without the necessity of their physical presence in a parliamentary setting. In conclusion, this study aims to advance the knowledge and understanding offered by cosmosystemic epistemology while establishing connections between this theory and the research subjects of social psychology and ICT. In addition to addressing the aforementioned questions, it seeks to provide answers to these broader issues.

Freedom in the Present Time

The concept of freedom in modernity can only be adequately understood in the context of Kant's philosophical approach. The philosopher engages with the concept of freedom in its cosmological sense. In Kant's view, transcendental freedom represents the pinnacle of human liberty. It is a form of freedom that is inextricably linked to the concept of absolute agency, signifying the capacity of the human will to exist independently from the natural order. In particular, it pertains to the human mind's ability to initiate and shape its state of being. In this manner, freedom is merely an idea that cannot be empirically verified. Conversely, it can only be grasped on the foundation of moral-practical reasons (Kant, 2002; Kant, 2015). In summary, Kant (1967) posits that the status of the state as a regime of law is contingent upon the liberty of each member of the community as a human being, equality with all others as subjects, and the independence of each member of the community as a citizen.

In comparison to other concepts, Engels dedicates less space in his writings to discussing the concept of freedom. He appears to equate freedom with knowledge, contending that freedom is contingent upon a foundation of natural necessity and that it can only be attained within the context of an organized society. He ultimately asserts that the limitations of class oppression constrain humanity's autonomy in its relationship with the natural world. Individuals are only able to act freely when they engage in this struggle (Engels, 2017; Marx & Engels, 2014). Similarly, J.S. Mill employs a comparable line of reasoning, associating individual freedom with democracy (Macintyre, 2006).

In accordance with Pettit's (1999) theory of freedom, a more comprehensive understanding of freedom in modernity can be attained. The latter states that the freedom of the actor has three dimensions: the freedom of action performed by an actor, the freedom of the self, which is linked to the ability of the actor to identify with what he does, instead of seeing it from a distance as an observer, and the freedom of the person that the individual possesses when, thanks to his social status, the act is truly his own and is not done under the pressure of others. Pettit acknowledges that autonomy is a fundamental aspect of freedom. However, his perspective is constrained to the individual level, which, as will be discussed in the following sections, represents a mere framework within which one can actualize their freedom.

The concept of cosmosystemic gnosiology allows us to consider the value of freedom from a distant view and to place it within the context of the cosmosystemic time. The concept of a time that can be approached in the context of the cosmosystem, considering the constitution of social humans and the evolutionary biology of society. After examining the ideas of thinkers such as Kant, Mill, and Pettit on the concept of freedom, we move on to the understanding of freedom in cosmosystemic gnosiology. Direct comparisons can be made to highlight the similarities and differences between Kant, Mill, and Pettit's concept of freedom and that of cosmosystemic gnosiology. For example, by establishing a connection between Pettit's understanding of freedom and cosmosystemic time, individual and collective freedom can be examined. This enables a more comprehensive and in-depth examination of freedom in the present. Consequently, beginning with Aristotle, who addresses the concept of freedom and equality in great detail, although from an older historical perspective, is nevertheless more contemporary in a cosmosystemic context. This is because he lived and described an era of universal freedom (political, economic, and individual) in contrast to the modern era, which can be defined as a transmissive state (Contogeorgis, 2013). Aristotle would define the “Be ruled by none” (Μη άρχεσθαι υπό μηδενός) as a fundamental principle of democracy. According to Contogeorgis (2013), there are two ways of approaching democracy: a positive one that defines it as autonomy and a negative one that defines it as "Βε ruled by none". Contogeorgi's approach to freedom appears to be more comprehensive than the preceding conceptions, as he asserts that in its fullest form, freedom encompasses both one's biological needs and one's social needs. This entails the disengagement from the constraints imposed by nature and the liberation from the dependencies created by power in the domains of labor and politics. Furthermore, freedom is typically distinguished into three categories: individual, social, and political (Blackstone, 1973; Talbot, 1909). However, it is important to recognize that these divisions are not mutually exclusive and that freedom is a unified concept.

Individual freedom encompasses the private life of man and represents the initial form of freedom to be asserted, as it is a fundamental prerequisite for attaining universal freedom. This form of freedom can be observed in societies of the early anthropocentric era, which were characterised by a pre-representative political

system. Examples of such societies can be found in societies that emerged from feudalism (Contogeorgis, 2006). Social freedom is concerned with how individuals interact with institutions and other individuals, and the conventions that emerge from these interactions within the context of social subsystems. These subsystems may include professional and economic interactions, such as those experienced by freelancers, individuals, or job seekers. This concept is predicated on the notion of attaining individual freedom, which is evident in societies that espouse anthropocentric values. In such societies, the demand for freedom in the social domain has emerged, as exemplified by the classical Athenian era and the Byzantine period. Political freedom, in conclusion, refers to the status of the individual within the broader context of the state and society. It represents the ultimate phase in the pursuit of universal freedom, which is contingent upon the existence of individual and social freedom. Anthropocentric systems, such as those of classical Greek democracy, provide an example of this phenomenon. In such systems, the citizen is an integral part of the political system and participates in decision-making as a demos (δήμος) (Contogeorgis, 2021).

In light of the preceding arguments, it can be concluded that freedom is neither an inherent attribute of the will nor a supernatural endowment bestowed upon humanity by God or nature. Conversely, it is a quality that is gradually acquired over the course of human social evolution and is identical with autonomy. As a result of his social existence and the laws of evolution, humankind gradually develops within the context of social practice those qualities that make it universally free.

I.C.T, Progress & Freedom

The field of information and communication technology is arguably one of the most developed sectors in the global technology and economy. These new technologies are having a significant change on society, having already penetrated the domains of work and communication, thereby indicating their potential to become the future of work. Accordingly, one perspective maintains that novel technologies will enhance production and democratize access. In contrast, the opposing viewpoint asserts that they will gain absolute control, resulting in significant job losses and insecurity (Mayer-Schönberger & Cukier, 2013). In conducting a historical analysis of ICT, Coleman (2009) argues that each new technological advancement has the potential to enhance individual autonomy, access to information, and engagement in the public sphere. From the telegraph to radio, cable television, the Internet, and finally mobile phones, he posits that societies have progressed from a stage of representation and voting on issues to a new stage of direct action and decision-making. Moreover, Morris (1999) posits that the Internet will inevitably erode the sovereignty of rulers over the people. However, this argument overlooks the distribution of information and the potential for other entities to control the Internet and ICT.

The Internet, as the epitome of ICT, has facilitated the establishment of digital discussion forums, online communities, open-access libraries, and other digital platforms. However, it has also been employed by governments to reinforce the extant system through the incorporation of citizen participation in party decisions and digital votes for representatives, given that the assumption that individuals will accrue social capital merely as a consequence of their interactions in the media is being called into question. Information and communication technology has the potential to facilitate a two-way dialogue between citizens and their government (Trechsel & Mendez, 2005). It is therefore evident that ICT has the potential to facilitate progress and freedom, yet simultaneously reinforce and perpetuate existing social and economic orders.

Information and communication technology has direct application in the industrial sector, thus affecting the economy, developing production and supply chains, and enabling work beyond the territorial boundaries of a state through the digitization of information (Howcroft & Richardson, 2012). Examples include India, Vietnam, and other developing countries that offer inexpensive labor and attract software and service companies (Thompson & Smith, 2010; Warhurst et al., 2006). Nevertheless, these initiatives are not solely driven by financial considerations; they are frequently also shaped by the influence of global markets.

The evolution of information and communication technology has extended beyond the realm of traditional mobile phones and personal computers. The advent of the Internet of Things (IoT) has led to the proliferation of smart devices, including wearables, smart glasses, televisions, home appliances, and even automobiles, all of which are equipped with internet connectivity. These devices are capable of interacting with one another, thereby facilitating interconnectivity. The potential offered by smart devices has not been overlooked in the market, as evidenced by the proliferation of paid applications pertaining to health and image (Holtgrewe, 2014). Furthermore, businesses are increasingly driven towards automation and interconnectivity, creating Industry 4.0, which is based on technological advances in ICT and artificial intelligence, thereby enhancing efficiency and production quality (Zhong et al., 2017). The promised economic growth associated with market liberalization

reveals a fundamental contradiction. Increased productivity no longer equates to job creation as it did in the past. With the integration of advanced technologies into the production process, manual labor is being increasingly replaced by automation, while cognitive labor is also being significantly displaced by artificial intelligence. As a result, although economic output expands, employment opportunities decline (Autor & Salomons, 2018).

A report by the McKinsey Global Institute (2017) projects that automation could significantly disrupt global labor markets by 2030, potentially displacing between 400 and 800 million jobs. This large-scale study, which analyzed 800 occupations across 46 countries, estimates that up to one-fifth of the global workforce may be impacted by robotic automation. The findings highlight the accelerating pace at which automation technologies are being integrated into various sectors, posing considerable challenges for employment stability, particularly in routine and predictable occupations. In this context, we are confronted not merely with rising unemployment, but with a more profound phenomenon: the systemic exclusion of labor. Consequently, the much-lauded investments associated with economic freedom and deregulated markets may no longer lead to job creation, as labor itself becomes progressively unnecessary for the production of goods and services.

In recognition of the potential challenges that the aforementioned work practice may pose to societal cohesion and interpersonal relationships, the concept of Industry 5.0 and Society 5.0 was introduced in Japan's 5th Science and Technology Basic Plan. In an article published in 2018, Fukuyama posits that societies evolve through a series of stages. The characteristics of Society 1.0 include groups of people who are hunter-gatherers and who live in a harmonious coexistence with nature. The formation of groups based on farming and the increase in organization and nation-building that occurred during the formation of Society 2.0 represent a significant shift in societal structure. Society 3.0 is a society that promotes industrialization through the Industrial Revolution, whereas Society 4.0 is an information society that achieves increased added value by connecting intangible assets through information networks. In this evolutionary trajectory, Society 5.0 is an information-centric society, wherein anthropocentrism will be a defining feature of economic and social development, enabled by the fusion of the digital and physical realms. In 2021, the European Commission presented a proposal for the reorganization of European industry, with a focus on societal considerations. This proposal also advocated for the promotion of Industry 5.0, which was presented as a means of articulating the prospective flourishing of European industry and, by extension, society (Breque et al., 2021). Figure 1 illustrates this proposition.

Figure 1. Society 5.0 Source: *Keizai Koho Center*

Huang et al. (2022), posit that industry is an integral component of society, actively contributing to its development in a mutually reinforcing relationship. In light of these considerations, the challenges associated with Society 5.0 include population aging, the depletion of available energy resources, environmental pollution, and complex international situations. Conversely, the opportunities presented by Industry 5.0 include the convergence of digital and physical space, the creation of future employment opportunities, and the

development of new roles for workers, human-robot collaboration, smart green entrepreneurship, and the formation of a hybrid cyber-human system.

In accordance with Sen's (1999) conceptualization, development is defined as the expansion of individuals' capabilities to live a life they value. The development of capabilities is not contingent on individual income; rather, it is concerned with the freedom to access services such as education, welfare, and social security. These factors, in conjunction with access to information, ultimately enhance people's social options. Additionally, Sen posits that real income is an insufficient analytical measure for comparisons and the capture of well-being. He defines freedom as the primary determinant of individual initiative and social effectiveness, recognizing five dimensions of freedom: political freedom, economic facilities, social opportunity, equity, and transparency guarantees, as well as protective security. Furthermore, he argues that decisions on wealth distribution and development strategies should be democratic, not determined by succession to power through electoral processes, but rather by continuous citizen involvement in setting economic priorities.

The contemporary nation-state global system is distinguished by the proliferation of the economic sector and its global expansion facilitated by information and communication technologies. Concurrently, while individuals who have attained personal autonomy may possess the capacity to "manage their own affairs," they are devoid of economic and political authority. Consequently, economic growth does not inevitably facilitate the advancement of political or economic liberty. In many instances, it rather gives rise to their subjugation. As previously outlined, the influence of technological advancement on the economy gradually results in the restructuring of the social fabric and the rejection of labor. This does not entail an increase in unemployment; rather, it signifies the emancipation of citizens from the production process (Contogeorgis, 2013). By drawing on information from the Greek world and employing the method of comparative analogy, we can discern that the underlying cause of this phenomenon can be attributed to the emergence of a state-centric system in the Western world. During this transitional period, the advancement of ICT will be of great importance, not only for their capacity to enhance access to information, civic participation, and individual autonomy, but also for the increasingly sophisticated mechanisms of surveillance and control they enable. From a Foucauldian perspective, these developments reflect a shift in the modalities of power, from overt coercion to more subtle, decentralized forms of disciplinary and biopolitical control embedded within technological systems. ICT thus functions as a site of both empowerment and subjugation, where freedom is not simply expanded but also redefined within new regimes of visibility and data-driven governance. This dual character necessitates a critical re-evaluation of freedom, understood not as the absence of constraint but as a condition produced and regulated through technologies. In this context, freedom becomes deeply entangled with the political logic of governmentality, as individuals are simultaneously enabled and constrained by the very infrastructures that claim to serve their autonomy (Foucault, 2008).

The transition to a democratic regime, and thus to full freedom for the entire state, requires the accumulation of vastly increased communicative energy, which is now possible through the ongoing technological revolution in ICT. This conclusion is an inevitable consequence of the Industrial Revolution's role as a catalyst for the transformation of feudal societies, alongside the emergence of civil society. Similarly, the advancement of ICT offers a multitude of avenues for reimagining the interconnections between individuals, politics, and the economy. The intermediary role of authoritative bodies, such as political parties and pressure groups, may become less necessary and increasingly symbolic (Contogeorgis, 1996, 2015).

2. Discussion

The concept of freedom remains complex, having engaged numerous scholars throughout history. In conjunction with the significant advancements in information and communication technologies, the notion of freedom emerges in a novel context. This study examines the multifaceted aspects of freedom, as delineated by Contogeorgis (2015; 2013), who identifies three distinct levels. Firstly, the individual level, which permits personal agency and the articulation of actions within one's private sphere; secondly, the social level, which necessitates the individual and enables participation and collaborative decision-making in communal activities, such as employment; and thirdly, political freedom, which encompasses both individual and social freedoms, thereby allowing citizens to engage in political decision-making. Additionally, the trajectory of freedom in contemporary society has been explored, with reference to the Greek cosmosystem, leading to the conclusion that the present era is characterized only by individual freedom. However, within the professional domain, the act of signing a contract often entails a forfeiture of social freedom, whereas at the political level, citizens frequently lack substantive decision-making authority (Contogeorgis, 2013). Ultimately, this analysis posits that

freedom is not an inherent trait, but rather a concept situated within the social fabric and the dynamics of its evolution.

The relationship between ICT and progress, and by extension of freedom, was examined. This dual capacity of ICT, as both an enabler and inhibitor of freedom, suggests that technological progress must not be assessed solely through the lens of efficiency or modernization. Instead, it must be situated within a broader socio-political framework that accounts for the evolving dynamics of power and the conditions under which freedoms are exercised or restricted. The notion of freedom, therefore, cannot be confined to the individual level, where the use of smart devices may appear to enhance autonomy. It must also account for the structural conditions, both technological and institutional, that shape the possibilities for social interaction and political engagement. As Sen (1999) emphasizes, development and freedom are mutually reinforcing only when individuals are not merely passive users of technology but active participants in shaping its direction and purpose. Thus, a comprehensive evaluation of ICT and its impact on freedom must grapple with this tension. While digital technologies hold transformative potential, their deployment within neoliberal economic systems and state apparatuses often prioritizes control, commodification, and efficiency over democratic inclusion and ethical accountability. Recognizing this tension is essential in redefining freedom in the digital age—not as a static or universal attribute, but as a historically contingent, socially embedded, and politically contested condition.

According to the international literature, progress most commonly pertains to economic development, the modernization of production, the integration of new technologies with industrial production and labor, and the emergence of new forms of work and society, such as Society 5.0 and Industry 5.0 (Breque et al., 2021; Fukuyama, 2018; Huang et al., 2022). In this context, freedom is conceptualized as the individual's participation and facilitation in utilizing smart devices to enhance daily life and work. According to Sen (1999), individual freedom encompasses the ability to choose a life that one values, as well as the opportunity to engage in a more collectivist approach to decision-making.

This divergence between the Greek cosmosystemic realization of freedom and the contemporary structures of Western liberal democracies invites a comparative analysis with modern theoretical frameworks. Liberal theory, particularly as articulated by Rawls (1971) and Berlin (1969), prioritizes individual autonomy and negative liberty as the core of political freedom. Within this framework, the liberal state guarantees civil rights and liberties, yet often leaves the realms of economic and social power relatively untouched. The result is a form of individual freedom that is formal rather than substantive, as it neglects the structural inequalities and asymmetries of power embedded in the economic and political systems. From this perspective, the individual is nominally free to participate in the market and electoral politics, but lacks any real agency over the institutional forces that shape their lived reality. In contrast, the cosmosystemic approach, as advanced in this study, views freedom not only as an individual capacity but as a collective condition that must be institutionally grounded in social and political participation. This perspective challenges the adequacy of liberal democratic models by arguing that they have not yet fully integrated social and political freedoms, as envisioned in the Greek paradigm. The continued alienation of the citizen from both economic ownership and political sovereignty reveals the limitations of current democratic practices, which, despite technological advancements, remain fundamentally representative and elite-driven. Furthermore, theories of deliberative democracy, such as those proposed by Habermas (1996), offer an attempt to reconcile this gap by emphasizing the importance of communicative action and inclusive public discourse. However, even these frameworks often operate within the constraints of capitalist modernity, where institutional reform is favored over systemic transformation.

Therefore, when viewed through the lens of cosmosystemic gnosiology, contemporary theories of freedom appear partial and constrained by their historical and epistemological contexts. Liberal theorists such as Berlin (1969) distinguish between negative and positive liberty, emphasizing freedom from interference as the cornerstone of modern liberal democracies. Similarly, Rawls (1971) conceives of justice as fairness, grounding individual liberty in the structure of constitutional democracy but largely abstracting from economic inequalities that limit real agency. These frameworks foreground the individual as the primary unit of analysis but fail to institutionalize mechanisms for collective autonomy and shared governance. The widespread adoption of digital technologies may give the illusion of participation and empowerment, yet it often masks deeper exclusions from decision-making processes at the social and political levels.

This study approaches freedom as autonomy, understood as the individual's capacity for self-determination. In this sense, freedom stands in direct opposition to dependency, whether imposed or voluntarily accepted, which is synonymous with power or domination, and it is fundamentally distinct from the concept of rights. Freedom can be analytically differentiated into three dimensions of individual, social, and political.

Individual freedom pertains to the personal choices and actions of the human being as a social agent. Social freedom relates to the agreements and contracts that an individual enters into with subsystems, such as those within the labor domain. Political freedom encompasses the individual's relationship with the collective whole, particularly in terms of participation in public decision-making. The cumulative realization of individual, social, and political freedoms is encapsulated in the concept of universal freedom.

To sum up, the use of ICT at the individual level, can significantly contribute to the expansion of individual freedom and the gradual transition to political and social freedom. Nevertheless, the engagement with the political system via the Internet remains, at present, an external phenomenon. The principle of individual freedom is predicated on the notion of equality, particularly in matters that serve to legitimize it. These include the objectification of law and, by extension, equality before the law or the demand for equality in property ownership. When individual freedom is the primary consideration, the principle of equality can also be extended to the social and political spheres. The advent of social and political freedom does not negate the foundational tenets of equality that underpin individual liberty. Conversely, it broadens the scope of equality to encompass provisions that substantiate the individual as socially and politically free (Contogeorgis, 2015). In an era of transition from civil society to political society, the key issue is not to oppose evolution but to move alongside it and understand it. The imperative for the technological generation is to determine how it will maintain pace with this evolution and integrate the forthcoming changes.

Conclusion

The aforementioned reasoning transcends mere utopian formulation and possesses relevance in contemporary society. To attain social and, subsequently, political freedom, it is imperative for society to evolve from a mere aggregation of individuals into a cohesive institution. This evolution necessitates the inclusion of individual interests into collective interests, whereby the societal framework will transition from utilizing voting solely as a mechanism for electing representatives to employing it as a means for making executive decisions collectively. Such a transformation will inevitably guide societies toward progressive evolution, fostering a mindset centered on common interest and collectivity. However, prior to this advancement, it is essential to reassess and clarify fundamental concepts to facilitate a deeper understanding among individuals regarding the principles that inform their daily choices. To sum up, this paper has provided a brief examination of the concept of freedom and its significance in the context of progress.

Recommendations for future research

Future research should concentrate on elucidating the concepts of democracy, equality, and rights. Information and Communication Technologies present opportunities for the enhancement of individual freedom and the integration of individual interests into the collective framework; however, this integration does not equate to legality, as technology serves primarily as a conduit for individuals to engage directly with communities, form groups, and participate in decision-making processes. In brief, transformative practices and engagement evoke reflection while simultaneously presenting opportunities for societal members to contemplate their values. They facilitate innovative thinking and the appropriation of technology with the overarching aim of achieving universal freedom and concurrently fostering the development of society as a collective institution.

Statement of Researchers
Researcher contribution rate statement:
Nikolaos P. Sfakianos: Conceptualization, methodology, software, investigation, validation, writing- original draft preparation, writing - review & editing, data curation.
Conflict statement:
I hereby declare that I have no conflicting interests with respect to the research, authorship, or publication of this article.
Data Availability Statement: N/A
Acknowledgements: N/A
Funding:
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.
Ethical Considerations:

In accordance with the ethical standards governing research involving human subjects, approval was not required for this study because it did not involve any participants.

Author Biography

Nikolaos P. Sfakianos, pursued his undergraduate studies in Sociology at Panteion University, where he later completed postgraduate studies in both Sociology and Social Psychology. Since 2021, he has been a doctoral candidate in the Department of Psychology at Panteion University, focusing on the subject of social comparison on social media platforms. He has been actively involved in various research projects as a social researcher since 2019 and has maintained a consistent presence at international academic conferences since 2015, with over ten oral presentations to his credit. His research interests span a wide range of topics within the fields of research methodology, social psychology, media psychology, and social theory. His academic work demonstrates a strong interdisciplinary orientation, aiming to bridge theoretical and empirical approaches to the study of social behavior in contemporary digital contexts. Also he continues to contribute to the academic community through both collaborative research and independent scholarly inquiry.

3. References

Arthur, W. B. (2011). *The nature of technology: What it is and how it evolves* (Reprint ed.). Free Press.

Amarantos, S. (2022). *Eisagogi stin Cosmosystimiki Gnosiologia [Introduction at Cosmosystemic Gnosiology]*. Nikas.

Autor, D., & Salomons, A. (2018). *Is automation labor-displacing? Productivity growth, employment, and the labor share*. Brookings Papers on Economic Activity, 1–87. https://www.brookings.edu/articles/is-automation-labor-displacing-productivity-growth-employment-and-the-labor-share/

Blackstone, W. T. (1973). The Concept of Political Freedom. *Social Theory and Practice, 2*(4), 421–438. http://www.jstor.org/stable/23558901

Berlin, I. (1969). *Two concepts of liberty*. In I. Berlin, Four essays on liberty (pp. 118–172). Oxford University Press.

Breque, M., De Nul, L., & Petridis, A. (2021, January 5). Industry 5.0 - Towards a sustainable, human-centric and resilient European industry. *Research and innovation*. https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/industry-50-towards-sustainable-human-centric-and-resilient-european-industry_en

Coleman, S. (2009). *E-democracy: The history and future of an idea Stephen Coleman*. In C. Avgerou, R. Mansell, D. Quah, & R. Silverstone (Eds.), The Oxford Handbook of Information and Communication Technologies (pp. 362–382). Oxford Academic. https://doi.org/10.1093/oxfordhb/9780199548798.003.0015

Contogeorgis, G. (2022). *Gnosi kai Methodos: 29 erotimata gia tin Cosmosystimiki Gnosiologia [*Knowledge and Method: 29 Questions on Cosmosystemic Gnosiology*]* (3rd ed.). Parousia.

Contogeorgis, G. (2021). *To Elliniko Cosmosystima TOMOS ST': I vyzantini oikoumeniki kosmopoli, o evropaikos Mesaionas kai i "neoterikotita"[The Greek Cosmosystem VOLUME VI: The Byzantine Ecumenical Cosmopolis, the European Middle Ages, and "Modernity"].* Sideris.

Contogeorgis, G. (2015). Gnoseology of Democracy and Modernity. The Issue at Sake of the Transcendence of the Western European Enlightenment. *Papyri - Scientific Journal Delti*, 4, 115-125. https://contogeorgis.gr/storage/2016/02/Papyri_Delti_Volume_4_Gnoseology_of_Demo.pdf

Contogeorgis, G. (2013). *Citizen and State: Concept and typology of citizenship*. LAMBERT Academic Publishing.

Contogeorgis, G. (2006). *To Elliniko Cosmosystima TOMOS A': I kratokentriki periodos tis polis* [*The Greek Cosmosystem VOLUME A: The state-centered period of the polis*]. Sideris.

Contogeorgis, G. (1996). I demokratia stin technologiki koinonia [*Democracy in the technological society*]. *To Vima ton Koinonikon Epistimon*, *5*(18). https://journals.lib.uth.gr/index.php/tovima/article/download/1687/1576

Duma, L., & Monda, E. (2013). Impact of ICT Based Education on the Information Society. *Journal of Futures Studies*, *18*(1), 41-62. https://jfsdigital.org/wp-content/uploads/2013/10/181-A03.pdf

Engels, F. (2017). Anti-Dühring. Wellred.

Foucault, M. (2008). The birth of biopolitics: Lectures at the Collège de France, 1978–1979 (G. Burchell, Trans.; M. Senellart, Ed.). Palgrave Macmillan.

Fukuyama, M. (2018) Society 5.0: Aiming for a New Human-Centered Society. *Japan Spotlight*, 1, 47-50. https://www.jef.or.jp/journal/pdf/220th_Special_Article_02.pdf

Glossary: Information and communication technology (ICT). (2023). Eurostat Statistics Explained. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Information_and_communication_technology_(ICT)

Habermas, J. (1996). *Between facts and norms: Contributions to a discourse theory of law and democracy* (W. Rehg, Trans.). MIT Press.

Holtgrewe, U. (2014). New new technologies: the future and the present of work in information and communication techno. *New Technology, Work and Employment, 29*(1), 9-24. https://doi.org/10.1111/ntwe.12025

Howcroft, D., & Richardson, H. (2012). The back office goes global: exploring connections and contradictions in shared service centres. *Work, Employment and Society, 26*(1), 111-127. https://doi.org/10.1177/0950017011426309

Huang, S., Wang, B., Li, X., Zheng, P., Mourtzis, D., & Wang, L. (2022). Industry 5.0 and Society 5.0—Comparison, complementation and co-evolution. Journal of Manufacturing Systems, 64, 424-428. https://doi.org/10.1016/j.jmsy.2022.07.010

ICT Access and Usage by Households. (2023). OECD Data Explorer. https://data-explorer.oecd.org/vis?df[ds]=DisseminateFinalDMZ&df[id]=DSD_ICT_HH_IND%40DF_HH&df[ag]=OECD.STI.DEP&dq=.A.B1_HH.._T...._T.&pd=2012%2C&to[TIME_PERIOD]=false

Kant, I. (1967). *A collection of critical essays* (R. P. Wolff, Trans.). Doubleday.

Kant, I. (2002). *Groundwork for the metaphysics of morals* (A. W. Wood, Ed.). Yale University Press.

Kant, I. (2015). *Critique of practical reason* (M. Gregor, Trans.; 2nd ed.). Cambridge University Press.

Keizai Koho Center. (n.d.). *Society 5.0*. https://en.kkc.or.jp/bc/cts/

Macintyre, A. (2006). *Truthfulness and lies: what is the problem and what can we learn from Mill? In Ethics and Politics Selected Essays* (pp. 101-121). Cambridge University Press. https://doi.org/10.1017/CBO9780511606670.007

Marx, K., & Engels, F. (2014). *The communist manifesto.* International Publishers Co.

Mayer-Schönberger, V., & Cukier, K. (2013). *Big Data: A Revolution that Will Transform how We Live, Work, and Think*. Houghton Mifflin Harcourt.

McKinsey Global Institute. (2017). Jobs lost, jobs gained: Workforce transitions in a time of automation (Executive summary). McKinsey & Company. https://www.mckinsey.com/~/media/McKinsey/Industries/Public%20and%20Social%20Sector/Our%20Insights/What%20the%20future%20of%20work%20will%20mean%20for%20jobs%20skills%20and%20wages/MGI-Jobs-Lost-Jobs-Gained-Executive-summary-December-6-2017.pdf

Morris, D. (1999). *Vote.com: How Big-Money Lobbyists and the Media Are Losing Their Influence, and the Internet Is Giving Power Back to the People*. Audio Renaissance.

Pettit, P. (1999). *Republicanism: a theory of freedom and government*. Oxford University Press. https://doi.org/10.1093/0198296428.001.0001

Rawls, J. (1971). *A theory of justice.* Harvard University Press.

Sen, A. (1999). *Development as freedom.* Oxford University Press.

Talbot, E. B. (1909). Individuality and Freedom. *The Philosophical Review, 18*(6), 600–614. https://doi.org/10.2307/2177675

Thompson, P., & Smith, C. (2010). *Renewing labour process analysis.* Red Globe Press.

Trechsel, A. H., & Mendez, F. (Eds.). (2005). *The European Union and E-voting: Addressing the European Parliament's Internet Voting Challenge*. Routledge.

Warhurst, C., Lockyer, C., & Dutton, E. (2006). IT jobs: opportunities for all? *New Technology, Work and Employment, 21*(1), 75-88. https://doi.org/10.1111/j.1468-005X.2006.00164.x

Zhong, R. Y., Xu, X., Klotz, E., & Newman, S. T. (2017). Intelligent manufacturing in the context of industry 4.0: a review. *Engineering, 3*(5), 616-630. https://doi.org/10.1016/J.ENG.2017.05.015