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Digital Citizenship and Online Social Behavior in Artificial Intelligence-Enabled Environments

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Abstract

This research looked at the evolving dynamics of digital citizenship and online social behaviors in artificial intelligence (AI)-augmented settings. The growing involvement of AI in social media, digital communications, recommendations, conversational assistants, content generators, and online communities has changed how people interact, communicate, construct digital identities, and engage in online activities. The research made use of a conceptual approach by considering secondary literature in order to understand the connection between the AI-augmented digital environment and responsible online behavior. The discussion revolved around digital literacy, responsible communication, privacy and security, digital identity, ethical participation, misinformation, algorithms, critical thinking, and human-AI interaction. An integrated framework was developed based on the themes discussed. The framework indicated that digital citizenship also entails not only technical expertise but awareness of AI-generated content, how algorithms work, privacy, responsible information sharing, empathy, accountability, and critical examination of online information. It also stressed the significance of keeping one's sense of judgment and social responsibility while working with AI-based technology. This framework served as a foundation on which digital citizens could operate in the online world facilitated by AI while ensuring safe and ethical interactions. The results obtained in this paper showed that developing digital citizenship could lead to more informed online behavior.

Keywords: Digital Citizenship, Artificial Intelligence, Online Social Behaviour, Digital Literacy, AI Ethics, Digital Identity, Responsible Online Participation.

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Introduction

Digital Citizenship in the AI-Enabled Digital Era

Digital citizenship has become vital over time because people have been partaking in digital environments by using social media, digital communication tools, online communities, the education system, and digital services. With the addition of artificial intelligence (AI), these digital environments have changed significantly through recommendation systems, conversational agents, content creation, personalized services, and moderation services. As a result, digital citizenship is not only about people's digital literacy but also about being responsible, informed, ethical, and safe in digital environments. People have been required to learn how AI systems affect information, content, and connections in the digital world.

Thus, digital citizenship entailed awareness about digital rights, digital responsibilities, privacy, security, information evaluation, and proper online behavior. The changing scenario also necessitated an appreciation of the impact of automation in decision making and online activities. Digital citizenship demanded that one learn how to interface with AI technologies while being mindful of one's responsibilities towards others. Awareness would facilitate better participation in digitally enabled environments which are mediated by AI technologies. Therefore, the idea of digital citizenship has been extended to include other competencies in relation to digital literacy and technology use (Richardson et al., 2021; Tinmaz et al., 2022; Fell, 2022).

Evolution of Online Social Behavior

Social behavior on the internet has changed significantly due to the development of social networks, instant messaging, virtual communities, and AI-based communication systems. Internet spaces have helped people to communicate beyond geographical borders, create their online persona, exchange information, be part of communities, and create social connections using the digital medium. On the other hand, the rapid pace of online communication has created problems relating to the spread of misinformation, cyberbullying, violation of privacy, inappropriate communication, social polarization, and irresponsible information dissemination. The use of AI-based systems has influenced the social behavior of people through content recommendation, moderation of communication, and response generation.

In effect, being able to conduct oneself responsibly on social media has thus meant having to integrate communication skills with critical thinking, empathy, ethical awareness, and social repercussions of digital acts. Consequently, since the advent of more AI, there has been an even greater link between online behavior and digital and technological awareness. People had to be able to realize the impact that their online actions would have on other users and the digital community as a whole. Becoming socially responsible was essential in fostering positive and constructive interactions online. The importance of critical awareness has also increased as a result of the increasing significance of digital platforms (Estellés & Doyle, 2025).

Role of Artificial Intelligence in Digital Interaction

AI has impacted the way people engage with the digital space and with each other. Recommendation algorithms using AI have personalized their consumption of information and entertainment, whereas chatbots, virtual assistants, automatic translations, information-generating systems, and intelligent moderation tools have enabled them to communicate and exchange information. This technology has provided ways for better, accessible, and personalized digital communication. But at the same time, AI-driven communication has posed many challenges regarding AI's effect on people's lives, automated content, privacy issues, biases, misinformation, manipulations, and the authenticity of digital communication. People must be sufficiently literate in AI in order to be able to identify AI-generated content and understand their limitations.

The role of human judgment and ethical considerations is important for guaranteeing that the application of AI takes place as an aid to digital communication rather than a replacement for sound individual judgments. Thus, AI literacy may contribute to the development of users' competences to recognize both pros and cons of intelligent technologies. The involvement of proper human supervision becomes important in cases when AI technologies affect communication, access to information, and online decision-making. Such a human-oriented approach may facilitate accountability and meaningful participation in digital communication. AI literacy has increasingly been defined as consisting of knowledge, understanding, critical thinking, and proper interaction with AI systems rather than only proficiency in using such technologies (Ng et al., 2021; Almatrafi et al., 2024; Lintner, 2024).

Responsible and Ethical Online Participation

Online engagement that is responsible and ethical entails the ability of individuals using digital technology to be respectful, protect their information, critique the information, as well as engage responsibly in the online community.

The scope of this responsibility has been widened due to the fact that users can interact with AI-generated content, automatic decision-making systems, personalized recommendations, and algorithmically moderated platforms in AI-enabled environments. Being responsible for digital technology involves aspects such as protecting one's privacy, being respectful, being aware of algorithmic impact, and using AI-generated information properly, among other digital rights and responsibilities.

Thus, digital citizenship in an environment facilitated by AI can be defined as a blend of digital skills, ethics, critical thinking, social responsibility, and human judgment. Ethics will require people to think about the consequences of their activities online not only in terms of convenience but also beyond their own interests. Respect for privacy, diversity, and alternative viewpoints can foster trust in the community online. All of these practices may help establish a responsible and humanistic approach towards the use of technology. The ethical aspects become especially relevant in AI environments since the issues of fairness, accountability, transparency, responsibility, and human values may come up in interactions with intelligent systems (Giarmoleo et al., 2024).

Research Problem

Although there has been increasing use of AI in digital communication and the Internet, digital citizenship and online social behavior have become even more complex. Current discourses on the topic usually deal with questions related to digital literacy, privacy, disinformation, ethics, AI literacy, and responsible technology use separately, which creates a necessity for developing an integrated concept regarding these aspects within AI-powered environments. People should not only possess technical skills in using digital platforms and tools but also be able to critically assess AI-mediated information, safeguard their digital identity, use ethical communication, understand the impact of algorithms, and keep a human perspective in AI-mediated interaction. The research problem explored in this paper is the absence of a holistic conception of these aspects of responsible digital citizenship and socially responsible online behavior.

Literature Review

Digital Citizenship and Responsible Online Participation

Digital citizenship has attracted considerable attention in recent years as an important element of responsible engagement in digitally connected societies. Digital citizenship is related to the capacity of individuals to use digital technologies effectively and, at the same time, be aware of their online rights and responsibilities, privacy and security issues, and ethics. Online engagement responsibly requires individuals to demonstrate respectful communication, proper information exchange, the ability to critically evaluate information in digital space, and to understand the consequences of their online actions. However, the growth of artificial intelligence technologies makes digital citizenship even more complicated, as it implies the interaction of individuals with intelligent systems that affect the information individuals have and how they communicate with others.

In literature, there is evidence that digital citizenship comprises not only technical proficiency but also social and behavioral competencies. People have to comprehend what effect their online actions will have and learn how to behave appropriately within interactions with technologies. This becomes especially important as AI affects communication, information availability, and participation. Studies of digital citizenship have also revealed the importance of developing responsible participation and not just the technical aspect (Richardson et al., 2021).

AI-Enabled Communication and Online Social Interaction

Online communication has been greatly affected by artificial intelligence through the use of chatbots, virtual assistants, recommender systems, automated translation, content generation tools, and intelligent moderation. This development has made online communication easier and faster, as well as making it possible for people to interact with digital systems. The role of AI in shaping interpersonal communication lies in determining the kind of information that people come across and the manner in which their online interactions are arranged. As a result, there has been an emphasis on the need to preserve human judgment and awareness in the use of AI in communication and interaction. AI-mediated communication has thus led to a closer connection between technology systems and human social behavior. It is important for users to differentiate between the use of automation and real human interactions depending on the circumstances of the AI-mediated communication process. The preservation of empathy, awareness, and human judgment is necessary for meaningful human interaction. Recent studies on human-AI interaction have placed significant emphasis on trust, human interaction design, human oversight, and collaborative interaction (Mehrotra et al., 2024; Raees et al., 2024; Vaccaro et al., 2024).

Privacy, Digital Identity, Misinformation, and Algorithmic Influence

Privacy and digital identity have emerged as key issues in the AI-enabled online environment because digital platforms keep generating and analyzing data on users' behavior, preferences, and interactions all the time. On one hand, such data may be used by AI systems to provide personalized services, suggest relevant content, and predict users' behavior, but on the other hand, it raises various issues, including those of surveillance, misuse of data, misuse of identity, and violation of privacy rights. Meanwhile, recommendation algorithms affect the information that users come across in the course of their online activity and play a role in selective exposure. Finally, the problem of AI-generated misinformation has made it increasingly difficult for users to determine whether online information is authentic. This means that digital literacy is essential to be able to discern false information and protect privacy. It is essential for individuals to assess the data that they release and know how digital channels will use their data. It is also imperative for users to critically evaluate information and verify sources so that they can make informed decisions about algorithmically driven misinformation. There is evidence from the literature that privacy and security are crucial issues in online social networks in terms of personal information, user activity, and the safety of digital identity (Jain et al., 2021). In terms of misinformation, there have been studies assessing the factors that contribute to its dissemination and ways of combating such issues (Chen et al., 2023).

Digital Ethics, Empathy, Responsible AI Use, and Research Gap

Digital ethics refers to considerations of fairness, respect, responsibility, transparency, empathy, and proper behavior in technology-mediated interactions. In environments in which artificial intelligence is present, these concepts have been especially important due to the possibility of people using artificial intelligence technology to create content, communicate with other people, recommend actions, or moderate digital interactions. Proper use of artificial intelligence thus implies an understanding of the abilities and restrictions of artificial intelligence along with the potential social implications of such use. Existing research has considered various topics including digital citizenship, AI-enabled communication, privacy, misinformation, and online ethics as significant issues that are frequently interrelated. Misinformation and digital media research have focused on the significance of critical analysis and an interdisciplinary approach to the problems (Aïmeur et al., 2023; Caled & Silva, 2022).

Nevertheless, there still exists a need for an integrative conceptual approach that would relate such notions as digital citizenship, socially responsible online behavior, artificial intelligence literacy, privacy, critical information evaluation, ethical communication, and human-machine interaction into a single approach. This gap has been used as the basis for the development of the framework for responsible digital citizenship and socially responsible behavior in an AI-enabled environment. An integrated approach will be helpful in relating personal digital skills to more general social and ethical responsibilities. The relevance of this approach is based on the fact that AI literacy, privacy issues, ethical communication, and critical information evaluation all form interrelated components of the process of digital engagement.

Proposed Digital Citizenship and Online Social Behavior Framework

AI-Enabled Digital Literacy, Awareness, and Critical Thinking

This framework saw AI-enabled digital literacy as an important prerequisite for responsible digital citizenship. This included knowledge of how AI technology, recommendation engines, chatbots, automatic content generators, and digital platforms impacted users' experiences in the digital world. Digital literacy included knowing whether there was any AI-manipulated information and assessing the veracity of online information and the limitations of the automated process. Critical thinking allowed people to question information prior to accepting it or sharing it and to realize that algorithmic influence may play an important role in shaping the information. This way, individuals would be better prepared for the responsible use of an AI-influenced digital environment. Awareness of AI technology also allows people to understand when their digital experience is shaped not only by human choice but also by automated processes. Thus, development of such skills can decrease uncritical reliance on AI-manipulated information.

Responsible Online Communication, Ethical Behavior, and Social Responsibility

Responsible digital communication became an essential part of the framework through promoting constructive, respectful, and inclusive interaction. Digital participants had to take into account the social implications of their digital activity, which included posting, commenting, sharing, and interacting with AI-generated content. Proper ethical conduct included such traits as empathy, respect for other viewpoints, responsibility, and refraining from harmful digital communication like bullying, discrimination, or spreading disinformation. Thus, the proposed framework linked personal digital conduct with social responsibility, understanding that proper digital communication could help to

create a healthier and more inclusive digital community. Responsible digital communication also implied being aware of the fact that digital messages could reach a larger audience and become accessible to others after initial interaction. In this way, digital users had to take into account the implications of their communication for individuals, communities, and digital communities.

Digital Identity, Privacy, Security, and Misinformation Management

These aspects were included in the framework as interlinked components of responsible use of the Internet. People should be able to manage their digital identities and be aware of ways in which their personal information could be gathered, analyzed, stored, and used by AI-enabled platforms. Privacy-safe behavior entailed proper information disclosure, credentials protection, as well as risks associated with one's data. At the same time, the identification of misleading, manipulated or AI-generated information was a crucial part of the framework that would help people to operate in the online environment and make proper decisions. Digital identity management was linked to the understanding of the long-term consequences of one's online activities and information sharing. Increased knowledge about privacy and security issues could promote more responsible decisions when it came to personal data and digital accounts. Likewise, proper assessment of online information could promote responsible actions in case of dealing with misinformation and manipulated information.

Human–AI Interaction, Social Well-Being, and Integrated Framework

Interaction between human beings and artificial intelligence served as an integrating element in the suggested model, which allowed connecting the concepts of digital literacy, responsible communication, privacy protection, ethical conduct, and critical evaluation of information. Artificial intelligence was regarded as the assisting technology, not the substitute for human judgment, empathy, responsibility, and accountability. Interaction between human beings and artificial intelligence was possible only if users were aware of the strengths and limitations of intelligent systems while retaining their control over essential personal and social decisions. In such a way, the integrated framework connected such elements as AI awareness, responsible digital practice, privacy and security, ethical behavior online, critical information evaluation, human-AI interaction, and social well-being. Using these elements, the framework offered a conceptual foundation for fostering safe, responsible, and ethical behavior of people in AI environments. The integrated structure also recognized the fact that responsible behavior in digital spaces could not be fostered by raising awareness about technology alone. The interaction between cognitive, ethical, privacy-related, and social dimensions offered a more comprehensive ground for fostering responsible conduct.

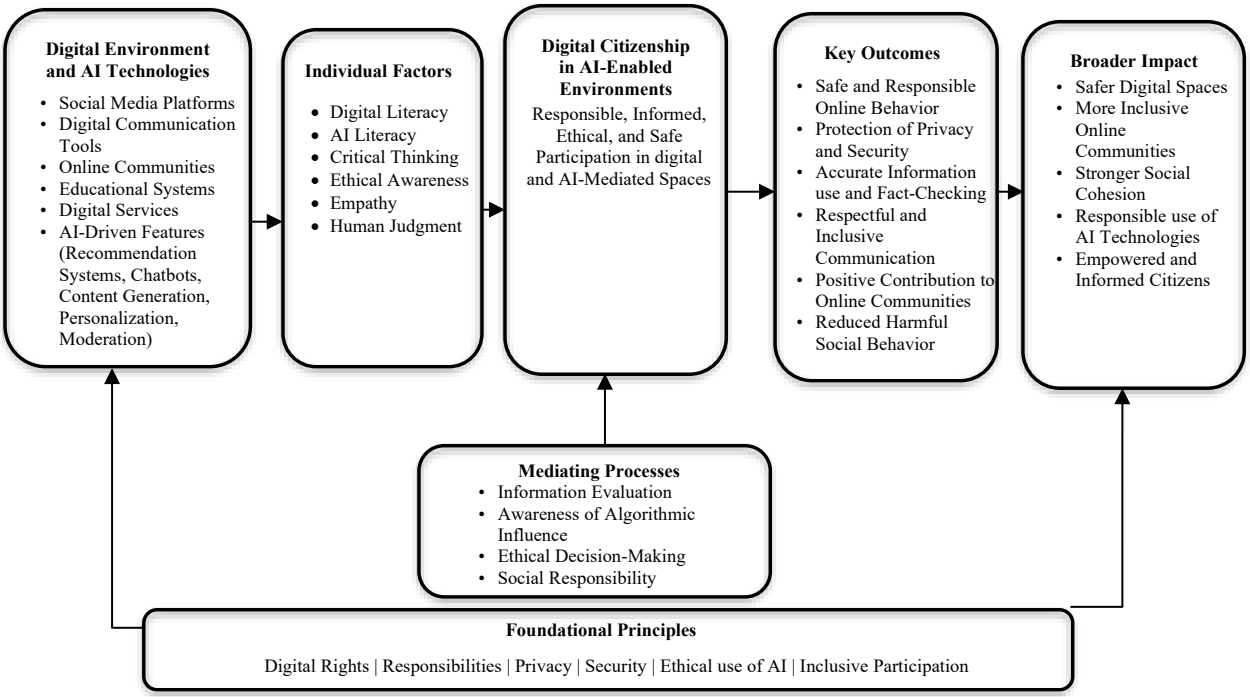


Fig. 1: Conceptual Architecture of Digital Citizenship in AI-Enabled Environments

Fig. 1 architecture represents the relationship between AI-supported digital environment and individual competencies that help responsible digital citizenship by means of critical thinking, ethical actions, privacy, and interaction between humans and AI. Fig. 1 further describes the connections between these aspects that foster safe, inclusive, knowledgeable, and socially responsible online activity.

Methodology

Research Design and Conceptual Approach

For the purpose of this study, a conceptual and qualitative research design was chosen in order to explore the link between digital citizenship and online social behavior in AI-enabled contexts. Contrary to surveys or experiments, the analysis relied on synthesizing knowledge from the existing academic literature in terms of major concepts, relationships, issues, and practices in relation to the topic under analysis. The conceptual model paid attention to the aspects of AI-enabled digital literacy, responsible communication, privacy and security, ethics, misinformation management, human-AI interactions, and social well-being. All these dimensions were then incorporated into the framework for Digital Citizenship and Online Social Behavior. This particular method was justified by the fact that the goal of the paper was not to test any hypotheses but rather to systematize existing knowledge in the field. The approach allowed the researcher to take into account the technological, behavioral, ethical, and social angles.

Moreover, the research design included the use of an integrative research approach in order to investigate how technology advancements in artificial intelligence affect the competencies of individuals, communication activities, and social behaviors in the digital environment. The concept analysis focused on the notion of digital citizenship as a multidimensional concept and not only as a simple understanding of technological skills or internet usage. Specifically, the connections between individual awareness, responsible digital actions, moral decision-making, and collective social responsibility were analyzed. Thus, through this approach, the possibilities and difficulties related to AI-assisted communication and engagement could be investigated. The connections of these aspects in one conceptual framework formed a base for the development of a conceptual framework.

Literature and Secondary Data Sources

The secondary data were sourced from academic journals, systematic reviews of literature, research papers, books, conference proceedings, and credible institutional and policy-oriented sources that provided information on digital citizenship, online social behavior, artificial intelligence, digital ethics, privacy, misinformation, and human-AI interaction. The literature sources chosen were selected based on their relevance to the research objectives and contribution towards gaining insights on responsible participation in digital spaces mediated by AI. Sources focusing on technological aspects as well as social aspects of the topic were taken into consideration as this would give a more comprehensive conceptual basis for the framework. The incorporation of varied secondary sources allowed for the consideration of the topic from a multidisciplinary perspective. Special emphasis was laid on sources that highlighted the interplay between technological advancements and individual/social behavior.

Moreover, the choice of secondary resources took into account the multidisciplinary aspect of digital citizenship and AI-mediated social interaction. Sources from the fields of information technology, communication studies, education, social sciences, behavioral science, and digital governance were chosen in order to view the topic from various scholarly angles. The emphasis was placed on literature, which focused on the new trends in AI-mediated communication, influence of algorithms, information exchange in digital environment, digital responsibility, and protection of individual rights. In addition to academic literature, institution-based literature and policy-oriented literature was considered to view the governance and ethics aspects related to AI-mediated digital space.

Data Selection and Thematic Analysis

Selected literature was analyzed systematically in order to extract repeated concepts and relationships that would be relevant for digital citizenship and online social behavior. The method of thematic analysis was applied in order to categorize the extracted information according to several themes such as artificial intelligence-enhanced digital literacy, responsible online communication, privacy and digital identity, ethics, misinformation and critical thinking, human-AI interaction, and social wellbeing. Similar concepts were grouped in one theme, while overlapping or complementary themes were studied in order to establish their relationships. Thematic synthesis served as a base for identification of the major dimensions and components of the proposed framework. It also allowed recognition of the points where technological and social concepts intersect in AI environments. Relationships between the themes were explored in order to understand how individual competencies can facilitate responsible online behavior.

In addition, the thematic analysis also included the analysis of similarities, differences, and dependencies among the identified themes. All the identified themes were analyzed based on their contributions towards digital competencies, online engagement, and societal consequences. More emphasis was put on those themes that were found in various bodies of literature because it showed that there were connections between technological consciousness, behavioral responsibility, and ethical behavior. Some of the emerging issues considered during the thematic analysis included algorithmic bias, automated content generation, digital manipulation, violation of privacy, and unequal access to AI technology. From this comparative analysis, the identified themes were classified into conceptually interrelated categories. This enabled the establishment of logical connections necessary for the development of an integrated framework.

Framework Development Process

The model was constructed based on the combination of themes that emerged from the literature review into one coherent conceptual model. First, AI-based digital literacy and awareness were used as basic abilities required for mastering the AI-mediated environment. They were linked to responsible communication, ethics, privacy and security, information assessment, and mis/disinformation control. Next, human-AI interaction and social well-being were introduced as more general outcome-oriented dimensions. The resulting conceptual framework showed the interrelations between digital competences, responsible online behavior, AI awareness and socially responsible participation. The construction of the framework highlighted the interconnection of the identified dimensions instead of considering them as separate aspects. Every dimension was placed within the framework depending on its role in socially responsible participation and its connection with other dimensions. This integration helped in forming a holistic conceptual framework of digital citizenship and online social behavior in an AI-enabled environment.

Furthermore, the construction of the framework took into account the interrelation between the dimensions, which was needed to determine how together they help to achieve responsible digital participation. AI-based digital literacy was considered as a fundamental dimension, which helps people understand AI-based information and interact with automated processes as well as evaluate digital information. Responsible communication, privacy protection, ethical awareness, and misinformation management were included as behavioral and governance dimensions, which help one to engage in proper online activities. Human-AI interaction was included as a dimension that stresses the importance of using human reasoning when interacting with intelligent machines. Social well-being was included as a consequence of the impact of responsible digital participation on trust, inclusion, meaningful communication, and positive online relations. It is important to note that the structure of the framework was constructed in such a way as to show complementarity of these dimensions rather than their independence.

Conceptual Evaluation Criteria

The proposed framework was evaluated in terms of its relevance, comprehensiveness, coherence, ethical orientation, human-centeredness, and practical applicability. Relevance was concerned with how the framework was able to cover important challenges facing digital citizenship in the age of AI. Comprehensiveness was concerned with whether technological, behavioral, ethical, privacy, and social aspects were covered adequately. Coherence was concerned with how the components of the framework were logically connected, while ethical orientation was concerned with issues related to privacy, accountability, fairness, and responsible behavior. Human-centeredness was concerned with whether there was an important place for human judgment and social responsibility, while practical applicability was concerned with whether the framework could be useful for guiding individuals, educational institutions, organizations, and digital platforms. These criteria offered a systematic approach to evaluate the conceptual merits of the proposed framework. They also ensured that the framework would stay consistent with its human-centered and socially responsible orientation.

Furthermore, in the evaluation, the capacity of the framework in addressing the dynamic requirements of digital citizenship due to increasing adoption of artificial intelligence in daily online interactions was assessed. It involved evaluating the conceptual components in addressing the current issues while being flexible to future changes in technology and social settings. Emphasis was put on the balance between individual responsibility, platform accountability, institutional support, and human involvement. The evaluation also took into account the usefulness of the framework as a guide for digital literacy programs, education, policies in organizations, and responsible use of AI. The evaluation was a conceptual one without any empirical testing of the framework. Therefore, the evaluation criteria facilitated the assessment of the conceptual consistency, relevance, and practical utility of the framework in addition to recognizing the need for future empirical testing of the framework.

Findings and Discussion

AI-Driven Transformation of Digital Citizenship and Online Social Behavior

From the conceptual analysis, it was evident that AI had extended the concept of digital citizenship from the aspect of digital literacy to a broader definition that incorporates aspects of AI literacy, critical thinking, ethical consciousness, and participation. There is the fact that AI recommendation engines, conversation tools, automated moderation, and content generation technologies have played a role in shaping people's access to information, communication, and interaction within the digital environment. It thus means that being an effective digital citizen requires one to be conscious of the impact of AI systems on their digital experience as well as the obligations that come along with that. It further means that being socially responsible online is associated with one's ability to communicate responsibly, think critically about the information being provided, and think about the social impacts of digital interactions.

Moreover, the theoretical conclusions suggest that AI-based digital spaces will be in constant need of the development of individual competencies to enable responsible engagement online. With the growing application of intelligent technologies to education, social networking, business communication, and public information services, the expectations toward awareness and responsibility of users have changed. Individuals need to realize the role of automated technologies in determining the visibility of information and forming the online opinion, as well as influencing the interactions between various social groups. The competencies of digital citizenship need to include the capacity to reflect critically upon the results provided by the artificial intelligence, to consider the limitations of algorithmic solutions, and to maintain responsible communication.

Privacy, Digital Identity, Misinformation, and Critical Digital Participation

Privacy, digital identity, information manipulation, and online safety were found to be interlinked dimensions of responsible engagement with AI-enabled platforms. There was a potential for collecting considerable amounts of private information and behavioral data by AI algorithms, thus calling for an increased understanding of data protection and digital identity. At the same time, the use of AI-generated and distributed information contributed to a growing need for users' information evaluation and critical thinking skills. The results revealed that users should be capable of identifying potentially misleading information, understanding its distribution through algorithms, and avoiding sharing such information. In doing so, users would be able to participate in AI-mediated platforms safely and responsibly. It can be said that issues of privacy and information evaluation were part of wider aspects of responsible digital participation. Proper handling of personal information would decrease the risk of privacy threats, while critical thinking could help to react to misleading information correctly.

In addition to this, the results indicate that successful digital citizenship calls for an integrated approach towards personal data protection, identity management, and information verification. The users should realize the ramifications of providing personal data to AI-powered platforms and be aware of the significance of identity management in different online settings. Furthermore, one should be able to differentiate between the genuine information, manipulated information, and the information produced by AI. Digital platforms and academic institutions can assist in this process through privacy awareness initiatives, information verification tools, and policies regarding information use and availability of reporting mechanisms. In turn, the proper governance of online platforms should provide necessary protection from illegal use of personal data, abuse of identity management, and spread of any harmful content.

Ethical Communication, Human–AI Interaction, and Social Well-Being

Among the main conclusions was that it was crucial to maintain ethical communication despite the growing participation of AI in digital interaction. Such concepts as respect, empathy, inclusion, accountability, and the ability to take into account the perspective of others were viewed as integral aspects of ethical online conduct. In addition, interaction between a human and AI was supposed to require human judgment in order not to follow all recommendations made by a machine and the content created by it automatically. It is possible to say that AI was capable of facilitating communication and socialization in the digital world; however, the application of AI in such processes should be in accordance with human values and social responsibilities. This attitude could lead to the development of healthy relations online, increased trust, and higher social well-being in the digital world. Another conclusion was related to the preservation of human agency when AI became a part of regular digital interaction.

Overall Contribution and Implications of the Proposed Framework

In particular, the suggested framework brought AI-based digital literacy, responsible communication, privacy and security, ethics, managing misinformation, and interaction between humans and AI systems together in an interconnected conceptual structure. The contribution of the framework in question consisted of connecting individual digital skills with broader responsibilities in terms of society and ethics in AI-based environments. For individual users,

the framework suggested that they develop critical thinking, privacy, responsible information sharing, and responsible use of AI. Educational organizations would be able to use AI literacy, digital ethics, and responsible digital behavior in their activities; digital platforms, in turn, would be able to enhance transparency, privacy, responsible content management, and user awareness. Thus, the framework in question provided a conceptual basis for informed, ethical, safe, and socially responsible digital participation in increasingly AI-based environments. Moreover, the integrated structure provided a common conceptual basis for the analysis of relationships between technological awareness, individual behavior, and social responsibility. Implications of the suggested framework went beyond individual users and included education, organization, and digital platform levels. Therefore, the suggested framework could be used as a basis for future research.

Table 1: Summary of Findings and Discussion on AI-Enabled Digital Citizenship

Findings Dimension	Key Finding	Discussion / Implication
AI-Driven Digital Citizenship	AI expanded digital citizenship beyond basic digital skills toward AI literacy, critical thinking, ethical awareness, and responsible participation.	Users need to understand AI influence while maintaining human responsibility and judgment.
Privacy and Digital Identity	Privacy, digital identity, and online safety emerged as interconnected concerns in AI-enabled environments.	Greater awareness of data protection and responsible information sharing is required.
Misinformation and Critical Participation	AI-generated and algorithmically distributed content increased the importance of information evaluation and source verification.	Critical thinking and fact-checking can support safer and more informed participation.
Ethical Communication	Respect, empathy, inclusiveness, and accountability remained important in AI-mediated interactions.	Responsible communication can contribute to healthier and more inclusive online communities.
Human–AI Interaction	AI was identified as a supporting technology rather than a replacement for human judgment and social responsibility.	Users should maintain human control and critically assess AI-generated recommendations and content.
Social Well-Being	Responsible digital behavior and human-centered AI interaction were associated conceptually with healthier online relationships and social well-being.	The framework provides a basis for promoting safer, informed, inclusive, and socially responsible digital participation.

Summary of findings related to AI-driven digital citizenship, privacy, misinformation, ethical communication, human-AI interaction, and social well-being is presented in table 1 above. It shows how these interrelated dimensions can help achieve safe, knowledgeable, ethical, inclusive, and socially responsible participation in the AI-driven digital space.

Conclusion

Summary and Contributions of the Proposed Framework

A conceptual framework for comprehending digital citizenship and social behavior of people in AI-enabled environments was created by the study. It comprised such elements as AI-enabled digital literacy, responsible online communication, privacy and digital identity, ethics, managing misinformation, critical thinking, and human-AI interaction. The framework stressed that responsible digital citizenship involved not only technical skills but also the ability of a person to be ethically minded, socially responsible, critical, and respectful of the privacy of others. Thus, the study offered an integrated conceptual framework that could help to ensure safe, responsible, inclusive, and informed participation in AI environments. Moreover, it stressed the need to preserve human judgment and accountability while dealing with AI technology. Finally, the study showed the interrelatedness of technological, behavioral, ethical, and social aspects of digital citizenship. Integrating all these aspects in one framework, the study offered a conceptual framework for responsible participation in AI environments.

Implications, Limitations, and Future Research

There were a number of implications of the proposed framework for individuals, educational institutions, and digital platforms because of the focus on AI literacy, responsible communication, privacy, misinformation, and responsible digital citizenship. Educational institutions would be able to build digital citizenship by using these aspects, while digital platforms can ensure that their interactions are safe by using approaches such as privacy-conscious design and

responsible AI. The study was conceptual, and it used only information from secondary sources, which is why there is no empirical proof that there are relationships between the suggested dimensions of digital citizenship in this study. Future research can help to verify the framework by using surveys, interviews, case studies, experiments, and cross-cultural studies. Empirical research can help to explore how AI literacy, algorithmic literacy, privacy practices, and responsible digital citizenship affect social well-being and responsible digital citizenship. Future research will be able to explore how relationships between these aspects stay the same across different age groups, different learning environments, various cultures, and digital platforms. Changing capabilities of AI may also affect digital citizenship practices in the future.

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