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# Optimizing Social Interaction through Digital Tools: Methodological Approaches and Practical Applications of Information Systems

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**Abstract:** Today's digital technologies have changed the way people interact with each other, leading to big advances in mobile technology and trustworthy online databases. Bibliographic synthesis, statistical analysis, and structured organization and interpretation of the data that was collected were some of the methods used in the study. A database of social media platforms and official online resources was processed. The analysis was supplemented by research on the integration of modern psychosocial strategies into the formation of public discourse and initiatives to increase transparency. Special emphasis was placed on assessing the adaptive processes necessary for the use of information and communication technologies in socio-economically disadvantaged regions. The results of the study showed that the prevailing methodological approaches are characterized by targeted communication strategies, effectively charged rhetoric, the influence of social validation, dynamic content presentation, and heterogeneous effectiveness of digital platform deployment. Combined with psychosocial and sociocultural principles, these approaches contribute to the emergence of adaptive social structures that develop in analytically sound ways. At the same time, excessive emphasis on cognitive and behavioral factors emphasizes the limitations of exclusively textual articulation of strategy - a phenomenon within the concept of "spelling postmodernism", which reflects potential vulnerabilities for the integrity of cybernetic systems. Research on contemporary communication processes has revealed a deficit of autonomy of operational mechanisms, which are contrasted with the background of developing institutional paradigms. We believe that these should be constantly improved and adapted to keep communication tactics and government programs more effective.

**Keywords:** digital communications, education, information technologies, learning, social sphere, socio-psychological technologies

## Introduction

We observe how the recently emerged modern information and communication technologies (ICT) have been fundamentally transforming the very nature of the communication processes. As one could expect, social interactions and information flows are also among the main actors of this critical progress. We believe ICTs act as effective tools for overcoming social problems by responding to new social challenges that include but not limited to inclusivity and expanding access to information.

Naturally, ICTs have also been going through a major transformation of their own. We can argue that this transformation involves an active participation of the state institutions as well as different interest groups in a society. These technologies can significantly improve the quality of social services and ensure transparency in management processes. In parallel with the desire for inclusiveness of these services, there is an urgent need to develop innovative social management programs in the conditions of modern digital ecosystems. In this debate factors such as consumer patterns, the formation and implementation of effective communication have also become paramount.

The innovation process receives its main power from ICT which enables organizations to adapt and maintain intercultural dialogue while creating new opportunities for worldwide knowledge sharing and communication at an unprecedented level. Digital technologies create multiple social effects which generate both new social issues and social inequalities and effective solutions for society.

The research into ICT demonstrates how these technologies transform social operations through their development of contemporary systems for social management. The knowledge base enables social management of ICT systems to progress through digital platforms.

### **Literature review**

We observe an increasing focus in the literature on communication strategies and the use of different modern technologies in evaluating the new trends of social interaction. During our initial reviews, we observed how the scholars are nowadays paying a large attention to the transformative impact of ICTs on strategical social communication processes.

Here, one of the interesting studies come from Mialkowska et al. [1], whose attention is on one of the core issues of managing educational processes in this new era. The researchers study how modern information technologies impact education while creating innovative educational approaches which help maintain educational sector stability. Practitioners should integrate ICT into their traditional practices to improve the effectiveness of education.

Among the authors, Bulvinska [2], Sokolova [3], Hurevych et al. [4], Maksak and Radchenko [5] analyze the educational space in the context of its digital transformation through the prism of modern information technologies. Researchers also consider the development of students' digital skills and communicative interaction in the digital environment. The cited works also summarize the key problems and challenges of integrating digital technologies into education [2-5].

Another publication by Mialkowska [6] focuses on the system of social management of higher education in Ukraine in the context of processes related to the introduction of digital communications. They analyze the key barriers that prevent the effective use of such technologies.

### ***Social work and social initiatives***

Key issues in the professional training of social workers were further developed by Mialkowska et al. [7], who consider the aspect of educational technologies. They argue that there should be integration of social, psychological, and digital mechanisms aimed at encouraging students to pursue independent lifelong learning.

One area of contemporary research is the study of the impact of social networks on the implementation of social initiatives. A significant part of scientific work is devoted to the study of the use of social networks in communication strategies. They consider how detailed audience segmentation through personalized appeals and individual dynamic interaction with users allows for effective communication. The current development of ICT systems uses ethical principles which work through open systems to safeguard personal data through confidentiality protocols. Social media platforms require more than basic name display because nominal presence does not guarantee the desired level of effectiveness. Instead, active, dynamic two-way communication and the formation of sustainable relationships with the target audience - users of web resources and digital platforms - are of crucial importance. It is this approach that serves as a significant criterion for effectiveness.

### ***Digital literacy and relationship landscape***

European Union countries emphasize the systematic development of digital competencies, including improving the digital literacy of participants in the educational process and introducing modern learning technologies. Current research focuses on content with a conscious environmental focus, as well as the integration of artificial intelligence-based technologies. Economic associations contribute to increasing opportunities for international cooperation, creating academic communities, and forming social platforms for scientific communication. Documentary evidence

confirms the growing priority of new approaches to education management and active administrative management of education [8-10].

Canadian researchers Martin and MacDonald [11] emphasize the strategy of interactivity in the form of active commenting and profiles. They analyzed that Instagram provides better opportunities for forming relationships and interacting with users than Twitter.

### ***Social transformations domain***

Analyzing key social institutions, Ukrainian experts consider the social transformations that have taken place in Europe due to Russia's armed aggression against Ukraine. Bibliographic and analytical methods were used to analyze the emotional background, public opinion, interpersonal relationships, the level of the market economy, and citizen activity over the past six months [12].

Hoian et al. [13] consider psychological characteristics and types of self-organization among student youth in conditions of social uncertainty. Similarly, in their study, they highlight innovative approaches from European experience that demonstrate good quality in terms of "digital technologies and adaptive learning programs". The results of their study indicate that the introduction of digital technologies and the creation of conditions for personalized learning are the factors that most determine the model of the educational environment.

Martyniuk et al. [14] analyze the management of educational processes in the context of rapid technological evolution. The challenge of increasing the efficiency of educational activities in Ukraine is considered through the prism of preserving the national identity and intellectual potential of the nation in the context of integration into the European educational space. Such analytics is due to the urgent need to identify existing gaps in the processes of digitalization and globalization of Ukrainian education, as well as to outline the most promising vectors for its further progressive development. Particularly, this study focuses on the crucial role of immersive technologies for education. The system achieves its goals by showing complicated information in a clear way which leads students to participate actively while they develop their ability to solve creative problems. The implementation of European educational methods alongside international funding support establishes an institutional system which supports Ukrainian higher education growth and enables educational institutions to become more self-governing while the education market experiences beneficial competition.

Moreover, studies [15, 16] focus on developing effective strategies and tactics to improve social communication. Particular attention is paid to the role of information and communication technologies (ICT) in promoting access to social services, strengthening public participation in social initiatives, and improving mechanisms for information exchange between government agencies and society.

### **Methodology**

In the theoretical segment of the study, a review of the literature was conducted, based on monographic works, scholarly articles, analytical reports and other sources, in particular literature devoted to this topic. The formation of sample of literature sources for analysis was carried out by searching both in scientific databases ScienceDirect and Wiley, and search via Google search engine. The compiled sample was analyzed by the integrative review methodology.

In order to study the identification of timely trends in the number of users and time spent on social networks, as well as their penetration in low- and middle-income countries, a targeted search was used. The main sources were databases on social network indicators worldwide, along with electronic information from Priori Data and Backlinko. A review of advertising offers for various goods and services posted on websites, as well as materials exclusively from the transgressive audience of social networks, other media, educational and advertising materials, made it possible to analyze their effectiveness and identify the main dominant themes in the public in its various segments.

As a result of analyzing the content of official online resources of registered organizations, reliable pages, and even social media groups (Facebook, Instagram, and TikTok) that blog on this topic using visually expressive images, the reasons underlying the confirmed information were identified. Based on the data studied, taking into account social asymmetry and cultural and economic differences, as well as sociological opinions, a structure of alternative social communication models was developed, and previously known effective strategies for government campaigns that reinforce media efforts were identified. Analysis of the final data allowed drawing conclusions and make recommendations.

## **Results**

Modern social policy requires improved communication strategies that actively transform the observed sphere of information exchange, stimulate public activity, and implement social projects. To integrate the latest digital platforms or social networks as mechanisms for communicating with the public, a new platform is being provided for active citizen participation in crucial political and managerial decision-making, as well as opportunities for rapid response to their feedback aimed at improving political strategies. Large-scale communication campaigns targeting specific social groups achieve maximum effectiveness through personalized content algorithms.

The use of participatory methods improves the combination of resources from different stakeholders, optimizing the implementation of initiatives in the social environment. For better use of the latest artificial intelligence technologies and big data analysis tools in communications, the following features are significantly more reliable: automated responses, provision of necessary and legitimate information in a matter of seconds, with dynamic framing of the angle of presentation and adaptation of messages to the user's gadget. It is also important to actively implement educational programs to shape responsible media policy communication by institutions, as well as to correctly perceive the various types of information provided and engage in critical analysis of current information from the perspective of media and information literacy.

The effectiveness of such models directly depends on their adaptation to changes in the social landscape and modern society's requirements. Information and communication technologies (ICT) are the main means of promoting social modernization and expanding access to reliable information.

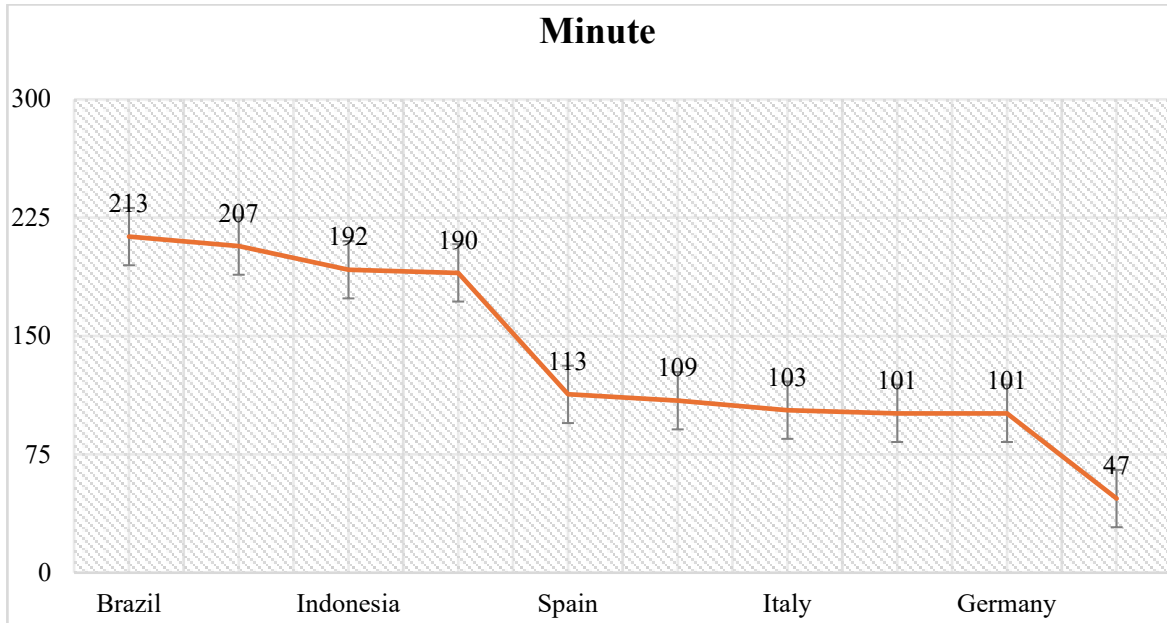
According to the World Bank, Internet usage in low- and middle-income countries has grown from 11% in 2010 to 62% in 2022, demonstrating a positive trend toward increased opportunities for social policy [17].

This indicates a significant expansion of the information space, especially in regions where access to digital resources was previously limited or unstable. About 54% of all social media users report a positive trend with active communication and micro-communication opportunities, at least for keeping in touch with relatives, even with the restrictions on contact with people during COVID-19. By early 2024, the number of social media users worldwide had reached 4.8 billion [18].

This represents a significant increase compared to the previous year, as in 2023 alone, the global audience grew by more than 400 million new users. East Asia remains the leader in terms of active users, with over 1.25 billion. It is followed by South Asia with 961 million, and Southeast Asia with approximately 527 million users. The concentration of digital platforms is very unevenly distributed across different regions: in East Asia, 75% of the population uses social networks, while in a number of African countries this figure is below 10% [18].

It is also worth noting that residents of countries such as Brazil and the Philippines spend the most time on social media every day, averaging 213 minutes per day, while Indonesians spend about 192 minutes (Figure 1).

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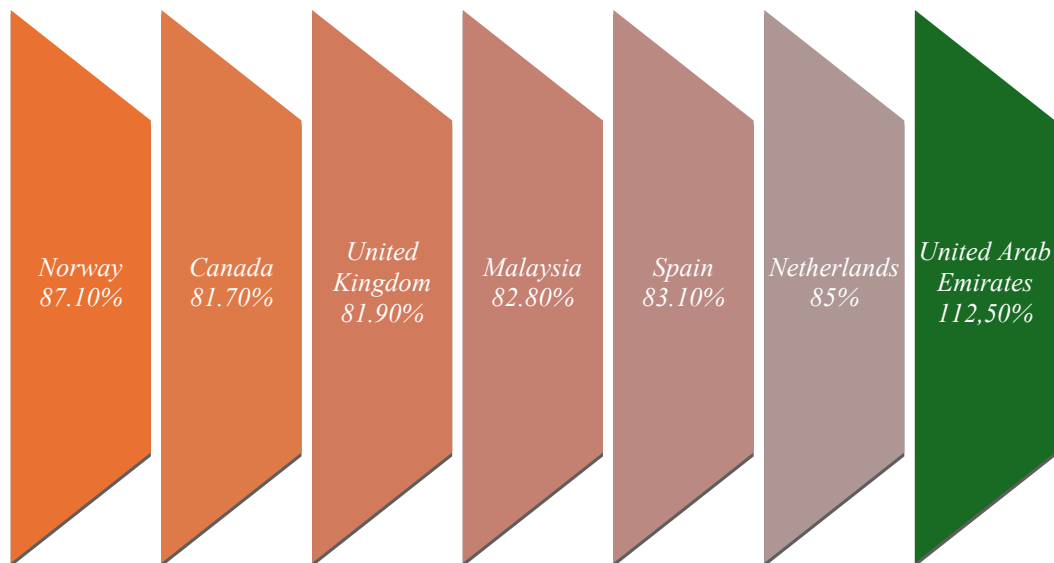


**Figure 1.** Global ranking of time spent on social media, minutes per day (2023)  
Source: compiled by the authors

Social networks function as fundamental digital infrastructure which supports the worldwide digital environment because research indicates that 63.7% of users across the globe accessed social platforms during the beginning of 2024 [19]. The Internet user base shows the most significant growth because 94.9% of the 5.45 billion population uses social networks for communication and information and entertainment purposes. The study by Chmyr et al. [20] demonstrates that social networks now reach 91% of mobile device users who have grown to 5.68 billion in total numbers.

People now spend most of their time online because social media platforms have become vital to their daily activities according to Internet and mobile device usage data. The number of active users of American social media platforms exceeds the total population of the country. This indicates that a significant number of people have multiple accounts or actively use different platforms simultaneously. Particularly high levels of social network penetration were recorded on Facebook, where this figure reached 112.5% (i.e., over one hundred percent) (Figure 2).

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**Figure 2.** Social network penetration rate by country  
Source: compiled by the authors

Social networks are gaining popularity in the western region of the world, with a particular focus on the United Arab Emirates, as this indicator fluctuates at 112.5% [21].

Facebook consumption remains in first place in April 2024. The gender distribution is 57% male and 43% female. While Instagram's demographics contrast, TikTok shows a strong female majority, with women making up 57% of its user base. The platform also shows better active user engagement compared to Instagram, whose users spend an average of 21 hours per month actively using the app. For Instagram, this figure is higher than for Facebook.

These trends are changing the areas of active digital content consumption depending on the territory [22].

Social media platforms have developed into distinct websites which have created separate growth patterns for social networks according to researchers. The business world now operates through new systems which have created innovative business networks and digital businesses use sophisticated methods and social media serves as their core marketing platform for product promotion and brand value growth.

The research on regional social media differentiation studies how social media platforms and user behaviors and platform interactions differ between different countries and geographic areas based on their local cultural elements and economic data and regulatory frameworks. Examples include China's Weibo and WeChat's supremacy over worldwide platforms like Facebook, the various usage objectives of platforms like Snapchat versus Instagram, and differences in overall usage time, such as higher daily usage in Kenya than Japan. Different functions and communication patterns of various social media having regional popularity accordingly determine specifics of appropriate social impact of these media, 'refracted' in region's cultural dimensions.

Social platforms contribute to the formation of new communication communities and the exchange of ideas. For example, in the US, 68% of adult Internet users say that social networks contribute to cultural communication. Individual national studies further emphasize that the use of information and communication technologies effectively supports the improvement of information literacy in contexts characterized by free access to vast repositories of knowledge. In the economy and education, ICTs increase the efficiency of a significant part of developed industries, whose capacity is growing by more than 30%, which indicates economic progress in ICT.

The effectiveness of social campaigns, primarily as messages, which are even more diverse when posted automatically, also depends on the chosen communication strategy. Careful processing of the target audience allows for the creation of the most accurate messages that significantly influence the goals of the communication process. According to scientific observations, campaigns that use audience segmentation are several times more successful than most others [23].

Positive emotional elements of communication activities can create a higher level of audience engagement. In general, where measurements were taken, ice cream surrounded by a large amount of independent advertising that is well known to everyone correlates slightly with positive feelings or sympathy, making it quite attractive to consume [24].

One effective communication method is to demonstrate examples of achievements or positive changes that have occurred with people or organizations. This approach helps build social trust in initiatives and subsequently activates community participation [25].

People can be influenced through the use of personal stories which prove to be an extremely powerful method. The team works to establish an emotional connection which will help participants experience change while they build their team or prove that positive transformation exists in reality. People tend to share information when they discover that someone they know has finished rehabilitation through social programs which also helped them achieve better economic conditions by supporting community development initiatives.

Social platforms enable campaigns to connect with additional people while creating an active online base of supporters. Social media platforms provide real-time feedback which enables organizations to achieve better flexibility and communication response times according to Shah [26].

The primary goal for audience interest stimulation requires organizations to develop fresh content which will attract their target audience. The process demands the combination of various visual components which consist of high-resolution graphics and dynamic video content and interactive user interfaces because they serve essential functions in modern information-based society.

Making public projects run more smoothly is a big part of making them a lot more successful. This can be done by either forming clear strategic ideas or coming up with good operating plans. Information and communication technologies (ICTs) are very important in changing the way people connect with each other in social groups. We can argue that their core strength lies on how they make information resources more accessible and improve their quality. Information and communication technologies (ICTs) enable people to communicate in real-time, allowing them to connect even when they are in differs. Virtual social platforms, digital data exchange tools, and instant messaging systems get rid of a lot of contact barriers. These allow a greater openness in understanding for social groups.

This leads to new ways of interacting socially, especially virtual communities that bring together people with similar values and hobbies, no matter where they live. The range of information resources available to the general public has expanded significantly due to the rapid development of modern digital technologies. Unlimited digital repositories of knowledge available on the global network are of invaluable importance for those segments of the population who were in a state of socio-economic deprivation and had difficult access to traditional methods of obtaining information. For example, mobile devices allow users to quickly access medical or educational resources regardless of their location.

As a result, ICTs have improved not only the quality of the information disseminated, but also the content of the media itself, as users now not only consume material, but also have the opportunity to create it [27]. This greatly enriches public discourse, and the diversity of viewpoints, which are sometimes suppressed by traditional media, also helps to reduce their dominance. Thus, thanks to the development of citizen journalism, many alternative viewpoints are presented that may not be covered by the mass media at all.

At the same time, the introduction of ICTs carries significant risks. Social platforms also offer a valuable opportunity to combat the spread of misinformation. We can count this perspective among the benefits it brings with effective use. The manipulation threats become more prominent especially since the general public can often struggle to maintain a critical thinking necessary to prevent this [28].

Information and communication technologies provide new opportunities for social communities, given the further expansion of access to information and its quality, and significantly change the methods of interaction with society. However, in addition to all this, it is important to consider the accuracy of the information presented, especially regarding false and unverified facts related to the intensification of social polarization.

Socio-psychological tools play a key role in increasing the efficiency of information exchange, contributing to the deepening of mutual understanding and optimization of interaction between subjects of social relations. Their main

purpose is to form transparent and reliable communication channels capable of minimizing the risks caused by communication barriers.

In order to eliminate the above barriers, it is recommended to introduce dialogue formats, in particular, panel discussions, open forums and round tables. An equally important foundation for constructive social dialogue is created by the social experience of individuals who are characterized by a high level of social competence, which also includes the skill of active listening.

They also encourage social interaction, which often involves conflict situations, and for this reason, these conflicts require specialized approaches to their resolution. Such approaches involve the use of negotiation practices, facilitation and mediation processes. To shape attitudes, behavior and changes in the desired ideals that emerge in human or group masses, tools such as social influence, public persuasion, social engineering or even psychological manipulation are used.

In emergency or crisis situations, information must be disseminated without error. Coordination of the actions of all stakeholders in these conditions is extremely important.

The principles of inclusiveness, adaptability, and open interaction contribute to engaging more emotions in active participation in processes, improving cooperation within and between organizations, and facilitating the exchange of knowledge and experience.

It should not come as a surprise to observe how communicative methods became entangled with other important policy-making strategies. That being said, the integration of such tools can indeed contribute to gain further resilience for trade unions. This further illustrates how such methods can find a better use for them to increase the levels of governance and cooperation between different groups.

## **Discussion**

The ability of communication methods to work well is a key part of the good start of social projects and programs. Communication models must be flexible, adaptable, and able to change quickly to meet goals in the context of rapid technological progress, audience engagement method changes, and the continuous development of the modern information space. Good technological solutions are based on a lot of study into the target audience, their interests, needs, and behavior patterns. These kinds of plans make it possible to find good answers to the target group's questions and make material that people will actually want to read. The tactics that are studied might include working with influencers, doing things on different digital platforms, and making a place where everyone can talk to society [11].

In social communication, it is important to plan how information will be shared between the government, institutions, civil society groups, and the general public, who is a very important part of the process. This planned information sharing not only makes people more aware, it also creates important ways for people to get involved in solving important public problems.

The basic idea of social communication is that it is naturally flexible. This means that to use it well, you have to be able to quickly respond to the changing needs of society. In this regard, Hoian et al. [13] say that the need to change up the format of social media material, especially to get people who are used to one-way messaging to interact more, is going to grow a lot in the near future.

ICTs, which use advanced digital communication tools, are now the main way to do open social monitoring. Digital tools, social media sites, and mobile apps can have a very big impact on people's lives. This is because they have never had so much access to important information about society and because they can make social programs more open, allow people to give feedback right away, and make automation easier. These technologies make it easier for people to share new information quickly, and they also create a working environment that benefits both civil society and established organizations.

Empirical study shows that participatory communication models are more effective and flexible than other types. In particular, bringing people together to talk and make decisions greatly increases civic participation, builds social cohesion, and makes the community stronger against outside pressures [19].

Using real stories and data to show how programs have helped is a good way to get people to trust social initiatives. Personal examples make people feel something about a message, and numbers make the message more believable and convincing.

Alsaleh [29] looks at this area through Actor-Network Theory (ANT). ANT stresses that people and technology work together to create culture meanings and behaviors. It stresses that technology is not just a tool, but something that changes the rules of society. This claim is also supported by our study, which shows how ICT affects different areas of society.

De [30] correctly points out that the change in social, political, and economic events that the country wants and needs is not easy. These changes can be helped or even sped up by using information and communication tools. But the most important thing is to make sure they are put into practice. A lot of the time, changes in society and politics cause big changes in the way things are currently done. In some cases, this requires a very large reorganization of the way that society is set up.

In this sense, keeping track of how information campaigns do is an important part of a good communication plan for a project. According to Schultz [24], it lets you quickly change your plans when the social situation changes and takes crowd feedback into account.

Thus, public communication, which relies on trust, relies on a well-planned hybrid system that integrates strategic forecasting, operational tactical adaptability, effective use of ICT, and a deep understanding of societal needs. This broad methodological approach makes social programs much more successful. It also helps build a strong, unified society.

## Conclusion

Empirical studies show that good communication is very important in the public area. If used wisely, they clearly make it easier for government groups, civil society organizations, and a wide range of social and demographic groups to work together. This increases public knowledge and civic engagement in community activities by making social processes more visible and accessible. Also, making sure that people can talk to each other makes sure that everyone can get the tools and services they need. This makes the interaction between all the important people better.

We should also emphasize once again that social media and ICTs are not only about promoting democracy. They can also cause harm by reinforcing the digital gap getting worse. Nevertheless, we still observe that the primary function they serve is to help governments share information and policies more clearly and give people a place to complain about further accountability. We believe this perspective should constitute the backbone of the further discussions for public policy. Scholars should definitely look at how ICT and social media affect society. While doing so, they should also pay a specific attention to the very people who have a stake in the matter should work together to come up with the right changes.

Therefore, we believe that flexible communication methods based on target group characteristics and demands can really improve information access in the desired form and at any time.

Using participatory methods to involve citizens in decision-making builds their sense of ownership, accountability, and worth. This in turn, leads to long-term engagement with society. What is more necessary today is to show people good examples of similar programs and objective data can boost their faith in social efforts.

Regularly looking at feedback lets us quickly respond to changes in society, which also makes the important changes on ways to communicate much more effective.

These steps not only make social programs more effective, but they will also help people get along better and learn more all together.

## References

1. Mialkowska, L., Herasymchuk, H., Sushyk, I., Martyniuk, Y., Haponchuk, O., & Melnychuk, Y. (2023). Management models and methods in modern education: information technologies, sustainability and development. *Cadernos de Educação Tecnologia e Sociedade*, 16(se2), 94–108. <https://doi.org/10.14571/brajets.v16.nse2.94-108>
2. Bulvinska, O. (2020). System of educational sciences: experience of European universities. *Continuing Professional Education: Theory and Practice*, 1, 68–73. <https://doi.org/10.28925/1609-8595.2020.1.10>
3. Sokolova, I. (2020). European approaches and practices to ensuring the quality of higher education. *Continuing Professional Education: Theory and Practice*, 2, 104–113. <https://doi.org/10.28925/1609-8595.2020.2.14>

4. Hurevych, R., Kademiia, M., Opushko, N., Ilnitska, T., & Plakhotniuk, H. (2021). The role of digital learning technologies in the era of civilisational change. *Modern Information Technologies and Innovation Methodologies of Education in Professional Training Methodology Theory Experience Problems*, 62, 28–38. <https://doi.org/10.31652/2412-1142-2021-62-28-38>
5. Maksak, I., & Radchenko, M. (2023). European grants in the context of non-formal education. *Bulletin of the T. H. Shevchenko National University "Chernihiv Colehium"*, 177(21), 21–26.
6. Mialkovska, L., Redchuk, R., Sushyk, I., Martyniuk, Y., Maiboroda, O., & Savchuk, N. (2023). Social Management and Digital Communications as Important Components of Modern Higher Education. *Cadernos de educacao tecnologia e sociedade*, 16(1), 143–152. <https://doi.org/10.14571/brajets.v16.n1.143-152>
7. Mialkovska, L., Cherneta, S., Sushyk, I., Martyniuk, Ya., Maiboroda, O., & Savchuk, N. (2023). Information, Digital, and Socio-Psychological Technologies in the Training of Specialists in the Social Spher. *Studies in Media and Communication*, 11(7), 297–312. <https://doi.org/10.11114/smc.v11i7.6502>
8. Dokuchaieva, V. V., Poznansky, R. V., & Shvets, I. B. (2022). Digital Competence as a Component of the Process of Formation of Pedagogical Skills. *Science and Technology Today*, 4(4), 242–254. <https://doi.org/10.36809/2309-9380-2022-37-205-209>
9. Shparyk, O. (2022). Digital transformation of secondary education: common strategic vectors of the USA and EU countries. *Ukrainian Pedagogical Journal*, 3, 33–43. <https://doi.org/10.32405/2411-1317-2022-3-33-43>
10. Mialkovska, L., Maiboroda, O., Koretska, N., Martyniuk, Ya., Haponchuk, O., & Korobchuk, L. (2024). Contemporary Management Innovations in Shaping the Educational Process: Insights from Europe. *Archives Des Sciences*, 74(6), 51–58. <https://doi.org/10.62227/as/74607>
11. Martin, C., & MacDonald, B. H. (2020). Using interpersonal communication strategies to encourage science conversations on social media. *PLoS ONE*, 15(11), e0241972. <https://doi.org/10.1371/journal.pone.0241972>
12. Kovtunyk, I., Ishchenko, Y., Yuvsechko, Y., Tychyna, V., & Datso, T. (2023). Social Changes that Occurred on the European Continent Due to the War in Ukraine. *Revista de Cercetare si Interventie Sociala*, 82, 38–49. <https://doi.org/10.33788/rcis.82.3>
13. Hoian, I., Yakovleva, S., Hulias, I., & Fomina I. (2024). Self-Organization of Student Youth under Conditions of Social Uncertainty. *Insight: The Psychological Dimensions of Society*, (11), 260–281. <https://doi.org/10.32999/2663-970X/2024-11-14>
14. Martyniuk, A., Zabiika, I., Shevchuk, A., Lobanova, S., Hubina, A., & Melnychuk, O. (2024). Globalisation and Digitalisation: The European Approach to Cutting-edge Educational Practices. *Archives Des Sciences*, 74(6), 1–8. <https://doi.org/10.62227/as/74601>
15. Gebremariam, H., Dea, P., & Gonta, M. (2024). Digital socialization: Insights into interpersonal communication motives for socialization in social networks among undergraduate students. *Heliyon*, 10(20), e39507. <https://doi.org/10.1016/j.heliyon.2024.e39507>
16. Olaniyi, O., Ugonnia, J., Olaniyi, F., Arigboabu, A. (2024). Digital Collaborative Tools, Strategic Communication, and Social Capital Unveiling the Impact of Digital Transformation on Organizational Dynamics. *Asian Journal of Research in Computer Science*, 17(5), 140-156. <http://dx.doi.org/10.9734/ajrcos/2024/v17i5444>
17. WBOD (2024). Individuals using the Internet (% of the population) – Low & middle income. World Bank Open Data. <https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=XO>
18. PD (2024). How Many People Use Social Media? Priori Data. <https://prioridata.com/data/social-media-usage/>.
19. Emplifi (2024). Report: 2024 Social Media Benchmarks. Social media management solution for social marketing, commerce, and care. Emplifi. <http://surl.li/nvdmpm>
20. Chmyr, Y., Moshnin, A., Tsymbal, B., Shchokin, R., & Balashov, A. (2023). Societal Content and Main Determinants of “National Security” Phenomenon in the Information and Communication Context. In O. Radchenko, V. Kovach, I. Semenets-Orlova & A. Zaporozhets, *National Security Drivers of Ukraine. Contributions to Political Science* (pp. 25–41). Springer, Cham. [https://doi.org/10.1007/978-3-031-33724-6\\_2](https://doi.org/10.1007/978-3-031-33724-6_2)
21. PD (2024). Social Media Users 2024. Global Data & Statistics. Priori Data. <https://prioridata.com/data/social-media-usage/>.
22. Komarovska, O., Kolubayev, O., Ivaniukha, T., Antonyuk, I., & Yeromenko, A. (2025). Innovative Processes in 20th-Century Music: from the Avant-Garde to the Digitization of Music. *International Journal on Culture, History, and Religion*, 7(S11), 85–99. <https://doi.org/10.63931/ijchr.v7iS11.136>
23. Radchenko, O., Nepomniashchij, O., Shkurat, I., Chmyr, Y., & Kovach, V. (2023). Information Weapons: Forms and Technologies of Modern Information Wars. In O. Radchenko, V. Kovach, I. Semenets-Orlova & A. Zaporozhets, *National Security Drivers of Ukraine. Contributions to Political Science*. (pp. 273–284). Springer, Cham. [https://doi.org/10.1007/978-3-031-33724-6\\_16](https://doi.org/10.1007/978-3-031-33724-6_16)

24. Schultz, M. (2023). Emotional Marketing: Developing Connections. Brillity Digital. <https://brillitydigital.com/blog/develop-an-emotional-connection-with-your-audience/>.
25. Byrkovych, T., Humenchuk, A., Kobyzcha, N., Akimova, L., Grinberg, L., & Akimov, O. (2023). Economic Effectiveness of State Policy in Reforming Higher Library and Information Education in Ukraine. *Economic Affairs (New Delhi)*, 68(1), 599–616. <https://doi.org/10.46852/0424-2513.1.2023.28>
26. Shah, A. (2023). How to Implement Social Media Integration in eCommerce? BrainSpate. <https://brainspate.com/blog/how-to-implement-social-media-integration-in-ecommerce/>.
27. Novitskyi, V., Taranenko, H., Kalenych, V., Baranova, O., & Poberezhets, H. (2025). Fostering Media and Information Literacy and Critical Thinking Skills in the Digital Age. *International Journal on Culture, History, and Religion*, 7(SI1), 193–207. <https://doi.org/10.63931/ijchr.v7iSI1.161>
28. Lounis, M. (2024). Emotions and Marketing: Why They're Critical to Success. <https://marclounis.com/marketing/emotions-and-marketing/>. Accessed on March 4, 2024.
29. Alsaleh, A. (2024). The impact of technological advancement on culture and society. *Scientific Reports*, 14, 32140. <https://doi.org/10.1038/s41598-024-83995-z>
30. De, R. (2016). Societal impacts of information and communications technology. *IIMB Management Review*, 28(2), 111-118. <https://doi.org/10.1016/j.iimb.2016.04.002>

