MODERN TECHNOLOGIES: ALLY OR ENEMY IN EVERYDAY LIFE

Virgil FĂTU[1], Simona STANCU[2]

[1]Teaching Assistant, PhD, „Al.I.Cuza" University of of Iași, Romania
[2]Lecturer, PhD, „Apollonia" University of Iași, Romania
Corresponding author: Simona Stancu; e-mail: sim_simonel@yahoo.it

Abstract

Modern technologies have become ubiquitous in everyday life, influencing the way people work, learn, communicate and relate to themselves and others. This paper analyzes the technological ambivalence, investigating the conditions in which technology acts as an ally, facilitating access to resources, efficiency and connectivity, but also the situations in which it becomes an enemy, generating stress, addiction and social inequalities. Drawing on international literature and examples from areas such as digital health, online education, the labour market and smart cities, the present study highlights both the benefits (telemedicine, e-learning, digital governance) and the risks (technology, social media addiction, cyberattacks, job losses through automation). In the solutions section, the paper proposes three major directions: early digital education, balanced regulations and public policies, as well as digital hygiene at the individual level. The central conclusion highlights that technology cannot be unilaterally labeled as an ally or an enemy, but represents a tool whose value depends on the social context, the degree of self-regulation and collective responsibility. Thus, the paper argues the need for an adaptive balance between innovation and protection, between opportunity and risk, in order to transform technology into a real support for human well-being.

Keywords: *technology, everyday life, ally, enemy, digital education, health, smart cities, digital addiction.*

1. INTRODUCTION

Modern technologies have radically redefined the way individuals live, work, communicate, and relate to themselves and others. From smartphones and social media, to artificial intelligence and smart devices, everyday life is deeply interconnected with the digital environment. In theory, these technologies promise efficiency, quick access to information, global connectivity and better time management. In practice, however, their effects are ambivalent: on the one hand, they facilitate autonomy, learning and collaboration, and on the other hand, they are associated with increased levels of stress, anxiety, digital fatigue and social isolation (Andreassen et al., 2017; Montag & Walla, 2016).

This duality of technology has often been analyzed in terms of "technostres" (Tarafdar et al., 2015), "digital dependence" (Kuss & Griffiths, 2015) or "digital hygiene" (Cabanac, 2021), concepts that reflect the increasingly acute challenges of adapting humans to a hyperactive technological environment. Especially in the post-pandemic period, in which teleworking, online education and digitally mediated interactions have become the norm, there is a reassessment of the technological impact on personal and social balance (Nguyen, et al., 2020).

The research problem that this paper raises derives from a fundamental question: Is technology an ally or an enemy in the daily life of the contemporary user? More precisely, under what conditions and for what types of users does technology become a supporting factor, and when does it turn into an obstacle to well-being? In the absence of a nuanced and comparative assessment, public discourse remains polarized, and decisions related to regulation, digital education or technological hygiene risk being reactive, not proactive.

The aim of this study is to investigate the real perceptions and effects of modern technology in everyday life, through an interdisciplinary approach that combines quantitative and qualitative data. The paper aims to identify patterns of use, correlations with psychosocial indicators and relevant demographic differences, finally proposing an interpretative model of digital impact. Thus, the aim is not only to map the technological effects, but also to provide concrete promotion directions for a healthy balance between man and technology.

In the context of 2024, 5.5 billion people (68% of the global population) were online, with 2.6 billion still offline; disparities persist, especially in the least developed countries. (ITU, 2025).

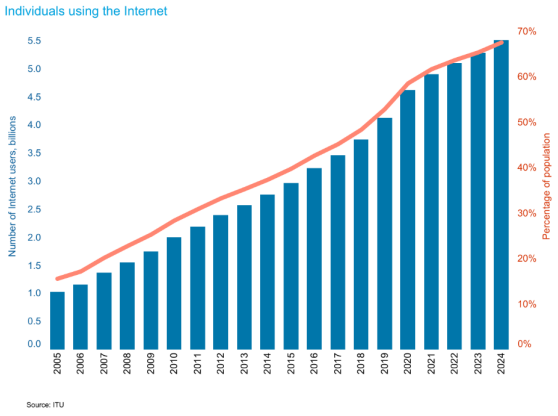

Fig. 1. Internet use continues to grow, but universality remains elusive, especially in low-income regions Source: *https://www.itu.int/itu-d/reports/statistics/2024/11/10/ff24-internet-use/*

In the EU, 94% of households have access to the internet (2024) and use it for online purchases and interactions with the public administration.

Romania is aligning its steps with the milestones of the "Digital Decade," setting targets for 13 of the 14 key performance indicators (KPIs), although several targets, such as those for digital skills, digitalisation of businesses and 5G coverage, are set significantly below the levels of the EU targets. To achieve its digital transformation, Romania intends to allocate a total budget (excluding private investment) estimated at €3.6 billion (1.1% GDP) (Digital Strategy, 2024).

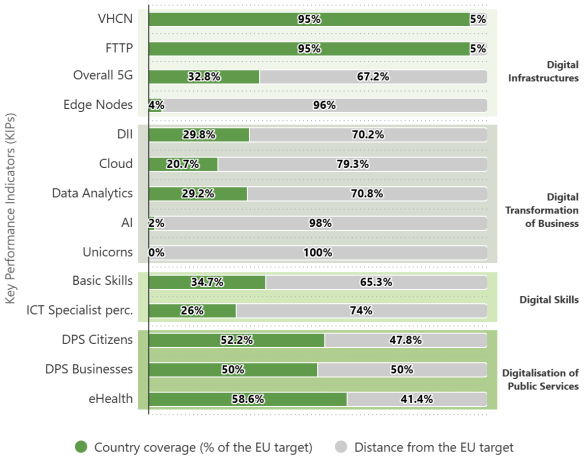

Fig. 2.Observed and forecasted Key Performance Indicators as percentage of the UE target ROMANIA

Source: https://digital-strategy.ec.europa.eu/en/factpages/romania-2024-digital-decade-country-report

Displaying small but significant associations, between the use of social media and the depressive-anxiety symptomatology, as well as low effectiveness in terms of digital interventions for well-being, according to (Oli Ahmed, 2024; Horwitz et al., 2024), the expected results support a contextual view: technology acts as an ally when used intentionally and self-regulated, and becomes an enemy when it favors informational overstimulation and uncontrolled hyperconnectivity. The contribution consists in the integration of recent records and the proposal of a differentiated predictive model on user profiles.

2. THEORETICAL FRAMEWORK

2.1. Technology in everyday life: a general approach

The concept of "everyday life" includes the total number of habitual activities: work, socialization, rest, learning, all of which are today directly influenced by digital technologies. From mobile devices and organization apps, to social platforms and AI, technology is organically integrated into the daily routine (Silverstone, 1996). In this context, an analysis is required not only regarding the functionality of these technologies, but also related to their psychosocial and cultural implications.

2.2. Tehnostres and digital overload

A central concept in the literature is technostress, defined as the psychological discomfort generated by the intensive use of technology (Tarafdar et al., 2015). This phenomenon is associated with anxiety, lack of concentration, mental fatigue and reduced performance. Technostress is fueled by a number of factors such as hyper-connectivity, constant notifications, the pressure to be permanently "available," and the accelerated pace of technological updates (Ayyagari et al., 2011). Organizational policies (e.g., the right to disconnect) can mitigate risks, but they are only effective when accompanied by cultural and workload management measures.

2.3. Digital addiction and associated disorders

The concept of digital addiction has been extensively documented, especially in relation to social networks, video games and compulsive consumption of online content. (Kuss & Griffiths, 2015) present how this addiction has significant negative effects on mental health, contributing to depression, isolation, low self-esteem and sleep disorders. These addictive behaviors often manifest themselves among adolescents and young adults, but have also begun to be documented in older populations (Montag & Walla, 2016).

Between 2023 and 2024, small but consistent associations are shown between intense social media use and symptoms of depression, anxiety and sleep disorders; these effects seem more pronounced when it comes to the problematic use than with regular use (Oli Ahmed, 2024).

2.4. Technology as an ally: efficiency, access, autonomy

On the other hand, the literature recognizes multiple benefits of technology. Digital tools can increase productivity, support learning processes, facilitate access to information, and contribute to the development of personal autonomy (Morris & Venkatesh, 2010). Especially in the context of the COVID-19 pandemic, technology has been vital for continuing education, work, and maintaining social connections (Nguyen et al., 2021).

Digital mental health interventions (DMHIs) have small-to-moderate effects, especially for depression and anxiety, and fully automated applications show small but robust benefits at the level of the population (Adam G. Horwitz, Elizabeth D. Mills, Srijan Sen, & Bohnert, 2024). In the public and administrative space, digitalisation reduces barriers to access services, with increasing use of online interaction with authorities.

2.5. Effects on social relations

Studies on digitally mediated relationships are divergent. Some point to a reduction in intimacy and an increase in the superficiality of interactions (Turkle, 2017), while others emphasize the ability of social networks to maintain meaningful connections at a distance (Ellison et al., 2007). Thus, the quality and type of interaction are critical factors in determining the final effect.

2.6. Differentiated perspective: age, gender, environment

Recent research indicates that the perceptions of technology differ based on demographic variables. For example, younger generations tend to see technology as a natural extension of their identity, while older generations often perceive it as a challenge. The urban environment favors the integration of technology into everyday life, while in rural areas both access barriers and cultural reluctance persist.

3. ANALYSIS AND DISCUSSIONS

3.1. Technology as an ally in everyday life

Telemedicine, mobile health monitoring applications and artificial intelligence in diagnostics have allowed the reduction of geographical barriers and faster access to medical services. In the US, the use of telemedicine increased more than 30 times during the COVID-19 pandemic and has remained at high levels beyond 2022, providing patients with both comfort and increased access to specialists (Koonin, et al., 2020). In Asia, South Korea and Japan integrated digital health systems were developed that combine electronic records with artificial intelligence for early screening, such as widely deployed radiological diagnostic algorithms.

In education, e-learning platforms such as Coursera, EdX or Khan Academy have democratized access to knowledge, providing university-level resources for millions of users around the world. In 2023, more than 220 million people were enrolled in massive online courses (MOOCs), most of them from countries with limited access to top universities. In this context, technology becomes a tool for equity and educational opportunity.

At the level of the labor market, digitalization and artificial intelligence have allowed the automation of repetitive processes and increased productivity. Smart working technologies and online collaboration tools have created the premises for work flexibility, increasing the work-life balance for certain categories of workers.

In terms of smart cities, countries such as Singapore or Estonia have become international landmarks. Singapore uses IoT sensors for traffic management and pollution reduction, improving the quality of urban life (Intellistride, 2024), while Estonia has implemented a full e-government system, where 100% of public services are available online (e-Estonia., 2025). These examples show how technology can radically transform social and administrative infrastructure, increasing efficiency and transparency.

3.2. Technology as an enemy: risks and side effects

Despite the advantages, modern technologies pose obvious risks. An important example is represented by the social media addiction. Studies conducted on populations in the US and Europe have shown consistent correlations between the excessive use of digital platforms and increased depressive and anxiety symptoms, especially among adolescents (Twenge & Campbell, 2018). The phenomenon of "fear of missing out" (FOMO) accentuates the feeling of inadequacy and reduces life satisfaction.

Another major risk is cybersecurity. In 2021–2023, ransomware attacks targeted hospitals in the US, critical companies in Germany, and energy infrastructure in Asia, demonstrating the global vulnerability of digital systems (Europol, 2023). Over-reliance on technology amplifies the risk of disruption to everyday life in the event of a major cyberattack.

On a psychosocial level, information overstimulation becomes a global problem. In Japan, the term "hikikomori" (voluntary social withdrawal) is accentuated today by the excessive exposure to digital media and gaming, with dramatic effects on social integration (Kato et al., 2019). In Western Europe and the US, the digital burnout syndrome is increasingly reported among tech and academic workers.

There are also structural effects on the labour market. Automation and artificial intelligence are replacing certain types of jobs, especially in sectors such as logistics, retail or manufacturing, accentuating economic inequalities. The 2023 World Economic Forum report estimates that by 2027, 14 million jobs will disappear globally as a result of accelerated digitalisation, while new ones will emerge, but not equally accessible to all.

3.3. The balance dilemma

Thus, the international analysis shows a constant duality: the same technologies that facilitate progress and reduce social barriers can, in other contexts, amplify stress, polarization and insecurity. The key is therefore not to label technology as an "ally" or "enemy," but to analyze the conditions of use: the degree of individual self-regulation, public policies and educational strategies.

3.4. The case of Romania – digitalisation and social challenges

Digital education.

The pandemic highlighted major gaps in access to technology, many students did not have adequate equipment for online school in 2020. Although government programs ("Homeschooling") have delivered more than 250,000 tablets and thousands of internet connections, significant discrepancies persist between urban and rural areas. Rural students report lower levels of digital skills and poor access to high-speed internet, which amplifies educational inequalities.

The labor market and teleworking.

Romania recorded among the largest increases in the number of teleworking employees in Europe between 2020 and 2021. However, in the absence of a consolidated organizational culture, many companies have faced difficulties in managing work-life balance. Studies show that almost 40% of employees felt an increase in stress levels and difficulties in delimiting working time (Economedia, 2025). At the same time, teleworking has allowed economic activity to be maintained and has led to a reduction in costs for companies, especially in IT and outsourcing.

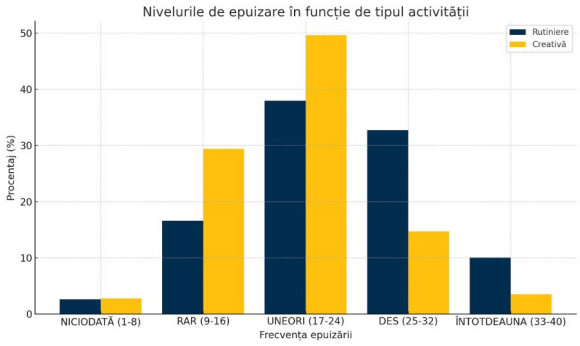

Fig. 3. Levels of exhaustion according to the type of activity
Source: https://economedia.ro/centru-de-formare-circa-40-dintre-angajatii-romaniei-se-confrunta-cu-burnout-ocupational-peste-33-dintre-femei-au-declarat-ca-se-simt-frecvent-epuizat-e-comparativ-cu-peste-20-dintre-barbati.html

Telemedicine

Although telemedicine has become an increasingly used service at European level, in Romania its implementation is still limited. Private platforms (e.g. Regina Maria, MedLife) have developed online consultation services, but the public system has moved slowly, with many bureaucratic barriers. According to a PwC report (2023), less than 15% of patients have accessed medical services remotely, and the main obstacles are the lack of trust, low digital literacy and the insufficiently adapted legislation.

Social and cultural risks.

A distinct phenomenon in Romania is the vulnerability to online disinformation. According to a study by the Center for Innovation in Government (2022), over 60% of Romanians have encountered fake news on social networks, and 30% of them have not been able to identify them as such. The impact is reflected in the decrease in trust in institutions and social polarization. In addition, the intense use of technology among young people is associated with mental health problems: sleep disorders, anxiety and decreased academic performance (Poetar et al., 2023)

Smartcities

In recent years, several Romanian cities have launched "smart city" projects. Cluj-Napoca, Timisoara, Iasi and Alba Iulia are testing applications for urban mobility, smart lighting and the digitization of public services. However, implementation is fragmented and heavily dependent on European funds. A major challenge is the risk of digital exclusion: older people or people with low income levels have difficulty accessing these services, which accentuates social differences.

4. SOLUTIONS AND PERSPECTIVES

4.1. Digital education as a central element

An essential aspect in order to transform technology into an ally is digital education. The Organization for Economic Co-operation and Development (OECD) points out that states that integrate digital skills into school curricula, from critical thinking to cybersecurity skills, manage to reduce the phenomenon of digital dependency and develop a more balanced relationship with technology. Finland and Estonia are examples of good practice: both countries include digital education from primary school onwards, emphasizing both the responsible use of social media and the protection of personal data.

4.2. Regulations and public policies

At the international level, regulations become a lever used to control technological impact. The European Union has launched the legislative package on **Digital Services Act (DSA)** and **Digital Markets Act (DMA)**, with the aim of reducing abuses by large platforms, limiting monopolies and increasing user protection. In the US, discussions about regulating online content and the responsibility of social media companies remain tense, but there are initiatives aimed at increasing the transparency of algorithms. In Asia, China has introduced strict regulations to limit the time minors spend on gaming platforms in a bid to reduce digital dependency (Cociug, 2023).

Thus, public policies can tip the balance between ally and enemy, ensuring both innovation and the protection of the individual. However, the regulation must be balanced so as not to inhibit creativity and economic development.

4.3. Organisational culture and the 'right to disconnect'

At the professional level, the concept of "the right to disconnect" initially introduced in France (2017) and later adopted by other European states, gives employees the opportunity to set clear boundaries between work and personal life. This model is becoming crucial in the era of teleworking and hyperconnectivity. Companies around the world have implemented internal policies that block emails outside of working hours in order to prevent digital burnout. A healthy organizational culture, which values balance and well-being, is a fundamental condition for technology to remain a support and not a source of permanent stress.

4.4. Individual interventions and digital hygiene

Beyond regulations and policies, individual responsibility is crucial. Practices such as **"Digital Detox"** (scheduled breaks from technology), setting time limits for social media use or using digital consumption monitoring apps have proven effective in reducing anxiety and improving sleep quality. The concept of "digital hygiene" (Cabanac, 2021) becomes the equivalent of personal hygiene, in the sense of maintaining a balanced regime of exposure and use of technology.

4.5. Looking ahead: AI, IoT and technological ethics

As generative artificial intelligence, the Internet of Things (IoT), and augmented reality become increasingly integrated into everyday life, fundamental ethical and social questions arise. Who controls the data? How can we prevent algorithmic discrimination? What does "human" mean in a world where AI can create texts, images, or decisions that are almost indistinct from the human ones? The answers to these questions cannot be purely technical, but require interdisciplinary collaboration between engineers, psychologists, sociologists, lawyers and policymakers.

5. CONCLUSIONS

The analysis presented demonstrates that modern technologies are both an indispensable resource for social and economic progress, as well as a source of psychosocial and cultural vulnerabilities. International experience shows that **technology becomes an ally when it is used intentionally, properly regulated and accompanied by digital education**, but it can become an enemy when exposure is excessive, self-regulatory mechanisms are lacking and public policies do not keep up with innovation.

On an individual level, the benefits of technology are seen in access to health, education and flexible work, but also in the opportunity to maintain long-distance relationships and participate in global communities. However, the risks of digital addiction, information fatigue and mental health impairment are real and require digital hygiene and awareness strategies.

At the societal level, telemedicine, e-learning and smart cities confirm the transformative potential of technology, but cyberattacks, social polarization and job losses through automation represent some major challenges. States that invested in **early digital education, protection policies and smart infrastructures** managed to maximise the benefits and limit the negative effects.

Looking ahead, the key is not to choose between "ally" or "enemy," but to recognize technological duality and cultivate an **adaptive balance**:

- through clear and transparent regulations,
- through well-being-centred organisational policies,
- through individual responsibility and self-regulation,
- through ongoing ethical debates about the role of AI and personal data.

Therefore, technology should not be seen as an implacable destiny, but as an **instrument of humanity**, the value of which depends on how it is integrated into everyday life. In a hyperconnected world, the answer to the question "ally or enemy?" is not an absolute one, but an invitation to reflection and shared responsibility.

References

Andreassen, C. S., Pallesen, S., & Griffiths, M. (2017) The relationship between addictive use of social media, narcissism, and self-esteem: Findings from a large national survey. Addictive Behaviors, (64), pp. 287–293.

Ayyagari, R., Grover, V., & Purvis, R. (2011) Technostress: Technological antecedents and implications. MIS Quarterly, 35(4), pp. 831–858.

Cabanac, G. (2021, October). This digital-hygiene routine will protect your scholarship. Nature, 598(7882), p. 541.

Cociug, C. (2023) China limits children's internet time. How many hours will they be able to spend each day? Available from: https://www.libertatea.ro/stiri/china-limiteaza-timpul-petrecut-de-copii-pe-internet-cate-ore-vor-putea-sa-stea-in-fiecare-zi-4624055 [July 28, 2025].

Digital Strategy (2024) Romania 2024 Digital Decade Country Report. Available from: https://digital-strategy.ec.europa.eu/en/factpages/romania-2024-digital-decade-country-report [July 23, 2025].

Economedia (2025) Training Center: About 40% of Romanian employees face occupational burnout. Over 33% of women said they frequently feel exhausted, compared to over 20% of men. Available from: https://economedia.ro/centru-de-formare-circa-40-dintre-angajatii-romaniei-se-confrunta-cu-burnout-ocupational-peste-33-dintre-femei-au-declarat-ca-se-simt-frecvent-epuizate-comparativ-cu-peste-20-dintre-barbati.html [July 23, 2025].

e-Estonia (2025) e-Services & registries. Available from: https://e-estonia.com/solutions/e-governance/e-services-registries/[July 28, 2025].

Ellison, N. B., Steinfield, C., & Lampe, C. (2007) The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. Journal of Computer-Mediated Communication, 12(4), pp. 1143–1168.

Europol (2023) Internet Organised Crime Threat Assessment (IOCTA). Available from: https://www.europol.europa.eu/cms/sites/default/files/documents/IOCTA%202023%20-%20EN_0.pdf [July 23, 2025].

Horwitz, A.G., Mills, E.D., Sen, S.M., & Bohnert, A. S. (2024) Comparative Effectiveness of Three Digital Interventions for Adults Seeking Psychiatric Services. JAMA Network Open, 7(7), pp. 1-11.

Intellistride (2024) How Singapore's Smart Traffic System is Redefining Urban Mobility. Available from: https://www.intellistride.com/blog/how-singapores-smart-traffic-system-is-redefining-urban-mobility/[July 28, 2025].

ITU (2025) Internet use continues to grow, but universality remains elusive, especially in low-income regions. Available from: https://www.itu.int/itu-d/reports/statistics/2024/11/10/ff24-internet-use/[July 28, 2025].

Koonin, L. M., Hoots, B., Tsang, C. A., Leroy, Z., Farris, K., Jolly, T., & Harris, A. M. (2020) Trends in the use of telehealth during the emergence of the COVID-19 pandemic - United States. tag. MMWR Morbidity and Mortality Weekly Report. 2020 30;69(43), pp.1595-1599.

Kuss, D., & Griffiths, M. (2015) Social networking sites and addiction: Ten lessons learned. International Journal of Environmental Research and Public Health, 12(3), pp. 1286–1306.

Montag, C., & Walla, P. (2016) Carpe diem instead of losing your social mind: Beyond digital addiction and why we all suffer from digital overuse. Cogent Psychology, 3(1), pp. 1-9.

Nguyen, M., Gruber, J., Marler, W., Fuchs, J., Hunsaker, A., & Hargittai, E. (2020) Changes in digital communication during the COVID-19 global pandemic: Implications for digital inequality and future research. Social Media Society, 6(3), p. 2056305120948255.

Oli Ahmed, E. I. (2024) Social media use, mental health and sleep: A systematic review with meta-analyses. Journal of Affective Disorders, 367, pp. 701-712.

Poetar, C., Dobrean, A., & Florean, I. (2023) Problematic Smartphone Use and Mental Health Problems: A Network Analysis of Romanian Adolescents. Youth & Society (Y&S), 56(6), pp. 1048–1070.

Silverstone, R. H. (1996) Design and the domestication of information and communication technologies: Technical change and everyday life. Communication by Design: The Politics of Information and Communication Technologies, pp. 44–74.

Tarafdar, M., Pullins, E., & Ragu-Nathan, T. (2015) Technostress: Negative effect on performance and possible mitigations. Information Systems Journal, 25(2), pp. 103-132.

Turkle, S. (2017) Alone Together: Why We Expect More from Technology and Less from Each Other. New York: Basic Books.

Twenge, J. M., & Campbell, W. K. (2018) Associations between screen time and lower psychological well-being among children and adolescents: Evidence from a population-based study. Preventive Medicine Reports, 12, pp. 271-283.