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HUMAN CAPITAL AND RESILIENCE – THE RELATIONSHIP IN THE ERA OF MEDIA AND ARTIFICIAL INTELLIGENCE

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Purpose: The aim of the article is to identify the synergy between human capital and resilience under the influence of media and artificial intelligence.
Methodology: The article employs critical analysis of current literature in media and communication studies as well as management and quality sciences. Selected examples illustrating the importance of human capital and resilience in management are presented at the end of the discussion.
Findings/Conclusions: The future of work, communication, and functioning in the information society depends on the synergy between technology and humans. In the face of information overload and the growing role of algorithms, it becomes necessary to develop media competencies, build psychological resilience, and create environments in which technology strengthens rather than weakens the potential of individuals and organizations.
Research limitations: The synergy between human capital and resilience is a theoretical construct that remains relatively new in management sciences. The analysis presented here is based on a relatively limited amount of empirical data and source literature. The analysis was conducted on the basis of a relatively limited amount of empirical data and source literature.
Practical implications: In organizational practice, there is a growing need to develop employees' digital and psychosocial competencies, as functioning effectively in an environment saturated with content and algorithms requires technical knowledge and mental resilience. These are elements of HR strategies, supported by a culture of learning and conscious knowledge management. Organizations that combine technological investments with human capital development more efficiently implement AI-based solutions and better manage information overload, creating an environment conducive to collaboration and adapting to change.
Social implications: The development of digital media and artificial intelligence deepens inequalities in access to digital skills. The intensity and emotionality of media messages impact the mental well-being of audiences, making media education and strengthening mental resilience essential for informed participation in public life.
Originality: This article explores the crucial connection between HR and mental resilience under the influence of media and artificial intelligence. This is a crucial aspect in the era of human resources management in the AI and media era.
Keywords: HR, resilience, media, AI.
Category of the paper: viewpoint.

1. Introduction

The progressing digitalization of social life and the dynamic development of artificial intelligence are leading to profound changes in the ways individuals, organizations, and institutions function. In conditions of intense information flow, increasing process automation, and the dominance of digital media, human capital becomes particularly important — understood as a resource of knowledge, skills, social competencies, and mental health that determines individuals' ability to participate in social and economic life. At the same time, this environment generates new adaptive burdens that require well-developed resilience — the ability to maintain psychological balance, respond flexibly to change, and regenerate under conditions of uncertainty and informational pressure.

In the academic literature, it is increasingly emphasized that human capital and resilience are not independent categories. On the contrary, they form a system of interconnected resources that determine the ability of individuals and organizations to function effectively in a highly technological environment. Despite the growing interest in digital competencies, psychological well-being, and the impact of artificial intelligence on work and education, the relationship between human capital and resilience remains insufficiently described, particularly in the context of digital media and algorithmic information systems.

The aim of this article is to identify the synergy between human capital and resilience under the influence of media and artificial intelligence.

2. Human Capital and Resilience as Factors Determining Media Reception

Human beings are social creatures (Aristotle, 2003). Their views and perceptions are shaped by the information they encounter in everyday life. Therefore, the origin, credibility, and form of communication are crucial. Cognitive limitations resulting from overstimulation contribute to the uncritical acceptance and spread of information. For this reason, the competencies required of people in the 21st century include open-mindedness, resistance to misleading information, and a drive to seek truth. The ability to cope with difficulties and failures, as well as the capacity to adapt, are key to healthy functioning.

It is also important to be aware of the changes occurring in the environment, which make the world increasingly characterized by VUCA conditions (Taskan et al., 2022). This translates into dynamic socio-technological transformations of the media and shifts in how the resilience of the knowledge-seeking *homo informaticus* is assessed (Magala, 2017). Information publications are expected to emphasize cognitive functions and strive for maximum objectivity (Sobczak, 2016). The data available to audiences are diverse, and the contexts of their reception

vary widely; therefore, human capital competencies and resilience are essential for understanding and evaluating the credibility of media messages (Waszkiewicz-Raviv, 2025).

Media, as channels of content distribution, should serve as spaces of public ethics and values. However, the contemporary media environment is characterized by high dynamism, an excess of information, and the growing presence of algorithmic content-selection systems. In such conditions, media reception is no longer a neutral or uniform process but becomes highly differentiated, depending on individuals' resources and adaptive capacities an excess of information and the growing presence of algorithmic content-selection systems. In such conditions, media reception ceases to be a neutral and uniform process and becomes a highly differentiated phenomenon, dependent on an individual's resources and adaptive capacities. Researchers suggest that several interconnected factors contribute to information overload: characteristics of the person receiving the information, the nature and complexity of the information itself, and social and technological organizational processes (Arnold et al., 2023). In the literature, it is increasingly emphasized that two factors play a key role in this process: human capital — encompassing knowledge, competencies, and cognitive skills — and resilience, understood as the ability to cope with informational pressure, stress, and uncertainty.

Human capital determines how individuals interpret, select, and evaluate media information. People with high levels of digital and informational competencies are more likely to critically analyze content, recognize manipulation, and use media consciously. At the same time, the growing complexity of the information environment — including content personalization, disinformation, and automated messaging — means that these competencies become not only cognitive resources but also prerequisites for participation in social life. Moreover, generational differences influence how content is received. Many aspects of communication are transforming, shifting, or evolving so rapidly that it becomes difficult to continuously track predictable trends (Woźniak-Kasperek, 2018). Social media are a prime example of the rapid spread of temporally unstable information. Meanwhile, the instability of communication patterns is reflected in ongoing debates about generational shifts among media users, who are continually assigned new labels.

The second key factor is resilience, which plays a protective role in the context of media reception. Excessive information, comparison pressure generated by social media, opinion polarization, and exposure to stress-inducing content can lead to cognitive overload, reduced well-being, and perceptual distortions. As a result, a sense of overwhelm escalates, producing helplessness in the face of the sheer volume of incoming stimuli (Waszkiewicz-Raviv, 2025). Resilience — as the ability to maintain psychological balance and respond flexibly to stimuli — enables individuals to use media more consciously, selectively, and robustly. A high level of resilience supports cognitive autonomy, reduces susceptibility to manipulation, and enhances the ability to process information constructively.

In an era of excess and hyperbolization of media messages, form increasingly dominates content. Ordinary information is elevated to the status of "breakthroughs", and absolutizing quantifiers in headlines create an illusion of exceptional events and a state of permanent crisis uantifiers in headlines create an illusion of exceptional events and a state of permanent crisis. As a result, contemporary media do not merely describe reality but exaggerate it, reinforcing a crisis of representation (Otondo et al., 2008). The excess and "overstatement" of messages, the focus of senders on effects, and the overuse of persuasion lead to a disproportion between form and content (McQuail, 2012). The spread of disinformation and the generation of fake news have become key drivers of confusion in the media environment. The reception and interpretation of content in terms of accuracy, truthfulness, reliability, and relevance require distance from the material being consumed, the ability to seek diverse sources of information, critical-thinking skills, and experience in recognizing credible content.

This confirms that human capital and resilience do not function in isolation but form a system of mutually reinforcing resources. Informational and digital competencies increase the ability to cope with the demands of the media environment, while resilience supports the effective use of these competencies under conditions of pressure and uncertainty. As a result, media reception becomes a process dependent not only on the level of knowledge and skills but also on an individual's emotional and adaptive capacities.

In response, we observe an omnipresent mediasphere and the phenomenon of "time hacking by the media" (Nagy et al., 2020). In discussions about media competencies, there is an increasing emphasis not only on educating audiences and regulating the practices of content creators but also on genuine concern for users themselves. Researchers and practitioners are shifting their attention toward digital hygiene, the psychological resilience of audiences, and their emotional well-being. Alongside diagnosing communication threats such as disinformation, algorithmic dominance, FOMO, or information overload, there is growing interest in seeking solutions and reflecting on the affective dimension of the contemporary mediasphere. As a result of these developments, the field of positive media psychology has emerged (Raney et al., 2021), bringing with it calls for research on the resilience of communication participants.

Introducing this perspective allows for a better understanding of why, in the era of digital media and artificial intelligence, audiences differ not only in how they interpret content but also in their susceptibility to disinformation, information stress, or polarization. Media information has a cognitive and axiological dimension, as it concerns important social values, as well as an affective dimension, since it often describes and evokes emotions. Consequently, it influences the well-being of the audience and "touches" their psychological resilience (Sobczak, 2016).

The analysis of human capital and resilience as factors determining media reception constitutes an important step toward explaining the mechanisms of how individuals function within a complex information ecosystem within a complex information ecosystem.

Contemporary media messages increasingly have a negative impact on audience well-being. In this context, the importance of research on user resilience and their ability to cope with informational pressure is growing. The very nature of media information — intense and emotional — does not support the development of psychological resilience, which makes concern for the audience one of the key challenges of modern communication. As a result, competencies associated with human capital become not only an educational postulate but also a necessity arising from the realities of contemporary communication.

3. Human Capital and Resilience in the Age of Artificial Intelligence

In the era of rapid development of artificial intelligence, human capital is no longer understood solely as a set of technical skills, knowledge, and experience. It increasingly encompasses adaptive abilities, psychological resilience, and the capacity to function in an environment of permanent change. AI not only redefines models of work and communication but also presents new media users with challenges related to information overload, algorithmic pressure, and the growing intensity of messages. Therefore, at the organizational level, investments in human capital — through knowledge development, expanding and acquiring new professional competencies, and monitoring changes resulting from modern technologies, including artificial intelligence — become essential.

Under these conditions, resilience becomes a key element of human capital — a resource that enables individuals to maintain cognitive autonomy, critically process content, and protect their emotional well-being. It is precisely the combination of competencies and psychological resilience that determines how audiences cope with information overload, disinformation, or algorithmic content selection. Consequently, human capital and resilience not only shape the way individuals use media but also determine their ability to function effectively in a society dominated by AI technologies.

The improvement and development of modern organizations take place on multiple levels, including technological, economic, and organizational. The human factor is an indispensable means of increasing organizational effectiveness through the development of employees' knowledge and qualifications. Investments in people — enhancing their abilities and competencies — determine the competitiveness of the contemporary economy and have a fundamental impact on further development. Organizations, as employee collectives, are created by individuals who perform various functions within the hierarchy of job positions (Gitling, 2024).

As a result of the development of modern technologies, a high level of education and the acquisition of new skills may no longer be sufficient to protect individuals from job automation. According to Ford (2017), among the forces that may shape the future, modern technology

stands out due to its rapid pace of change. Although various forms of automation have accompanied us for decades, it was only in the 21st century — with the emergence of generative artificial intelligence — that a broad debate on the future of work began. The latest *EY AI Anxiety in Business* report illustrates the scale of these concerns: 75% of respondents believe that some professions will disappear due to AI, 66% fear losing their own jobs, 72% expect wage reductions, and 67% believe that a lack of AI-related competencies will limit their opportunities for promotion.

Until recently, artificial intelligence (AI) was promoted as a tool for reducing costs and improving service quality, productivity, and organizational efficiency, creating new types of machine configurations and playing an increasingly important role in modern organizations (Holmström, 2022). The latest advances in AI open additional possibilities for work automation (Klimaszewski, 2024). Automation has long been a part of the contemporary economy, but the development of artificial intelligence has significantly accelerated the debate on the future of work. Data from the *Labour Market Barometer* (2023, 2025) show that the proportion of people perceiving automation as a real threat is increasing. Some employees would be willing to accept automation if it were accompanied by opportunities for professional development or a change of position. At the same time, companies recognize the potential of automation and AI but encounter implementation barriers.

In this context, investments in competency development become crucial. Employees declare a willingness to learn — 45% want to upgrade their qualifications, 35% aim to develop technological skills, and one in four is considering changing their position or industry. Companies are also increasing organizational flexibility: 56% use flexible forms of work, although employees perceive them ambivalently — as both an opportunity for development and a potential threat to job stability. The sense of threat increases with age. The development of artificial intelligence is redefining the meaning of human capital, shifting the emphasis from traditional qualifications to cognitive, digital, and adaptive competencies. In a work environment shaped by algorithms, automation, and information overload, not only knowledge but also the ability to respond flexibly to change, protect one's well-being, and critically process content becomes essential.

Resilience becomes an integral element of human capital, conditioning the effective use of technology and the conscious reception of media. As a result, it is the synergy between competencies and resilience that today determines individuals' ability to function efficiently in a society dominated by artificial intelligence. The concept of resilience is understood as a continuous process that enables the mutual strengthening of individuals, subsystems, and the adaptive capacities of the community, which in turn is able to establish and enforce a positive trajectory of action (Norris et al., 2008). In this perspective, social mechanisms such as solidarity, support, and cohesion allow for the development and maintenance of the system's necessary flexibility, which in turn enables the effective use of its material, social, and cultural

resources in the face of crisis (Walsh-Dilley, Wolford, 2015) or the changes brought about by the implementation of AI in organizations.

Given the increasing pace of change, it becomes natural to seek solutions that stimulate employee innovation. It is investments in human capital — knowledge, experience, and competencies — that determine an organization's competitive advantage today. Since intangible resources generate new value, knowledge management and knowledge sharing become crucial. Finding a balance between fully leveraging technological capabilities and consistently investing in human capital — so that work provides satisfaction, stability, and well-being — is now one of the most significant challenges facing the contemporary economy and society.

To conclude these reflections, it is worth looking at examples of organizations undergoing digital transformation. They achieve the best results when they combine technological development with investments in human capital and the strengthening of employee resilience. Different approaches to competency assessment, process automation, or talent management lead to one conclusion: technology becomes effective only when supported by a flexible and learning-oriented human capital.

The Human Capital Balance, conducted by the Polish Agency for Enterprise Development, provides comprehensive data on employee competencies and the degree of digital technology adoption in Polish enterprises. Effective implementation of artificial intelligence is closely dependent on the level of human capital, which includes both technical competencies and readiness to learn and adapt. The study reveals that organizations characterized by greater flexibility and a culture of learning — and thus higher organizational resilience — achieve better results in implementing new technologies characterized by greater flexibility and a culture of learning — and thus higher organizational resilience — achieve better results in implementing new technologies. Similar conclusions emerge from studies conducted by PARP's SME Development Center on the readiness of Polish companies to use artificial intelligence. Significant differences in digital readiness can be observed between enterprises, resulting not only from technical resources but also from employees' adaptive competencies. Resilience turns out to be a factor differentiating both the pace and quality of implementation.

A 2026 Forrester Consulting study commissioned by SAP illustrates the global context of AI adoption in HR. This example allows Polish experiences to be compared with international trends, showing that differences in human capital and resilience levels influence the speed of technological adaptation. Organizations with high digital resilience implement AI faster and more effectively.

A case study on measuring human capital using the HR Scorecard tool (Samul, 2011) shows that assessing human capital requires considering both material and intangible resources, such as competencies, knowledge, organizational culture, and employee engagement. The analysis reveals methodological difficulties in measuring psychosocial resources, including resilience, which indicates the need to develop diagnostic tools.

Effective implementation of artificial intelligence and functioning in a digital environment require synergy between technical competencies and psychosocial resources. Resilience proves to be a key element of human capital, determining the ability to adapt, learn, and use technology effectively.

4. Summary

The analysis confirms that in conditions of rapid digitalization, the dominance of algorithmic media, and the growing presence of artificial intelligence, the key challenge is not only technological development but also the conscious strengthening of human resources through the cultivation of resilience. Human capital — encompassing knowledge, digital competencies, cognitive skills, mental health, and experience — together with resilience, understood as the ability to adapt, regulate emotions, and maintain balance under informational pressure, forms an inseparable system that determines how individuals and organizations function in the media environment of informational pressure, form an inseparable system that determines how individuals and organizations function within the media environment. The contemporary mediasphere — characterized by content overload, hyperbolization, algorithmic selection, and dynamic variability — is not a neutral space. As noted in the text, *contemporary media messages increasingly have a negative impact on audience well-being*, which makes informational competencies and psychological resilience essential resources for the conscious reception of communication. Resilience plays a protective role here — it helps maintain cognitive autonomy, reduces susceptibility to manipulation, and enables constructive information processing even under conditions of overload and polarization.

In light of the analyses presented, the future of work, communication, and participation in social life depends on the synergy between technology and humans. Artificial intelligence can support development only when accompanied by the conscious cultivation of competencies, care for media users' well-being, and the strengthening of resilience to information overload. In the context of digitalization, media dominance, and artificial intelligence, human capital and resilience form a system of mutually interconnected resources that jointly determine individuals' ability to function within a complex information ecosystem. Cognitive, digital, and informational competencies enhance an individual's resistance to information overload, while resilience enables the effective use of these competencies under conditions of pressure, uncertainty, and excessive stimuli.

Human capital determines how individuals receive, select, and interpret media content. People with high levels of informational competencies are more inclined to critically analyze messages, recognize manipulation, and use media consciously. At the same time, the growing

complexity of the information environment means that these competencies become not only cognitive resources but also prerequisites for participation in social life.

Resilience plays a protective role against information overload, stress, and polarization. Psychological resilience enables individuals to maintain cognitive autonomy, reduces susceptibility to manipulation, and supports constructive information processing. As a result, the audience is able to selectively filter content, maintain emotional balance, and make decisions based on reflection rather than impulses triggered by algorithmically amplified stimuli.

In the era of artificial intelligence, this relationship becomes even stronger. Human capital is no longer understood solely as a set of technical competencies but also includes adaptive abilities and psychological resilience. Resilience thus becomes an integral element of human capital, determining individuals' ability to cope with job automation, algorithmic pressure, and the growing intensity of digital communication. The synergy of these two resources determines the ability of individuals to function effectively in a society dominated by AI technologies. Technical and informational competencies without psychological resilience are insufficient, just as resilience without the ability to critically process information does not protect against algorithmic manipulation. Only their coexistence enables conscious, autonomous, and safe functioning in the digital environment.

As a result, human capital and resilience should be viewed as interdependent elements of a single adaptive system that enables individuals to cope with information overload, disinformation, comparison pressure, and the challenges arising from the automation and algorithmization of social life. The mutual reinforcement of these resources forms the foundation of psychological well-being, cognitive autonomy, and the ability to learn in conditions of constant technological change.

In concluding this analysis, it is worth reflecting on research limitations and directions for future studies. The relationship between human capital, resilience, and individual functioning in the environment of digital media and artificial intelligence remains insufficiently described in the literature. The lack of clear theoretical models limits the ability to systematically study the synergy between cognitive, digital, and emotional competencies. A major barrier is the high dynamism of the media environment — information overload and the growing presence of algorithmic content-selection systems. This variability makes longitudinal research and the creation of stable measurement tools difficult. Moreover, the limited number of empirical studies on the impact of algorithms, personalization, and disinformation on psychological well-being — including information stress and susceptibility to manipulation — represents a significant research gap.

Therefore, it is important to consider future research directions. There is a need to develop integrated theoretical models describing the interaction between human capital and resilience in the digital environment. Empirical studies are required to examine the impact of algorithmic content selection, personalization, and disinformation on audience well-being and their ability

to critically process information. Another important area is the development of diagnostic tools that enable the measurement of digital resilience, resistance to information overload, and susceptibility to manipulation. Comparative studies involving different generational and professional groups — especially in the context of adaptation to technological change and job automation — also constitute a crucial research direction.

The final issue is the analysis of organizational resilience in the processes of implementing artificial intelligence, due to the need for research on knowledge-management practices, organizational culture, and strategies for supporting employees during technological transformation.

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