S T U D I A N A D B E Z P I E C Z E Ń S T W E M

Nr 10 **s. 5–15** **2025**

ISSN 2543–7321
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Uniwersytet Pomorski w Słupsku
Przyjęto: 26.04.2025
Zaakceptowano: 26.04.2025

Oryginalna praca badawcza DOI: 10.34858/SNB.10.2025.001

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CYBERSPACE AND THE TRANSGRESSION OF THE BOUNDARIES OF INFORMATION ORDER AND TRUST IN INFORMATION

CYBERPRZESTRZEŃ A PRZEKRACZANIE GRANIC PORZĄDKU INFORMACYJNEGO I ZAUFANIA DO INFORMACJI

Abstract: In the digital age cyberspace has become the primary arena for the exchange of information and opinions; however, as it continues to evolve, we are witnessing increasingly frequent disruptions to the information order and an erosion of public trust in the content being disseminated, which has a critical impact on information security. This article focuses on analysing the mechanisms that lead to disinformation, manipulation and the creation of "information bubbles," as well as their consequences for information security in civil society and public institutions. It will also present ways to counteract these phenomena, with particular emphasis on the role of media literacy and critical thinking. The aim of this article is to demonstrate how actions taken in cyberspace can lead to a disruption of the information order and an erosion of public trust, both in the information itself and in the institutions that disseminate it.

Zarys treści: W erze cyfrowej cyberprzestrzeń stała się główną areną wymiany informacji i opinii, jednak wraz z rozwojem cyberprzestrzeni obserwujemy coraz częstsze zakłócenia ładu informacyjnego oraz erozję zaufania społecznego do przekazywanych treści, co ma kluczowy wpływ na bezpieczeństwo informacji. Artykuł koncentruje się na analizie

mechanizmów, które prowadzą do dezinformacji, manipulacji oraz tworzenia „baniek informacyjnych", a także na ich konsekwencjach dla bezpieczeństwa informacji w społeczeństwie obywatelskim i instytucjach publicznych. Zostaną też przedstawione sposoby przeciwdziałania tym zjawiskom, ze szczególnym uwzględnieniem roli edukacji medialnej i krytycznego myślenia. Celem artykułu jest pokazanie, w jaki sposób działania podejmowane w cyberprzestrzeni mogą prowadzić do zaburzenia ładu informacyjnego i osłabienia społecznego zaufania, zarówno do informacji, jak i do instytucji, które te informacje przekazują.

Keywords: cyberspace, information security, information ecology, information governance, trust in information, information climate, disinformation.

Słowa kluczowe: cyberprzestrzeń, bezpieczeństwo informacji, ekologia informacji, ład informacyjny, zaufanie do informacji, klimat informacyjny, dezinformacja.

Introduction

Cyberspace has become a new communication space which enables immediate and universal access to information and it is characterised by the absence of physical boundaries. Social media, blogs, forums and the like play a significant role within it. Cyberspace, as a virtual dimension of reality, has transformed the way in which we create, process and receive information. Alongside its development, new forms of communication have emerged, but so too have threats to the information order and public trust.

The topic explored in this article concerns contemporary challenges relating to the functioning of information in the digital world. It covers, amongst other things, the problem of disinformation, the manipulation of information, the lack of control over data flows and the erosion of public trust. In the classical literature on information science, there is still a lack of in-depth analyses of the issue explored here. The sheer volume of data and information, often of unknown origin, causes cognitive confusion. An effective means of verifying information is a common-sense approach to knowledge construction. However, this requires the critical, cognitive and constructivist skills essential in a knowledge society and a networked society. It is essential to develop the competence to navigate information flows and

the skills of critical thinking in order to distinguish useful information from useless information.[1]

Before moving on to the main points there will be a brief conceptual introduction. The key concepts are: cyberspace, the information climate, the information order and trust in information. At present it is precisely cyberspace, the information climate, the information order and trust in information that have the greatest influence on the information order.

Cyberspace today is not merely a virtual space, but a whole new dimension of our everyday lives. It is a place where we communicate, acquire knowledge and make decisions. Information order refers to transparency, reliability and structure in the flow of information. Trust in information, in turn, is the foundation without which society cannot function effectively, for how can we make accurate and optimal decisions if we do not know for certain what is true?

The aim of this article is to demonstrate how actions taken in cyberspace can lead to a disruption of the information order and an erosion of public trust, both in the information itself and in the institutions that disseminate it.

1. Cyberspace as a new space for information and communication

Cyberspace has revolutionised the way we communicate and process information. Access to data is widespread and immediate. In theory, everyone has an equal right to publish and comment on content; this is also a huge and important democratic value.[2]

But it is precisely this freedom and the absence of physical or clear legal boundaries that make cyberspace difficult to control. Information spreads rapidly, often faster than we are able to verify it. Social media, blogs and online forums play a huge role. These are tools which, on the one hand, give people a voice, but on the other, can distort that voice.[3]

The main theses of the article are as follows:

- cyberspace transcends traditional national and ethical boundaries in the circulation of information;

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1 W. Babik, *Sustainable Development of Information Society. Towards an Ecology of Information*, "Geomatics and Environmental Engineering" 2008, vol. 2, no 1.

2 W. Babik, *Ekologia informacji*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 2014.

3 S. Turkle, *Alone Together. Why We Expect More from Technology and Less from Each Other*, Basic Books, New York 2011; M. Castells, *The Rise of the Network Society*, Wiley-Blackwell, Oxford 2020; W. Babik, *Information Security as a Global Challenge for the 21st Century*, "Studia nad Bezpieczeństwem" 2022, no. 7.

- the information order is becoming fragmented, leading to communicative chaos;
- trust in information is declining as a result of disinformation, fake news, deepfakes and algorithmic personalisation of content.

2. The information order in the digital age – an essential element of the information and communication space

Information order refers to an organised system of information circulation based on reliable sources, transparency and the principles of information ethics. In cyberspace, it is becoming increasingly difficult to maintain this order for the following reasons, amongst others:

- a lack of control over information sources (e.g. social media, forums, blogs);
- the speed of content distribution – viral posts, clickbait, memes;
- platform algorithms that promote controversial or emotionally charged content.

The result is a blurring of the lines between facts and opinions, causing users to lose their bearings in a sea of information. Information governance and trust in information create an information climate appropriate to information environments.

The information climate is linked to freedom of information and freedom of expression. It is a kind of metaphor based on meteorological phenomena. The concept of the information climate is, amongst other things, an important element of research into information logistics within information management, as it concerns the prevailing conditions that either facilitate or hinder the flow of information.[4]

The information climate is an element of the social climate and is usually linked to the organisational climate. It can be defined as a set of people's interpretations and perceptions regarding information. It emphasises the role of communication and perception of information as the most significant factors determining the nature and level of the climate.

The information climate can also be interpreted very broadly as the existing set of values concerning the circulation of various types of social information. It determines the collective consciousness regarding the desired way of handling information and the degree of trust in information.

[4] W. Babik, *Logistyka informacji*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 2025.

An inappropriate information climate can result, amongst other things, in difficulties with free communication, the marginalisation of grassroots initiatives, hypocrisy and insincerity in speech, so-called political correctness and even social alienation. It is often determined by the emotional climate of society, which in extreme cases manifests itself in the form of newspeak and/or hate speech.

3. Information order – an essential element of cyberspace

Information order is a form of organisational order, that is, a harmonious arrangement of structures, processes, relationships and principles within the information sphere, in an information ecosystem. Disruptions to information order give rise to fake news and clickbait, deepfakes and manipulation, as well as bots, troll farms and deliberate disinformation in cyberspace.

Information governance is a kind of map that steers actions onto the right path. It enables us to determine how to operate within the information sphere in order to achieve organisational success. It is a system for managing the flow of information. It encompasses the balanced and free circulation of information, the diversity of its sources and means of communication, as well as the protection of information.

In cyberspace we are increasingly confronted with various types of disruption to the information order, including, above all, disinformation – that is, the deliberate misleading of audiences. Fake news, manipulated headlines and clickbait are merely the tip of the iceberg. Added to this are more sophisticated forms of manipulation, such as deepfakes – fake video or audio recordings that appear genuine.

Examples of deepfakes include image manipulation and the blurring of the lines between truth and fiction (US (2016), Brexit (2020), and fake accounts and content). Other examples include misinformation about vaccines and treatments, various conspiracy theories, and a decline in trust in science and authority figures. Their social consequences include a decline in trust in the media, polarisation, information bubbles and difficulty in making decisions.

Nor can we overlook the role of organised groups such as troll farms and bots, which use automated accounts to influence public sentiment, create or generate artificial conflicts, or spread propaganda. They often operate in ways that are difficult to detect and target not only individuals but also entire institutions.

4. Trust in information

In a general sense trust can be interpreted 'as a positive expectation regarding the motives behind other people's behaviour as a result of interaction – a willingness to accept another person's behaviour.'[5]

Trust in information, particularly digital information, means that we may overlook the social context which helps us understand what a given piece of information means and why it is important or irrelevant. Furthermore, "not all signals, signs or symbols; not every image perceived or created; not all statements heard or sentences read; nor is every piece of knowledge acquired information in the same sense."[6] Information which is treated as an object of selection, choice, production, transformation and dissemination requires the recipient to engage in creative cognitive activity, which ensures understanding and, consequently, knowledge. What is important here is the approach to information as a categorical concept subject to evaluation. In order to understand the essence of trust in information, we should ask, amongst other things, the following questions: What is the true cognitive value of information? What kind of understanding and what kind of knowledge is it associated with? Is it always adequate, reliable and, above all, true? Is false information possible? In the context of disinformation, is it possible to maintain the fundamental meaning of information as an adequate representation and reliable communication of a form and its associated content to someone?

Research conducted within the framework of information ecology on the culture of trust in the information environment and cyberspace shows that trust in information is determined by the information behaviours of those who use it. In the face of an information deluge and confusion, and given the pragmatic value of information, the ability to evaluate and select information is desirable.[7] In this situation, the

[5] M. Bugdol, *Zaufanie jako element systemu wartości organizacyjnych*, "Współczesne Zarządzanie. Kwartalnik Środowisk Naukowych i Liderów Biznesu" 2010, no. 2.

[6] M. Hetmański, *Epistemologia informacji*, Copernicus Center Press, Kraków 2013, p. 7. Also, European Commission initiatives regulating the digital space, such as the Digital Services Act (Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC, OJ L 277, 27.10.2022, pp. 1–102) and the AI Act (Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828, OJ L, 2024/1689, 12.7.2024).

[7] W. Babik, *Ekologia informacji*, op. cit.

need – or rather the necessity – for limited trust in information, as well as the maintenance of information order and structure, is crucial.[8]

"Trust in information is of particular importance in conditions of ignorance or uncertainty associated with the unknown or unknowable actions of others."[9]

What influences trust in information? Trust in information is fostered by:

- order, rather than information chaos;
- the stability of the information order, rather than radical changes to it;
- transparency, rather than secrecy;
- accountability, rather than a lack thereof.

Trust in information is undoubtedly influenced by such structural features as:

- normative coherence (wise law), whilst normative chaos does not;
- the stability of the social order, whilst its radical change does not;
- transparency, whilst secrecy does not;
- familiarity, rather than alienation;
- accountability, rather than arbitrariness and a lack of accountability.

Trust in information is certainly built by truth and the reliability of the information, a positive manner of presenting information, the sincerity of the narrative, a 'friendly' atmosphere, appropriate affiliation of the information, and wise law.[10]

5. Consequences of overstepping the boundaries of information order and trust in information

All this leads to serious consequences. Firstly, the credibility of traditional media is declining, as they are often lumped together with fake news. Secondly, society is becoming polarised. Internet users are increasingly operating within so-called 'information bubbles', where they merely reinforce their own beliefs.[11] This phenomenon disrupts dialogue and hinders the collective search for truth. As a result, society's

[8] W. Babik, *O zaufaniu do informacji*, in: B. Taraszkiewicz (ed.), *Ekologia informacji jako wyzwanie dla edukacji i bibliotekarstwa XXI wieku*, Pedagogiczna Biblioteka Wojewódzka w Słupsku, Stowarzyszenie Bibliotekarzy Polskich – Zarząd Oddziału, Słupsk 2015.

[9] D. Gambetta (ed.), *Trust: Making and Breaking Cooperative Relations*, Blackwell, New York 1988, p. 218; cited in: P. Sztompka, *Zaufanie. Fundament społeczeństwa*, Wydawnictwo ZNAK, Kraków 2007, p. 69.

[10] E. Perzycka, *Zaufanie do cyfrowych mediów jako fundament w pracy e-nauczyciela*, "Problemy Profesjologii" 2014, no 1.

[11] M. Krakowska, *Zachowania informacyjne człowieka w kontekście zjawiska epistemologicznej bańki informacyjnej. Propozycja nowej koncepcji*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 2022.

ability to make decisions based on reliable data is diminishing, whether in the context of politics, public health or everyday life.

What can we do about this? The key areas for action are undoubtedly:

- Media and digital literacy, leading to greater awareness of the types and scale of threats in cyberspace.
- Critical thinking. Let us not be indifferent. Trust in information requires thought.
- Cooperation between the media, institutions and information users in combating threats in cyberspace.
- A shift in individual and social discourse towards building an information order and social trust in cyberspace.

The way we communicate is of fundamental importance. We must say 'NO' to the war of words and images […]. We must free communication from prejudice, fanaticism and hatred. We must reject the paradigm of war in favour of the paradigm of friendship.

The crisis of trust in information results in a lack of a stable information order and leads to the erosion of public trust, both in institutions (the media, academia, government) and in the information itself.

This crisis of trust is fuelling growing scepticism towards traditional media and experts; users are selecting content that aligns with their beliefs (*echo chambers*), and it is becoming increasingly difficult to distinguish reliable sources from manipulated ones.

Communication is not merely the transmission of information, but the creation of a culture within human and digital communities that serve as spaces for dialogue and the exchange of views. In light of technological evolution, this mission becomes even more essential.

6. Crossing boundaries – new forms of manipulation

In cyberspace there are no physical boundaries or clear-cut rules. This allows various actors, from governments to cybercriminals, to interfere with the flow of information. The aforementioned boundary-crossing takes place through:

- disinformation (deliberate misrepresentation, e.g. in political campaigns);
- fake news (sensational but untrue information);
- deepfakes (synthetic images and sounds – difficult to distinguish from the real thing);
- astroturfing (the simulation of spontaneous social movements);
- emotional manipulation (e.g. through targeted advertising).

In his works, Zygmunt Bauman argues that in the era of 'liquid modernity', trust is becoming a scarce commodity, because liquid life – characterised by the transience of bonds and a permanent crisis of permanence – undermines the stable foundations of interpersonal and social relationships. In a consumer society focused on momentary pleasures and instant gratification, relationships become fragile and easily replaceable, leading to a lack of stable ground on which to build long-term trust. The consequences of liquid modernity are:

- **Transience and changeability:** The concept of 'liquid modernity' implies rapid change, transience and uncertainty, which affect all aspects of life, including interpersonal bonds and social structures.
- **Consumerism:** In a world where everything becomes an object of consumption and has a limited shelf life, even interpersonal relationships are subject to the logic of consumption and can be easily exchanged.
- **The fragility of bonds:** Bauman, in discussing 'liquid love', emphasises that in 'liquid modernity' relationships lack permanence, and individuals find it difficult to form lasting and stable bonds that could provide a foundation for their lives.
- **Lack of fixed points of reference:** The undermining of the permanence of all concepts and social constructs leads to a sense of rootlessness and a lack of stable ground on which to build trust.

Consequently, in a society characterised by liquid modernity where everything is changeable and impermanent, building lasting trust becomes extremely difficult, making it a scarce commodity.[12]

The response to these threats may involve action on several levels: firstly, education encompassing the development of digital and media literacy, the teaching of critical thinking and source verification; regulations: EU law (e.g. the Digital Services Act, the AI Act); the fight against disinformation at the level of social media platforms; the latest technologies (systems for detecting fake news); and the ethics of artificial intelligence (algorithm transparency) (European Commission).

Conclusion

In summary, cyberspace is a powerful tool that can serve communication and the development of individuals and society, but it can also sow chaos and undermine the foundations of social trust. This is why information and media literacy, the

[12] J. Grubicka, R. Kompowska-Marek, *Przestrzeń cyfrowa w ponowoczesności. Jednostka*, *technologia, profilaktyka*, Wydawnictwo Difin, Warszawa 2024.

development of critical thinking skills and the joint establishment of standards of accountability for what is said are so important, both amongst users and content creators.

In the digital age cyberspace has become the main arena for the exchange of information and opinions; however, as it develops, we are witnessing increasingly frequent disruptions to the information order and an erosion of public trust in the content being disseminated, which has a crucial impact on information security.

Cyberspace is a realm of unlimited possibilities, but also of serious threats to the information order. Crossing boundaries – legal, ethical and cognitive – leads to a weakening of public trust. This calls for new strategies – both educational and legal – to rebuild an information order based on reliability, transparency and accountability. Cyberspace is undoubtedly a source of both power and risk. There is a need to protect the information order and public trust in information. Everyone has a key role to play in this.

It is essential to engage in further in-depth reflection on how each of us can, even to a small extent, contribute to rebuilding the information order and trust in the digital age.[13]

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[13] C. Wardle, H. Derakhshan, *Information Disorder: Towards an Interdisciplinary Framework for Research and Policy Making*, Council of Europe, Strasbourg 2017.

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Summary

In the digital age cyberspace has become the main arena for the exchange of information and opinions; however, as it develops, we are witnessing increasingly frequent disruptions to the information order and an erosion of public trust in the content being disseminated, which has a crucial impact on information security. This article focuses on analysing the mechanisms that lead to disinformation, manipulation and the creation of 'information bubbles', as well as their consequences for information security within civil society and public institutions. Ways of counteracting these phenomena will also be presented, with particular emphasis on the role of media literacy and critical thinking. The aim of this study is to demonstrate how actions taken in cyberspace can lead to a disruption of the information order and an erosion of public trust, both in the information itself and in the institutions that disseminate it, encourage reflection on how, in a globalised digital space, to protect the integrity of information and rebuild public trust and thereby strengthening the sense of information security in cyberspace.