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Understanding Digital Organizational Trust: A Socio-Technical Approach to Human-Technology Collaboration

ABSTRACT

Objective: The aim of this article is to conceptualize organizational digital trust in the context of emerging technological paradigms such as Industry 5.0, Society 5.0, and Actor–Network Theory (ANT). The study seeks to identify the key dimensions, mechanisms, and implications of digital trust in contemporary organizations, highlighting its socio-technical character and strategic relevance.

Methodology: The article adopts a conceptual and theoretical approach based on an extensive literature review, including foundational models of trust (e.g., Mayer et al., 1995) and recent contributions in digital transformation research. Actor–Network Theory (Latour, 1996; Cressman, 2009) is employed as a lens for analyzing trust as a relational outcome among heterogeneous actants – technologies, users, and organizational environments.

Findings: The study reveals that digital trust is a multi-dimensional construct shaped by both human and technological factors. It encompasses ethical organizational values, compliance with digital standards, and the interplay between user and technology trustworthiness. Three proposed models illustrate different levels of digital trust formation, including trust between actants and human-technology collaboration. Digital trust is shown to function as both a precondition and a product of organizational cooperation, with direct implications for performance and innovation.

Value Added: This article contributes to the growing discourse on digital trust by offering an integrative framework rooted in both classical trust theory and ANT. It underscores the need to consider digital trust as a dynamic organizational asset, shaped by interactions between people, technologies, and institutional environments. The study also highlights areas for future empirical validation, addressing the current gap between theoretical elaboration and practical assessment.

Introduction

The ongoing digital transformation of society and industry has profoundly altered how organizations operate, communicate, and build relationships. Concepts such as Society 5.0 and Industry 5.0 reflect a shift toward human-centered, sustainable, and interconnected systems in which advanced technologies – particularly artificial intelligence, robotics, and automation – are embedded in everyday structures and processes. In this new landscape, digital trust has emerged as a critical organizational resource and strategic asset. No longer limited to interpersonal relationships, trust now extends to technical and technological systems, shaping how individuals interact with platforms, algorithms, and autonomous processes. Despite its growing importance, digital trust remains conceptually underdeveloped in organizational studies.

Most existing research on trust in organizations has centered on traditional interpersonal frameworks or technology acceptance models, often neglecting the hybrid nature of trust in digitally mediated environments. There is a lack of integrative theoretical approaches that would account for the increasingly complex interactions between human and non-human actors in organizations. This article addresses that research gap by drawing on Actor–Network Theory (ANT) – a sociotechnical framework that views reality as a network of interdependent human and non-human actants – to explore the foundations, dimensions, and processes of organizational digital trust. While ANT has gained traction in management and technology studies, its application to trust – particularly in digital organizational contexts – remains limited and fragmented.

The aim of this article is to conceptualize organizational digital trust as a multi-dimensional, relational phenomenon that emerges through dynamic interactions among technologies, users, and organizational environments. Anchored in the foundational model of trust proposed by Mayer et al. (1995), and reinterpreted through the lens of ANT (Latour, 1996; Cressman, 2009), the article offers a novel theoretical framework for understanding how digital trust functions both as a precondition for collaboration and as a result of interaction and cooperation, particularly in complex digital ecosystems. The study introduces three original conceptual models that reflect varying degrees of complexity: a simplified model of digital trust formation, a socio-technical model inspired by ANT, and a model focusing on decision-making and cooperation between key actants, especially humans and intelligent systems. Together, these models highlight the relational, ethical, and strategic dimensions of digital trust in organizational settings.

This article contributes to the literature by offering a new conceptual foundation that integrates classical trust theory with sociotechnical perspectives. It emphasizes the need to approach digital trust as a dynamic process involving cognitive, technological, and institutional components. The article also underscores the importance of further empirical validation, especially regarding the interaction between internal and external forms of trust, and the conditions under which trust in digital systems is formed, maintained, or eroded.

The article begins by outlining the theoretical underpinnings of digital trust in the context of Society 5.0, Industry 5.0, and ANT. It then explores the distinct characteristics and dimensions of trust in digital organizational relationships. This is followed by the presentation of three conceptual models that illustrate the structure and formation of digital trust. The final section discusses research limitations and proposes future directions, particularly the need to translate theoretical insights into empirical research designs. By situating digital trust within a broader sociotechnical framework, this article offers scholars and practitioners a deeper understanding of how trust operates – and can be cultivated – in the digitally transformed organization.

Signs of the Transition into the Digital Era

The digital era began to unfold even before the industrial era had fully realized its potential. According to Growiec (2018), humanity has entered a new technological revolution – the digital revolution – which began around the year 2000, when the Internet connected computers into a truly global network. Its defining features include personal computers, the Internet, mobile phones, and industrial robots, as well as advanced socio-technological systems such as business ecosystems. A significant acceleration and advancement of the digital revolution occurred at the beginning of the third decade of the 21st century. Two concepts were key in this process: Japan's Society 5.0 (Society 5.0, 2020) and the European vision of Industry 5.0 (Tlili et al., 2023; Huang et al., 2022; Carayannis & Morawska-Jancelewicz, 2022; Deguchi et al., 2020).

A concise definition of Society 5.0 emphasizes its distinctive integration of cyberspace with physical space, enabling the simultaneous pursuit of economic progress and the resolution of social challenges. This is achieved through the provision of goods and services that precisely meet diverse and latent human needs, regardless of location, age, gender, or language. Moreover, instead of each system operating within a limited scope – such as maintaining indoor comfort, supplying energy, or ensuring the punctuality of trains – Society 5.0 envisions systems that function across the entirety of society in an integrated manner. The goal is to enhance comfort in all areas of life, including energy, transportation, healthcare, shopping, education, work, and leisure. Achieving this requires the collection of diverse and extensive data sets. These data are processed by advanced information systems, such as artificial intelligence, which alone are capable of handling such a broad range of data. The insights derived from this processing are applied in the physical world to make life more convenient and fulfilling. However, in Society 5.0, the information obtained does not merely control an air conditioner, a generator, or a railway system – it also directly influences human actions and behavior. Contemporary societies rely on a wide range of services, including those related to energy, transportation, water, healthcare, public safety, logistics, retail, education, and entertainment.

While each service may appear to function independently, in reality, they are interconnected. Building a better society requires an understanding of how these services interact and how to design appropriate integrated solutions. In the context of Society 5.0, a key challenge lies in optimally balancing societal needs with those of the individual. Progress depends on addressing this issue effectively. There is a pressing need for coordination between political actors and the high-tech sector to ensure a shared understanding of how policy proposals and technological developments contribute to the realization of Society 5.0. Without such coordination, actors may pursue their own technologies or policies in isolation, lacking awareness of how these efforts align with the broader vision of a super-smart Society 5.0 (Deguchi et al., 2020).

As highlighted in the Industry 5.0 report, this concept presents a coherent vision for the future of the European industry, serving as a continuation of the Industry 4.0 paradigm. Notably, the proposed vision uniquely acknowledges the capacity of industry to contribute to societal goals – an aspect that was largely absent from previous frameworks. These new concepts clearly extend beyond the boundaries of individual organizations and sectors, and beyond the objectives of job creation and economic growth. The aim is for societies to become resilient providers of prosperity, by respecting the planet and placing the well--being of industrial workers at the heart of production processes.

At the core of this vision lies the belief that research and innovation drive the transition toward a more sustainable, human-centric, and resilient European industry. This approach shifts the focus away from shareholder value alone and toward value for all stakeholders. The goal is to increase productivity without displacing workers from the manufacturing sector, while upholding the principles of justice, inclusiveness, and sustainable development.

Industry 5.0 emphasizes enhanced collaboration between humans and intelligent systems. The precision of industrial automation is combined with human cognitive and critical thinking skills, while monotonous and repetitive tasks are left to machines – thereby unlocking the creative potential of human workers (Atwell, 2017). This fosters greater responsibility and oversight among personnel over modern systems, ultimately contributing to improved production quality across all sectors.

This concept refers to examples such as advanced production lines based on human–robot collaboration, increased productivity, sustainability, and operational efficiency. It also emphasizes the creation of collaborative robotics potential for an economy and society that uphold European values. The Industry 5.0 framework envisions an industrial transformation that is faster, more scalable, and fundamentally more human-centric, leveraging cutting-edge technologies not only to optimize processes but also to align production systems with broader societal and environmental goals. A key component of this transformation is the shift toward upcycling – the process of creating products with higher value than the raw materials used in their production. Unlike traditional recycling, which often results in downcycling (the degradation of material quality over time), upcycling aims to preserve and even enhance material utility, thereby contributing to a circular economy. In this context, Industry 5.0 promotes design and manufacturing approaches that minimize waste and environmental harm by rethinking resource use from the outset. Upcycling becomes not just a technical practice, but an ethical and strategic principle that integrates sustainability with innovation and economic competitiveness. By embedding such practices into the fabric of industrial production, Industry 5.0 seeks to build resilient, future--oriented systems that are both technologically advanced and socially responsible.

Environmental awareness and responsibility are increasingly perceived not only as ethical imperatives but also as strategic assets that provide both competitive and cooperative advantages. Companies that adopt environmentally friendly business models gain market differentiation and long-term trust from stakeholders, particularly in light of growing consumer support for sustainable and regenerative practices. Government policies, international frameworks, and global sustainability agendas – such as the European Green Deal or the UN Sustainable Development Goals – further reinforce this shift by incentivizing green innovation, resource efficiency, and corporate transparency.

As a result, ecological responsibility becomes a lever for strategic positioning within value networks, enabling firms to participate in collaborative ecosystems where shared environmental values translate into stronger partnerships, access to funding, and preferential treatment in procurement or investment processes.

In this context, the emergence of regenerative organizations – entities that not only minimize harm but actively restore and enhance natural and social systems – reflects a profound transformation in how economic value is conceived and pursued.

Some of the current analyses focus on the skills requirements associated with the new stage of development in the European industry. The sector is already experiencing a shortage of skills, while educational and training institutions have yet to effectively respond to this demand – both in terms of advanced expertise and general digital competencies.

The conceptual frameworks of Society 5.0 and Industry 5.0, alongside the less frequently cited Actor–Network Theory (ANT), provide valuable perspectives for understanding the defining features of the digital era. ANT, although conceptually distinct from traditional notions of networks commonly explored in management and quality sciences, has been applied in these disciplines (Światowiec-Szczepańska & Kawa, 2018). It offers a lens through which to examine the complex interplay between human and non-human actors in socio--technical systems, thereby enriching the theoretical understanding of digital transformation.

The observed conceptual differences warrant a closer examination of the foundations of Actor–Network Theory (ANT) (Latour, 1996; 2010; Cressman, 2009). Many contemporary technologies inherently take the form of networks – computer networks being a prime example. Nothing appears to be more interconnected, more distant, and more strategically organized than this type of network. However, this is not the central metaphor of actor–networks. A technical network in the engineering sense is merely one of the possible final and stabilized states of an actor–network.

An actor–network may lack the defining features of a technical network: it may be local, devoid of obligatory paths, and lacking strategically distributed nodes, yet it exhibits other characteristics, as outlined below. Another key distinction lies in the purpose of ANT, which seeks to describe the very nature of societies. This is achieved not by limiting the concept of actors to individual humans, but by extending it to include "non-human" and "non-individual" entities, referred to as actants. In this framework, a social network is not simply

a map of human relationships, but a relational space between human and non-
-human actors in both the social and natural world.

Importantly, ANT does not analyze social networks in the conventional sense; rather, it aims to reconstruct the foundations of social theory itself. While social networks are encompassed within the scope of ANT, they are not granted any epistemological privilege or prominence. According to ANT, modern societies cannot be adequately described without recognizing their fibrous, thread-like, sinewy, and capillary nature – an ontological texture that resists capture by traditional conceptual categories such as levels, layers, territories, spheres, categories, structures, or systems.

Moreover, it is entirely impossible to understand what holds society together without reintegrating into its fabric the facts produced by the natural and social sciences, as well as the artifacts designed by engineers. Several key considerations must therefore be taken into account:

1. The networks envisioned by Actor–Network Theory (ANT) constitute the evolving tissue of life itself.
2. These networks create space, challenging the traditional notion of space as a domain defined by local proximity, distance, or scale – whether local or global. Offices and computers in distant cities may, in practice, be more closely connected than adjacent neighborhoods within impoverished urban areas.
3. All elements within a network are actors (actants), endowed with agency or the capacity to act. The identities and properties of these actors are not innate but relational – they emerge from the networks in which they are embedded.
4. Power must be understood as distributed throughout the network, rather than concentrated solely in central or dominant nodes.

According to the notion of the heterogeneous – or socio-technical – network, such networks can be used to describe virtually anything, as all phenomena – people, organizations, technologies, nature, politics, and social order – are the result or effect of the functioning of heterogeneous networks. The social world is

neither entirely "social" nor must it be perceived in traditional sociological terms. Every type or form of social order – such as work, economy, or education – is an outcome of relational dynamics within a heterogeneous network. Even human beings themselves are products of such networks.

In this sense, Actor–Network Theory (ANT) does not focus on causes but on effects. It rejects essentialist explanations, positing instead that what exists is a consequence of the networked interplay of diverse actors. For example, if we begin by asserting that Organization X is a powerful and influential actor, we separate it from other networks and implicitly assume a core, static property. Yet, from an ANT perspective, power, influence, and scale are not intrinsic attributes but effects produced through the relationships and interactions of the actors within the network.

Actor–Network Theory (ANT) makes visible the extent to which everyday processes in the contemporary world involve a multitude of interacting actants – including ideas, texts, chemicals, machines, organisms, processes, finances, organizations, and more. The study of any form of organization, social order, technological innovation, or scientific discovery is, in essence, the study of connections among heterogeneous actors embedded within networks.

However, the current lack of a clear explanation regarding how the size and strength of actor–networks emerge – and what contributes to their stabilization – implies a gap in understanding how the socio-technical world inhabited by humanity actually operates. Without this clarification, any analysis remains incomplete.

In conclusion, identifying the manifestations of digital structures and relationships would benefit not only from referencing the conceptual frameworks of Society 5.0 and Industry 5.0, but also from drawing upon Actor–Network Theory. ANT conceptualizes our reality as a fabric composed of facts produced by the natural and social sciences, as well as artifacts engineered by humans – offering a valuable theoretical lens through which to interpret the dynamics of the digital era.

In light of the accelerating digital transformation and the emergence of frameworks such as Society 5.0 and Industry 5.0, it becomes increasingly important to adopt interdisciplinary and relational perspectives when analyzing contemporary socio-technical realities.

Digital Trust in Organizational Relationships

Among the defining issues of the digital age, digital trust stands out as a key concern and at the same time challenges for both technological development and organizational integrity. The literature reveals that trust in the digital era has proven difficult to conceptualize, raising important questions about its characteristics, benefits, and the conditions under which it can be effectively leveraged in organizational management. It is increasingly evident that interactions now take place predominantly through digital means, influencing numerous aspects of human life. As a result, digital trust continues to grow in significance (Digital, 2017).

For instance, many scholars and practitioners argue that trust and credibility have become even more critical in e-commerce, due to the less verifiable and less controllable nature of digital business environments (Gefen, 2002). While digital trust also pertains to various other forms of digital interaction in modern societies, these broader dimensions fall outside the scope of the present discussion. Understanding the situations in which trust is needed makes it easier to build through direct connections. In contrast, trust based on indirect ties is significantly more difficult to establish. Consequently, thinking about trust in the digital era must take into account both the nature of traditional trust and the specific features of digital trust, which is layered upon the former.

The current and anticipated radical transformations in the functioning of societies heighten uncertainty and create a growing demand for trust as a resource for confronting the challenges of the modern world. This, in turn, stimulates the development of trust-related concepts and theories, including conditions for trust-building and strategies to counteract associated risks and negative phenomena. A focus on the general dimensions of digital trust allows both researchers and practitioners to better grasp the specificity of trust and its strategic relevance in the management of organizations in the digital era (Guo, 2022; Mubarak & Petraite, 2020, p. 3).

Trust in the digital era is often inaccurately equated with digital trust. The former refers to trust in contexts where individuals remain in direct interaction,

yet the growing prevalence of advanced technologies necessitates a broader conceptualization of the term. Trust in the digital era thus encompasses not only interpersonal trust and the understanding of abstract systems but also includes trust in technical and technological systems.

Digital trust, on the other hand, may be described as an expanded form of traditional trust – a form specifically adapted to the realities of the digital age. According to one definition, digital trust represents an evolution of traditional trust models, aimed at meeting the additional demands of digital business through the attainment of measurable levels of trust necessary for making risk-based decisions (Gaehtgens & Allan, 2017). Another definition emphasizes the belief that a digital platform will protect stored information and provide a secure environment for content creation and engagement (Digital, 2020). A third perspective identifies key components of digital trust, such as security, legality, trustworthiness, and user experience with advertising (Business Insider Intelligence, 2020).

As evidenced, the core of these definitions lies in the increasing proximity to and reliance on technical and technological systems. The dimensions of digital trust are either fully or partially embedded within digital contexts, which influence, among other aspects:

- **Assurance** – the ability to demonstrate that a service has been designed, developed, and is maintained in accordance with formalized and rigorous controls and compliance with established standards;
- **Accountability** – the construction and management of traceability systems that help users identify the entities with whom they interact and determine legal, operational, and technical responsibility within that context;
- **Benevolence** – understood as the willingness and motivation of providers and manufacturers to add value in response to user needs, without the expectation of immediate compensation;
- **Competence** – defined as the level of knowledge and skills that enables users to distinguish between high- and low-value digital services;
- **Integrity** – the assurance that all assets, including hardware, software, and data, are accessible or modifiable only by authorized parties;

- **Predictability** – the consistency of actions and outcomes that reduces uncertainty and mitigates risk.
- **Privacy** – understood as the assurance that unauthorized entities are prevented from accessing and using sensitive or personally significant information;
- **Reputation** – defined as the perceived value attributed by end users based on their direct observations, past experiences, and partners' expectations of future behavior;
- **Security** – the guarantee of protection and control over an organization's most valuable assets (White Paper, 2017).

The conducted studies also highlight distinguishing features of digital trust such as security, reliability, privacy, and data ethics (Marcial & Launer, 2019), as well as environment, experience, attitudes, and behaviors (Digital, 2017).

 Given the multitude of factors that generate uncertainty and risk, more specific types of digital trust have been identified (Siau & Wang, 2018):

- **Trust in virtual teams**: Trust is defined as the willingness of one party to be vulnerable to the actions of another, regardless of the ability to monitor or control that party. Trust is built upon trustee attributes such as perceived ability, benevolence, and integrity. The key attribute on the trustor's side is the propensity to trust.
- **Trust in e-commerce**: This refers to the belief that another party is benevolent, competent, honest, or predictable in a given situation, and includes the willingness to rely on that party. Perceived trustworthiness includes consistent reliance on others, a sense of safety fostered by impersonal structures (e.g., policies and guarantees), first-hand knowledge, and evaluations of advantages, disadvantages, costs, and benefits.
- **Trust in information systems**: The willingness of a party to be vulnerable to the functioning of an information system with the expectation that it will fulfill actions critical to the trustor, regardless of the ability to monitor or control it. Trustworthiness is grounded in faith in humanity,

cognitive cues, assessments of strengths and weaknesses, perceived risk and benefit, and a general sense of security.

- **Trust in automation**: Positive beliefs, attitudes, intentions, behaviors, and orientations toward automation. Its attributes include user experience, personality traits, cultural background, and beliefs about the reliability, predictability, and capabilities of the technology.

- **Trust in human–robot interaction**: The willingness of humans to accept information provided by robots, follow their suggestions, share tasks, exchange information, and offer support to the robot. Trust is influenced by the abilities and personality traits of the human, the attributes of the robot, and the nature of the tasks involved.

- **Trust in artificial intelligence**: The belief that machines are capable of mimicking human intelligence. Relevant attributes include cognitive compatibility, usability, testability, operational safety, data security, and privacy protection.

General and specific typologies of trust dimensions exhibit certain similarities in how sets of trust-related aspects are constructed and analyzed. In many cases – similar to other forms of trust – different terms are used to describe the same or highly similar characteristics.

The reviewed material and related findings reveal three main approaches to understanding trust in the digital era. The first focuses on traditional trust, although this form does not fully account for the specificity of digital interactions (Sztompka, 2007). The second approach conceptualizes digital trust entirely within a digital context, emphasizing exclusively digital business relationships built on trust (Digital, 2017). The third, more integrative approach takes into consideration both digital and pre-digital (i.e., traditional) forms of trust (Gaehtgens & Allan, 2017).

This latter approach appears the most promising, as narrower perspectives overlook the fact that digital connections extend into individuals' private lives, including areas such as learning and education (Paliszkiewicz & Koohang, 2016).

The discussion of trust dimensions highlights the conceptual challenges involved in researching digital trust and underlines the need for further in-depth scientific inquiry.

Selected Models of Organizational Digital Trust

The analyses conducted in this study demonstrate that the concept of organizational digital trust builds upon the framework of integrative organizational trust (Mayer et al., 1995), which remains dominant in the literature. Thanks to its ongoing development by subsequent scholars, the concept continues to evolve, refine its dimensions, and incorporate new contextual factors. These changes remain within the scope of the original model, as many researchers propose constructs closely aligned with ability, benevolence, and integrity. The development of an integrative model of digital trust has also been grounded in these key components of perceived trustworthiness (Kożuch, 2021a).

The foundations of trustworthiness encompass both human actors and technical or technological systems. Reliability, accountability, confidence, security, predictability, and privacy are achieved through individual or organizational competencies. These include creating an environment in which individuals can speak and act without fear of negative repercussions; managing in a predictable and intentional manner; operating with transparency; trusting colleagues, staff, and clients; giving others appropriate recognition; fulfilling agreed-upon actions; and appropriately handling sensitive or confidential information. Enhancing technological awareness is also essential in this context.

Good intentions, understood as a positive orientation toward others and perceived by the trusted party – typically an online user – are reflected in behaviors such as (Hardin, 2009; Gefen, 2002): the willingness and motivation to assist digitally connected individuals; demonstrating goodwill toward them; prioritizing client interests over personal gains; being aware of cultural differences between people, understanding other cultures, and actively engaging with and integrating cultural awareness, knowledge, and sensitivity in every digital interaction (Rice & Mathews, 2012).

Propensity to trust is also crucial, as positive orientation, selflessness, and inherited trust (passed down through social or familial systems) represent three core foundations of trust. However, as several scholars have noted, propensity to trust significantly influences the other three dimensions.

Another key element of the model is integrity, understood as adherence to sound moral and ethical principles (Colquitt et al., 2007). In general, it refers to loyalty, openness, and support (Mayer et al., 1995). This dimension is built on ethics in digital interactions – such as signaling honesty, keeping promises, offering justified evaluations, and demonstrating sincerity and fairness (Gefen, 2000).

The proposed integrated model of digital organizational trust (Figure 1) represents an attempt to combine features of both organizational trust and digital trust. The mechanism of digital organizational trust formation begins with an evaluation of the potential trustee's strengths and limitations in the context of digital interaction. When the perceived trustworthiness of the other party is assessed positively – which is more likely in cases of continued cooperation or return to the same trustee – the trustor accepts the associated risk and decides to trust. This decision marks the moment of initiating a trust-based relationship. Subsequently, trust is communicated through appropriate organizational behaviors. In the proposed model, effective communication is viewed as the result of emerging or reinforced trust.

Figure 1. Simplified Model of Digital Trust
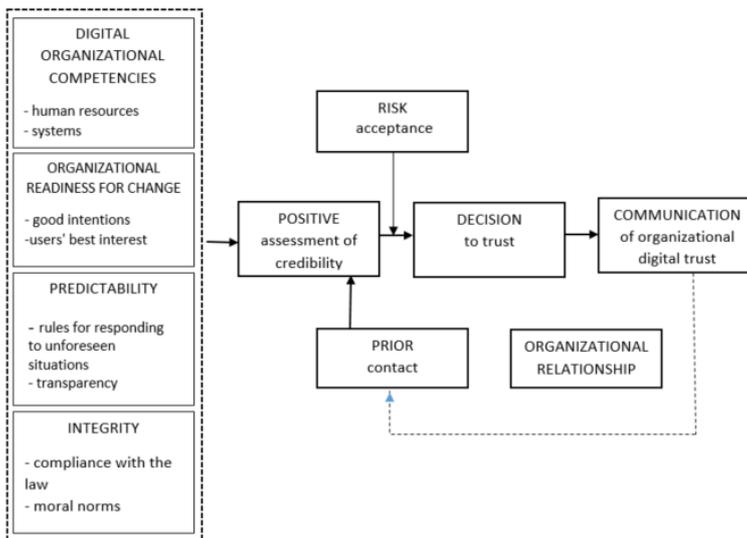
Source: based on Kożuch (2021a).

This model represents a simplified version that highlights the interdependence between trust, risk-taking, and performance outcomes. Similar to its original version (Mayer et al., 1995), the model incorporates interpersonal organizational trust.

The second presented model (Fig. 2) is the organizational digital trust model from the perspective of Actor–Network Theory, incorporating insights from the works of Latour (1996), Cressman (2009), and Ejdys (2018). This model (Figure 2) integrates the key components of organizational digital trust across three dimensions: technology, environment, and users, and is grounded in the assumptions of Actor–Network Theory (ANT). According to this theory (Latour, 1996), trust is not merely an interpersonal relation but emerges from dynamic interactions among heterogeneous actants – including humans, technologies, institutions, and social practices. Therefore, this model represents an attempt to conceptualize organizational digital trust as the outcome of dynamic interactions among three primary groups of actants. It is based on the assumptions of Actor–Network Theory (ANT), which posits that social relations – including trust – are not exclusively the domain of human actors, but are co-constructed by diverse, heterogeneous elements – both human and non-human (Latour, 1996; Cressman, 2009).

Figure 2. A Model of Organizational Digital Trust from the Perspective of Actor–Network Theory

Key Components of Organizational Digital Trust		
Technological Features	**Environment – Features**	**Users – Features**
technology usefulness	**Internal**	interpersonal trust
technology functionality	institutional trust privacy policy interdependence among employees organizational community organizational culture	general propensity to trust
perceived ease of use		trust in technology
level of security		level of satisfaction
privacy guarantee		prior experience in technology
system quality		familiarity with technology
quality of products and services	**External**	knowledge about technology
information quality	reputation of the institution/ organization in the community trust in the institution/ organization perceived privacy protection by the public perceived security protection by the public social acceptance of technology legal requirements for ensuring security and privacy	education

Source: own elaboration based on Latour (1996), Cressman (2009), and Ejdys (2018).

This model consists of three main dimensions: technology, environment, and users, described below.

1. Technology

This dimension includes technical attributes that influence trust, such as:

- the usefulness, functionality, and ease of use of technology,
- privacy guarantees and security level,
- the quality of systems, products, and services,
- and the quality of information, which is central to trust in the digital era.

In line with the ANT perspective, technologies are considered actants that not only enable action but actively co-construct trust relationships through their properties and constraints (Cressman, 2009). Technologies are active participants as carriers of trust through their usability, security, functionality, and the quality of systems and information. Their attributes can either strengthen or weaken trust relationships.

2. Environment

This component refers to the institutional and organizational context in which technologies and their users operate. Trust is shaped by:

- the internal environment of institutions (e.g., privacy policies, organizational culture),
- the organizational community and relationships among employees,
- and the external perception of the institution – how the organization and its practices related to security and privacy are socially interpreted (Ejdys, 2018).

The environment serves as a space for actor interaction in which behaviors, norms, and expectations influence the stabilization or destabilization of trust. The organizational environment provides the context for building trust – both internally (e.g., organizational culture, privacy policies, employee relations) and externally (e.g., the organization's image and reputation in the broader environment). The environment influences how technological and human actions within the organization are interpreted.

3. Users

The third dimension encompasses cognitive and social characteristics of users, such as:

- interpersonal trust,
- propensity to trust technology,

- satisfaction, experience with technology, technical knowledge, and educational background.

As Latour (1996) emphasizes, users are not passive recipients of technology but actors who shape the network through their decisions, habits, competencies, and expectations. Their willingness to trust, digital competence, experience, educational background, and level of satisfaction all affect how both the technology and the organization are perceived in terms of trustworthiness.

This model illustrates how digital trust emerges from interactions among diverse actants: technology, the environment, and the user. In the spirit of Actor–Network Theory, trust is not assigned to a single side but arises within relationships, which are strengthened (or weakened) by experience, cultural context, institutional frameworks, and technological attributes.

The model thus captures the multidimensional nature of organizational digital trust, which cannot be adequately analyzed without considering the interplay of infrastructure, human agency, and the socio-institutional environment.

The third proposed model (Fig. 3) focuses on the trustworthiness of technologies and the trustworthiness of their users. In addition, both the internal (organizational) and external environments are treated as actants. The internal organizational environment (e.g., structures, culture, policies) and the external environment (e.g., legal, social, and cultural context), which create conditions that either facilitate or constrain digital trust. The internal organizational environment exerts a direct influence on both primary actants, while the external environment influences the internal one.

Once alignment with trustworthiness criteria for both users and technologies is confirmed, a decision to trust is made, leading to the formation of an organizational relationship, expressed through human–machine collaboration. This assessment and initiation of trust-based interaction is facilitated when positive prior experience with similar or identical cooperation is present.

Figure 3. Model of Trust Between Key Actants
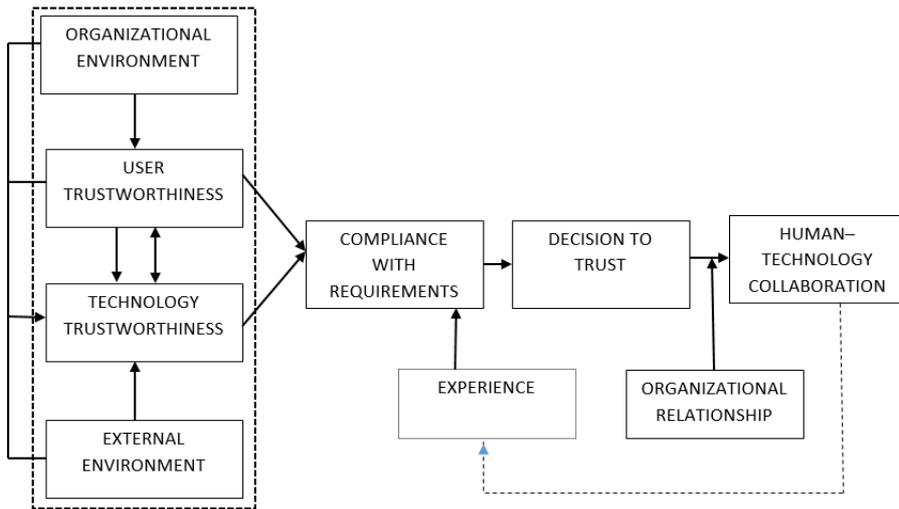
Source: based on Kożuch (2021b).

This model may serve as a framework for analyzing digital trust in organizations and designing strategies for building trust in human–technology interactions.

The proposed model of trust between actants incorporates the main stages of establishing trust-based collaboration between humans and trust in the technologies used in organizational functioning.

An effort to systematize other factors shaping digital trust was undertaken by Siau and Wang (2018). Among their findings, they observed that visualization plays an important role in building trust, which explains the growing popularity of humanoid robots. The more human-like a robot appears, the easier it is for people to form an emotional bond with it. A robotic dog is another example of visualization (a representation of AI) that people are more likely to trust, as dogs symbolize loyalty and diligence.

The current perception of artificial intelligence has largely been shaped by science fiction books and films, which often portray AI as a force that escapes human control and becomes dangerous. This framing serves as a key factor

influencing people's initial trust in artificial intelligence. Moreover, peer reviews and user opinions shared online also significantly affect the initial level of trust.

Transparency, along with explainability, is another critical factor. Trust in artificial intelligence applications requires an understanding of how they are programmed and what functions they are expected to perform under specific conditions. Therefore, transparency alone is insufficient – AI systems should also be capable of explaining and justifying their behaviors, including their decision--making processes.

Testability is equally important. It refers to the ability of users to access and try out an AI application before accepting or adopting it, which promotes a higher level of initial trust. Developing and maintaining ongoing trust in artificial intelligence requires performance to remain at an expected level. This is supported by usability and reliability: AI applications should operate in a simple and intuitive manner, without unexpected downtime or failures.

Collaboration and communication are among the most frequently cited organizational behaviors associated with trust. Trust typically precedes collaboration, while continued collaboration reinforces and deepens trust. Social bonds also contribute positively to the development of trust. For instance, a robotic dog that recognizes its owner and displays affection can be perceived as a household pet, thereby fostering emotional connection and trust.

The list of cited factors concludes with security and privacy protection. Operational security and data security exert the strongest influence on trust in technology. People tend not to trust technologies that are perceived as too risky or difficult to operate. In the digital world, the generation of vast volumes of data makes privacy a pressing concern.

Conclusions

This article has conceptualized organizational digital trust as a dynamic, multi--dimensional phenomenon shaped by interactions between users, technologies, and organizational environments. Drawing on Actor–Network Theory and classical

trust models, the study proposes that digital trust functions both as a prerequisite and as an outcome of collaboration in digitally enabled contexts.

In summary, it can be concluded that a better understanding of the ongoing changes – along with how individuals respond to everyday problem-solving, work, business operations, communication, and relationship-building – leads to the recognition that digital communication enables interactions across social media, e-commerce, digital business, as well as in public and social e-services. Understanding the digitization of trust increases readiness for change and the ability to address challenges associated with the emerging paradigms of Industry 5.0, Society 5.0, and Actor–Network Theory, as well as the evolving applications of advanced technologies, especially artificial intelligence.

The proposed models demonstrate that trust in the digital era extends beyond interpersonal relationships to include socio-technical systems, institutional frameworks, and the evolving role of artificial intelligence. Understanding how digital trust is formed and sustained is essential for organizational effectiveness, innovation, and long-term resilience.

The conducted analyses indicate that the essence of organizational digital trust is primarily shaped by the following elements:

- ethical organizational values,
- recognizing digital trust as both an organizational resource and a strategic asset,
- understanding it as both a precondition for cooperation and a result of collaboration, though on a higher level,
- acknowledging that it constitutes a relationship connecting people, as well as people and both material and abstract organizational systems,
- its positive influence on organizational effectiveness, particularly in achieving intended outcomes,
- and its role in reinforcing the capacity for collaboration, both within organizations and between organizations.

While these findings provide a meaningful conceptual foundation, it is important to acknowledge certain limitations of the current study and identify future

directions for research. One of the key limitations lies in the predominance of theoretical inquiry over empirical validation. The empirical verification of the proposed theoretical considerations remains a challenge and an important task for future scholarly inquiry.

Given the complexity of interpersonal digital trust within organizational contexts, which poses methodological challenges, further efforts should be directed toward:

- advancing the systematization of knowledge concerning the development of organizational digital trust, and
- broadening the scope of empirical research to include perspectives on internal and external types of trust, as well as exploring the interdependencies between intra-organizational and inter-organizational digital trust.

As demonstrated in this article, digital trust is deeply embedded in the relationships between people, technologies, and institutional environments; therefore, as digital infrastructures continue to evolve, our theoretical and practical approaches to fostering trustworthy and inclusive organizational systems must evolve with them.

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The Role of Mystification in Organizational Identity and Digital Narratives

ABSTRACT

Objective: This study investigates the role of mystification in contemporary organizational management, focusing on how digital tools such as deepfakes and hashtags shape organizational identities and public perceptions. It aims to understand how organizations utilize mystification to enhance their image, foster trust, and shape public narratives in a digitally driven world.

Methodology: The research adopts a qualitative approach, analyzing case studies of organizations that have utilized deepfake technology and hashtag-driven campaigns to craft their identities. Examples include corporate brand campaigns leveraging social media trends such as #Sustainability and deepfake videos to reshape public understanding of leadership transitions. The study examines public communications, marketing materials, and media coverage to assess mystification's effectiveness and ethical considerations.

Findings: The study finds that mystification through digital tools operates on two primary levels: reinforcing the desired narrative and maintaining an aura of mystery that conceals organizational complexities. Hashtags are particularly effective in constructing and consolidating organizational identities by aligning with broader societal movements. At the same time, deepfakes, though controversial, offer a powerful tool for presenting idealized yet potentially misleading corporate images. The study highlights the risks of trust erosion when digital mystification practices are exposed as false or manipulative.

Value: This research contributes to understanding the strategic use of mystification in organizational management. It provides insights into how organizations can effectively craft and manage their identities through digital tools while navigating the potential ethical pitfalls. The study underscores the importance of transparency and authenticity in maintaining organizational credibility.

Recommendations: Organizations are advised to use mystification strategically, ensuring that digital tools like deepfakes and hashtags align with core organizational values and contribute to long-term trust-building. Maintaining transparency and engaging stakeholders proactively to mitigate the risks of manipulating public perceptions is crucial. Clear ethical guidelines should be established to govern the use of digital mystification to avoid damaging reputational risks.

Key words: mystification, demystification, organizational identity, deepfakes, hashtags, hoaxes

JEL codes: M12, M14, D83

Introduction

In an age dominated by information overload, digital manipulation, and increasingly complex communication tools, the process of mystification within management and organizational practices is evolving subtly and overtly. One of the most intriguing shifts in how organizations craft their identities and influence perceptions is through the use of digital and social media platforms, particularly hashtags and the phenomenon of deepfakes. These technological innovations are not just reshaping the landscape of marketing and management; they are altering how organizational identities are constructed and perceived in the public eye.

Mystification, as a concept in management, refers to the process by which leaders or organizations are imbued with an aura of mystique, often to preserve power, protect uncertain or ambiguous processes, or elevate the status of specific individuals or groups within the organization. This concept has roots in organizational theory, particularly the work of scholars like Young et al. (2011), who argue that the mystique surrounding leaders and organizational practices can empower and obscure an institution's actual workings. As organizations continue to harness the power of digital technologies, the ability to either mystify

or demystify their practices becomes a strategic tool in shaping perceptions, expectations, and public narratives.

This paper examines the role of mystification in contemporary management practices, with a primary focus on the impact of digital tools, including deepfakes and hashtags. The rise of deepfake technology has enabled the creation of hyper-realistic videos and audio recordings that distort the truth, thereby creating new, often deceptive narratives. Similarly, hashtags – once a simple method for categorizing content on social media – have evolved into powerful symbols capable of mobilizing social movements, shaping political discourse, and crafting corporate identities.

The first section of the paper examines how mystification has historically functioned within management and marketing. We discuss the use of language, ambiguity, and symbolism to conceal the true nature of managerial practices and decisions. Additionally, we explore the implications of this mystification for organizational learning and power dynamics, drawing on critical perspectives that highlight the potential drawbacks of such practices. While mystification can be used to maintain the status quo and protect institutional power, it can also foster creativity and empowerment, particularly when the mystical qualities of leadership are tied to innovation and visionary thinking.

The second section explores the intersection of mystification and cultural phenomena, focusing on the impact of deepfakes and hashtags. Deepfakes, a technology that allows the creation of highly convincing fake media content, have raised new ethical, political, and social questions about the boundaries between reality and fiction. In organizational identity, deepfakes offer a powerful tool for manipulating perceptions, whether to build trust or undermine competitors. We examine how organizations can potentially use deepfake technology to craft compelling, albeit deceptive, narratives that align with desired corporate identities or public images.

Finally, we focus on hashtags, which have become ubiquitous in contemporary digital communication. When used strategically, these simple symbols can create or reinforce organizational identities by aligning companies with broader cultural movements, values, or causes. Hashtags such as #MeToo, #BlackLivesMatter, or #Sustainability have evolved beyond their original purpose and become powerful

vehicles for social and political change. In the corporate world, companies have begun leveraging hashtags to create a specific image of themselves – whether they are genuinely committed to sustainability, diversity, and social justice or merely using these issues to enhance their reputation. This use of hashtags for identity construction is a form of mystification, where organizations can present themselves in a way that may not always reflect the reality of their internal practices.

The paper explores the dynamic relationship between mystification, technology, and organizational identity in the digital era through these lenses. By understanding how mystification works in the context of deepfakes and hashtags, we can better grasp the complexities of modern management practices and how organizational identity is crafted, manipulated, and performed in an increasingly virtual and interconnected world. This exploration is not just academic; it speaks to real-world challenges that organizations face as they navigate the murky waters of digital transformation, public relations, and identity construction in the age of misinformation.

Mystification and Its Role in Management: Navigating the Terrain of Narrative Construction

Mystification in management involves attributing mysterious or enigmatic qualities to successful leaders and organizational processes. This can be observed in how managers may rely on intuition and inner knowledge to transform workplaces (Pearlstein, 2008) or perceive themselves as possessing mystical talents, such as charisma and foresight (Young et al., 2011). Such perceptions often create uncertainty and a sense of elusiveness when trying to understand organizational learning. This is partly due to the diversity of concepts involved and the tendency to attribute human-like qualities to management practices (Friedman et al., 2005). Mystification can also serve as a rhetorical tool used by those in power to justify their elevated status, often masking their true intentions with ambiguous yet prestigious language (Woodward, 1975). While some believe that

mystical management can encourage creativity and empowerment (Pearlstein, 2008), others advocate for demystification to enhance clarity and effectiveness in organizational learning (Friedman et al., 2005). Furthermore, the mystique surrounding managers can shape expectations about success and even create a desire for physical closeness to these leaders (Young et al., 2011).

Mystification in management refers to obscuring or complicating organizational concepts and practices. It can be strategically used to maintain the societal status quo and reinforce existing organizational power structures (Watson, 2004). In organizational learning, mystification arises from the diversity of concepts, the tendency to anthropomorphize, and the reification of terminology (Ashforth et al., 2008). One form of mystification, managerial pseudo jargon, serves multiple purposes, such as reinforcing in-group/out-group dynamics and boosting managers' confidence in uncertain situations (Watson, 2004). Linguistic analysis at various levels of language can help identify mystification (Triki & Taman, 1994). Often, mystification presents management as an objective, technical process that obscures the political and value-laden aspects of managerial work (Watson, 2004). Addressing and understanding mystification is essential for clarifying organizational concepts and improving management practices (Friedman et al., 2005).

Mystification in marketing involves creating confusion or distorting reality in ways that influence consumer behavior. This often includes techniques that obscure people's ability to recognize their needs and desires (Alvesson, 1994). In this sense, marketing as a form of mystification can be seen as a modern manifestation of sophism, used to manipulate perceptions and promote inequality by shaping how social issues are perceived (Dholakia, 2016). The impact of mystification is evident across many marketing practices, from how marginalized groups are represented to advertisements that provide the consumers with a false sense of security in an increasingly uncertain world (Dholakia, 2016). By scrutinizing language, it becomes possible to uncover the underlying messages and intentions of such marketing strategies, revealing their effects on the audience (Triki & Taman, 1994). Despite the widespread use of mystification, efforts have been to demystify marketing practices, shifting the focus toward delivering genuine value and customer satisfaction (McKay, 1972). This ongoing tension between mystification and transparency continues to shape the marketing landscape.

The following table outlines critical directions for future research to explore the various dimensions of mystification in management, emphasizing its impact on organizational identity, leadership practices, and cross-cultural dynamics in the digital era.

Table 1. Directions for exploring mystification in management

Direction	Description	Examples	Manifestations in practice
Mystification as an organizational strategy	Examining how organizations use mystification as a deliberate strategy to shape perceptions, manage internal power dynamics, and create ambiguity around decision--making.	Deepfake technology can be used in corporate communications to create compelling narratives around leadership changes.	Companies introduce complex internal rituals or exclusive jargon to create a sense of elitism among employees, reinforcing organizational loyalty while obscuring actual power structures.
Mystification and cross--cultural management	Analyzing how mystification is perceived and employed in cross--cultural contexts and how it impacts global management practices.	The use of hashtags like #Diversity or #Innovation in multinational corporations with diverse employee bases.	Multinational companies launch global "cultural exchange" programs that, in practice, serve more as PR initiatives rather than actual intercultural development.
Digital mystification and organizational identity	Investigating how digital tools like deepfakes and hashtags contribute to constructing and maintaining organizational identity in the digital age.	Social media campaigns promoting a brand's commitment to corporate social responsibility (CSR) using deepfake images or strategically crafted hashtags.	Companies use AI-generated customer reviews and employee testimonials to enhance their credibility while masking real workplace challenges.
The role of mystification in crisis management	Exploring how mystification can be used in crises to manage perceptions, communicate effectively, and maintain organizational stability.	Deepfake videos are used to portray an organization's response to an environmental crisis like a factory spill.	Firms issue highly produced crisis--response videos featuring emotionally charged narratives to shift attention away from regulatory failings.

Direction	Description	Examples	Manifestations in practice
Mystification and organizational learning	Understanding how mystification can impact organizational learning and interpreting complex processes and decisions.	Using ambiguous language and visual metaphors (e.g., deepfake art) to teach employees about organizational values and strategic goals.	Leadership training programs introduce complex terminology and "exclusive" methods that appear innovative but do not introduce real learning improvements.
Mystification and power dynamics in organizations	Analyzing how mystification serves to reinforce power imbalances within organizations and impact managerial decisions.	High-profile managers who use mystification to maintain authority and influence over organizational policies and direction.	CEOs create an aura of inaccessibility by surrounding themselves with layers of gatekeepers and symbolic decision--making processes.
The role of mystification in employee engagement and motivation	Investigating how mystification can engage employees by creating compelling narratives that align with their professional identity and motivations.	Deepfake imagery can create inspirational figures or internal heroes within the organization.	Internal employee success stories are selectively highlighted to create an illusion of universal upward mobility, even in rigid corporate structures.
Mystification in leadership and charismatic authority	Investigating how leaders create an aura of mystique to enhance their authority, manage uncertainty, and maintain their position.	Corporate storytelling mythologizes founders to sustain employee loyalty.	Public appearances of executives are carefully curated, with scripted interactions designed to reinforce their charismatic presence.

Source: own elaboration.

The table highlights diverse aspects of mystification in management, ranging from its strategic use in organizational power dynamics to its implications for cross-cultural management. It emphasizes how digital tools, such as deepfakes and hashtags, shape organizational narratives and influence public perception. Understanding these dimensions can help managers navigate the complexities of identity construction and crisis management in an increasingly digital and interconnected world.

In management, the process of demystification is crucial in making complex concepts and practices more accessible and practical; rather than relying solely on classical and technological approaches, knowledge management benefits from recognizing the influence of organizational politics and power dynamics (Haynes, 2005). This process also challenges traditional notions of talent, which are often framed as simply possessing a greater degree of certain qualities, advocating instead for a more sophisticated and context-dependent under-standing (Adamsen, 2016). In Chinese management, demystification serves to clarify how business practices are adapting to ongoing economic shifts (Warner & Rowley, 2013). More broadly, it highlights the multifaceted nature of knowledge management, which extends beyond simple information handling to encompass processes of knowledge creation, dissemination, and application across diverse disciplines, such as human resource management and informa-tion systems (Pillania, 2009). Ensuring that management theories and frame-works are not oversimplified is crucial for both researchers and practitioners who aim to fully leverage their potential.

A Cultural Approach to Mystification: The Impact of Deepfake News and Hashtags on the Culture of Influence

The term "mystification" originates from the Greek word "mystikós", meaning initiation. The consequences of communication mystification can be observed, particularly in the realm of art. They can be painful, ridiculing social relation-ships, beliefs, or tribes we divide. These hoaxes reveal a distorted mirror of what commonly seems normal, ordinary, or colloquial. Artists who employ a hoax aim to mislead and challenge stereotypical thinking. The game of appearances is used to break up the existing world and alter the thinking of those involved in mystifying activities. A mystificator can be the author of a performance or

happening. In Poland, the work of Zuzanna Janin, who faked her funeral to present a personal reflection on passing, absence, and death (artmmuseum.pl, 2024) was considered an iconic hoax.

The documentary "The Czech Dream" (Klusák & Remunda, 2004) refers to a hoax that combines art, social commentary, and marketing experiments. The hoax outlined in the film involved creating false information about a fantastic new discount store in the press, including newspapers and television. The grand opening day has long been promoted as a significant consumer event. Instead of going to the dream shopping center, the recorded crowd of customers goes to an empty field. The advertising campaign of the eponymous supermarket is a hoax because the store does not exist. Publicists, marketers, and scientific circles widely commented on this effect contained in the document.

Stanisław Dróżdż, an artist working within concrete poetry, visualized it and focused on its expressions. He used to say, "Sentences lie, words don't" (Dwutygodnik, 2021). The author's installation, entitled "Between" (Polish: "między"), refers to this word, which does not appear in the usual notation but is constantly visible against the background of his work. This work also metaphysically reflects contemporary organizations that exist precisely between words, meanings, converses, and inexhaustible combinations of ideas.

Figure 1. Stanisław Dróżdż's installation "Between", presented at the MOCAK Gallery in Poland

Source: MOCAK Gallery (MOCAK, 2021).

The avant-garde of the 70s in Poland resulted in similar artists who were clever in capturing social contexts – leaning toward inner asceticism but also conceptualization, a reservoir of sophisticated intellectual conversation with the help of unconventional art. Perhaps it flourished during the times of the Polish People's Republic, which was stifling social and worldview freedom and sparking an artistic longing for the power of unfettered expression. The consumerist breeze from America was another force of influence, shaping dreams of what is abundant and materialistically beautiful in the eyes of Generation X (Przastek, 2017). Perhaps, then, in this world, Dróżdż was correct to attribute truth to individual words. In post-postmodern times, this point of view is no longer so obvious. Visual culture eliminates sentences and introduces words. Images convey multiple meanings; individual words carry their meanings and comments, spreading rapidly in virtual reality. Therefore, they allow for something that Dróżdż did not foresee – building communities based on specific associations. These communities do not fit into one particular physical disposition; they can extend to many circles, encompassing national, local, and age contexts, or differentiate themselves by opposing them. They have a libertarian aspect because they do not contain the barriers we recognize in the physical or real world, assuming that virtuality is a category of unreality. Philosophers settle this dispute. In J. Baudrillard's most famous work, "Simulacra and Simulations", the author posits that reality does not exist because the distinction between actual reality and what is imaginable, unreal, and virtual becomes blurred (Baudrillard, 2005). Therefore, metacommunication in the organizational environment of modern technologies has an even more comprehensive range of dilemmas and requires reflexivity at the level of many socio-cultural discourses.

The Power of Hashtags: A Cultural and Commercial Analysis of Manipulation in the Age of Social Movements

A modern message containing multiple meanings and communication possibilities is a hashtag, an Internet phrase preceded by the "#" sign. Efficient reading of it requires awareness and knowledge about a given matter and the significance of the information contained in it. This message is a kind of a slogan that can reach many recipients who understand its context thanks to the power of meaning. Hashtags have become a vital tool in communication on social media platforms, allowing organizations to reach various audiences. They can create an organizational identity by creating a shared narrative in which the organization becomes part of a broader movement, such as 'sustainability', 'innovation', or 'diversity'. Hashtags can, therefore, have a mystifying function, creating an image of the organization that does not necessarily reflect reality but is consistent with what the organization wants to communicate externally (Keller, 2013).

An example is a hashtag campaign promoting the idea of an employee-friendly organization that emphasizes values such as work flexibility, team integration, and equal opportunities when the organization is struggling with severe problems in these areas. Such activities aim to create a positive image of the organization, which can affect its perceived identity in the eyes of potential employees and customers.

A hashtag is used to group text and identify some abstract concept, mobilize users on a matter, or express views within a virtual community (Przyborowicz, 2014, p. 92). One word preceded by the # sign in the virtual world can refer to numerous contexts that convey a strong message, such as a view, judgment, manifesto, or stance on an issue. They can also convey trivial content and mundane issues, or communicate mood, state of mind, or well-being. Some messages have achieved global status in the virtual space, referring to essential phenomena. An example is the hashtag #MeToo, which has become an Internet phenomenon and a civic movement that draws attention to the problem of sexual harassment. The action comes from Tarana Burke, who inspired this movement

to help women and girls who have experienced sexual violence (Ohlheiser, 2017). However, the power of the expression was so strong that it exploded after Hollywood's sex crimes were exposed. The power of the #MeToo message, its association, and the impact of the wording contained in the two words have become the emblem of Internet culture.

In the online world, the word can have great value, as exemplified by the conclusion contained in the biographical film directed by John Lee Hancock, based on the script by Robert Siegel, "Mc Imperium" (Siegel, 2017). Viewers follow the main character's fate as they seek an answer to why he unconditionally believed in the success of the McDonald's brand. The answer is provided in the film and contained in the word McDonald's. Fast food visionary Ray Kroc said it has become the way to success. When spoken, the familiarity of its sound and its American overtone contains all the brand's magic. Mc Imperium, however, can be considered a world of appearances. Fast food is not an emblem of rich American culture, nor is it a symbol of familiarity, which is more closely associated with a traditional and long-standing family feast rather than the immediate consumption of a fast meal. It is worth recalling a term that directly refers to deliberate pretense, misrepresentation, and social play, namely – a hoax. "Mc Imperium" appears to be a type of hoax in this respect.

Shaping Organizational Identity through Perception: The Influence of Deepfakes, Hashtags, and Hoaxes

Organizational identity is a set of beliefs that an organization holds about itself, shaping the way its members perceive and communicate it to the outside world. Many theories explain the mechanisms of building organizational identity, including narrative theories that emphasize the role of stories in shaping the identity of an organization (Brown, 2015). Today's organizations live in an age of digitalization, where communication tools such as social media, online video, and

artificial intelligence technologies significantly impact creating and maintaining an organization's image. In this context, phenomena such as deepfakes, hashtags, or hoaxes are becoming increasingly important in shaping organizational identity and organizational culture.

The phenomenon of mystification, understood as the creation of an artificial image of reality to manipulate the recipient's perception, is an integral part of this process. Mystification in organizations can manifest itself in creating controlled narratives that aim to create a specific image of the organization in the eyes of its employees and environment. This can be the case, for example, with a branding strategy in which an organization portrays itself in an idealized way, hiding real problems or exaggerating its achievements (Friedman et al., 2005). An essential tool of deception is storytelling, which allows organizations to create emotional connections with employees and customers by presenting stories that are often a simplified version of reality (Hatch & Schultz, 2002).

Deepfake is a technology that enables the creation of fake video content, where people, events, or situations are portrayed in a manner that does not accurately reflect reality. Although it was initially used mainly in the context of entertainment, in recent years these technologies have also become used in marketing and public relations to manipulate the image of an organization. An example is the use of deepfakes in advertising campaigns that present false images of an organization's successes or idealize the behavior of its leaders. While this can effectively capture attention in the short term, it can lead to a loss of trust in the long term when recipients discover that what was being portrayed was a hoax (Oza et al., 2024).

In the context of an organization, deepfakes can also affect how an organization is perceived by its employees and customers. Employees may feel cheated when they discover that the messages they have been presented with do not correspond to reality. Organizational leaders must understand the potential risks of using such technologies and skillfully manage the organization's image, ensuring transparency and consistency with the values they promote.

A hoax, or a deliberate misinformation, can severely affect an organization's image. In today's world, where information spreads quickly, hoaxes can influence public opinion and manipulate an organization's perceived identity. It is essential

to understand how organizations react to false information about them. Often, such organizations try to debunk disinformation, but an improperly managed response can further exacerbate the image crisis (Woodward, 1975).

Organizations must be prepared for crisis management in the event of hoaxes and to prevent the spread of false information that can damage the organization's reputation and the trust of its stakeholders. Proper communication, transparency and quick response are crucial to minimizing the damage resulting from the spread of hoaxes. Phenomena such as deepfakes, hashtags, and hoaxes are modern tools of mystification that significantly impact the perceived organizational identity. They can both help build a positive image of the organization but also pose a threat if they are misused or exposed as false. Organizations must be transparent, use technology responsibly, and manage crises to ensure consistency between what they communicate and represent.

Discussion and Conclusion

The management of perception and identity is crucial for leaders, managers, and organizations in today's highly competitive and interconnected environment. As organizations strive to establish their public image and gain a competitive edge, the role of perception management becomes more pronounced. Leaders, in particular, must understand how their actions, words, and decisions shape not only their image but also the identity of the entire organization. Organizational identity is closely linked to internal culture and external perceptions, making it a vital area of focus for strategic management.

Effective perception management necessitates that the leader be strategic in their communication and decision-making. Research has shown that an organization's perception is influenced by various factors, such as leadership behavior, organizational values, and the authenticity of its brand (Hatch & Schultz, 2002). Leaders must create an image that resonates with both internal stakeholders (employees and shareholders) and external audiences (consumers and

the public). This requires a careful balance of transparency, authenticity, and strategic messaging.

Additionally, managers must navigate the complexities of organizational identity, which can often be fluid and susceptible to external pressures. A study by Whetten and Mackey (2002) emphasizes that organizational identity is a dynamic construct that can evolve in response to market conditions, cultural trends, and leadership decisions. This dynamic nature of organizational identity means that leaders must be flexible, adapting their strategies to reflect changes while maintaining a consistent and authentic brand message.

Understanding the psychological aspects of identity is equally important for leaders and managers. According to social identity theory (Tajfel & Turner, 1986), individuals and organizations derive a sense of belonging and self-worth from the groups with which they identify. As such, leaders must foster a sense of belonging and pride among employees, which can directly affect organizational performance and loyalty (He & Brown, 2013). Leaders should create environments where employees feel valued and integral to the organization's identity, which, in turn, helps reinforce the desired external perception.

However, while leaders can manipulate and craft their identity, they must do so responsibly. "Mystification" – a concept associated with creating a deliberately mysterious or enigmatic image – can be a double-edged sword. On one hand, it can build intrigue and differentiate an organization in a crowded marketplace. On the other hand, it can backfire if perceived as inauthentic or deceptive (Maitlis, 2005). Leaders must ensure that their strategies for managing organizational identity do not undermine trust or alienate stakeholders.

In conclusion, managing perception and identity is a complex and ongoing process that requires careful consideration and strategic leadership. This involves crafting an authentic and transparent image for leaders and managers while maintaining flexibility to adapt to changing circumstances. Organizations that manage their perception and identity tend to attract loyal employees, build strong reputations, and maintain a competitive advantage. However, leaders must exercise caution when employing tactics such as mystification, ensuring they are used in a manner that aligns with ethical practices and organizational

values. The responsible use of mystification in branding strategies can enhance organizational visibility and differentiation in the market. However, this tactic must not compromise the organization's core values. Leaders and managers must adopt an ethical approach to perception management, balancing innovation with authenticity, and ensuring that their actions reflect a genuine commitment to organizational success.

Practice recommendations emphasize the importance of strategic communication, authenticity, and adaptability in managing organizational identity and perception. First and foremost, leaders should prioritize clear, consistent, and transparent communication to build and maintain trust with internal and external stakeholders. In an era where information is readily accessible and rapidly disseminated, fostering trust through transparency becomes crucial in shaping a credible and authentic image. At the same time, organizations must strike a delicate balance between mystification and authenticity. While mystification can be a powerful tool for creating intrigue and capturing attention, leaders must avoid crossing the line into deception. This requires continuous reflection on the ethical implications of such strategies and a commitment to ensuring that any mystification employed does not undermine the organization's integrity or long-term credibility.

Another key recommendation is to invest in a strong organizational culture. A positive internal culture that fosters employees' sense of belonging and pride directly influences the organization's external image. Leaders must focus on cultivating a work environment where employees feel valued and connected to the organization's values and mission, as this will be reflected in the organization's public persona and reputation.

Lastly, leaders must adapt their approach, remaining agile in response to market demands, employee expectations, and broader cultural shifts. Organizational strategies should be continually evaluated and adjusted to remain relevant in a rapidly changing environment. By staying attuned to these evolving dynamics, leaders can effectively navigate the complexities of perception and identity management, ensuring sustainable, positive outcomes for the organization and its stakeholders.

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Between Generations. Organizational Culture in Polish Primary Schools in the Context of Generational Diversity Management – A Case Study

ABSTRACT

Objective: To explore how generational diversity influences the organizational culture of Polish primary schools.

Methodology: A qualitative case study based on semi-structured interviews with six educators representing four generational cohorts.

Findings: The study demonstrates that generational affiliation significantly shapes how teachers perceive and co-construct a school's organizational culture, resulting in distinct value systems, work styles, and expectations regarding leadership and change. These differences manifest as "invisible boundaries" and generational tensions within teaching teams, particularly in the absence of formal mechanisms for intergenerational integration. However, when generational diversity is managed effectively – through intergenerational mentoring and inclusive leadership, for example – these differences can be transformed into a source of innovation and strengthened school community.

Value Added: The study reveals how generational differences can be managed to support school development and organizational learning.

Recommendations: To effectively address generational diversity in Polish primary schools, it is crucial to implement strategies fostering dialogue and collaboration across age groups. School leaders should develop intergenerational mentoring programs where experienced educators share institutional knowledge while younger staff contribute digital skills and innovative pedagogies. Training in generational intelligence and diversity management for principals will strengthen their capacity to mediate between varying work styles and expectations. Institutions should establish transparent procedures for task assignment, promotions, and participation in innovation projects to avoid perceptions of favoritism. Moreover, integrating participatory leadership practices – such as strategic councils involving representatives from all generations – can enhance trust and engagement. Policymakers are encouraged to design systemic support tools for onboarding

Generation Z teachers and sustaining Millennial engagement. Finally, fostering a culture of open communication and mutual respect will transform generational differences from a source of tension into a driver of organizational learning and school development.

Key words: generational diversity, organizational culture, education management, intergenerational cooperation, Polish primary schools

JEL codes: I21, M12, J24

Introduction

The dynamic transformations occurring in Polish education – including structural reforms, growing societal expectations, and increasing generational diversity among teaching staff – highlight the need to re-examine how organizational culture develops within primary schools. Amid evolving demographic and professional realities, schools are not only educational institutions but also workplaces where different generations of teachers, shaped by distinct values, experiences, and expectations, must collaborate under shared goals.

This article explores the complex relationship between organizational culture and generational diversity in Polish primary schools. Drawing from a socio--constructivist perspective, it assumes that professional meaning and institutional identity are co-created through everyday interactions shaped by personal worldviews, intergenerational influences, and institutional narratives. Organizational culture, in this context, is understood not only as a system of formal values, norms, and routines but also as a living social fabric shaped by informal dynamics, relational practices, and generational negotiations.

The main aim of the study is to investigate how generational diversity manifests in everyday school practices, how it influences organizational climate and professional cooperation, and what types of tensions or synergies arise when different generational cohorts work together. To address these questions, a qualitative

case study approach was employed. Data were collected through semi-structured interviews with teachers representing four generational cohorts (Baby Boomers, Generation X, Millennials, and Generation Z), encompassing various professional roles. The thematic analysis identified dominant cultural patterns, mechanisms of intergenerational transmission and conflict, and the role of leadership in facilitating or inhibiting mutual understanding.

Findings indicate that intergenerational diversity within schools is both a potential asset and a latent challenge. Differences in values, communication styles, and work attitudes influence the dynamics of collaboration, sometimes reinforcing informal hierarchies or undermining cohesion. Despite this, many teachers recognize the benefits of multigenerational cooperation, particularly when school leadership fosters a culture of openness, shared reflection, and inclusive dialogue. The data also point to a lack of structured onboarding and mentoring systems for younger educators, which often exacerbates generational distance and limits opportunities for knowledge exchange.

This article contributes to the growing body of literature on educational leadership and organizational culture by highlighting the underexplored link between generational diversity and institutional functioning in schools. It offers practical recommendations for school leaders and policymakers seeking to cultivate inclusive, resilient school cultures that draw on the strengths of all generational groups. In doing so, it positions generational diversity not as a problem to be managed but as a resource to be activated for collective growth and organizational learning.

Organizational Culture – Theoretical Framework

The concept of organizational culture has long been regarded as a cornerstone of management theory. In E. Schein's (2010) classic perspective, organizational culture is defined as a set of fundamental assumptions developed by a group as it learns to cope with problems of external adaptation and internal integration.

These assumptions operate on multiple levels: at the visible level of artifacts (observable structures and behaviors) and at the invisible level of norms and values, which reflect the deeply rooted beliefs of organizational members. Cameron and Quinn (2006) proposed the Competing Values Framework, identifying four types of organizational culture: clan (focused on relationships and commitment), adhocracy (innovative and flexible), market (results-oriented), and hierarchy (formal and procedure-oriented). From the perspective of educational institutions, the dominant cultural model is typically hierarchical, often complemented by elements of a clan culture – especially within teaching teams characterized by strong interpersonal bonds. A crucial aspect of organizational culture is its informal dimension, often referred to as the "shadow culture", which manifests in hidden communication codes, unwritten rules, and institutional rituals (Zbiegień-Maciąg, 2005). In schools, this can be observed in the way meetings are conducted, the influence of "informal leaders", and mechanisms that may marginalize individuals who introduce new approaches. This study adopts a broad understanding of organizational culture, encompassing both formal elements (such as leadership styles and communication structures) and relational, affective, and generational aspects. This perspective enables a more comprehensive grasp of the phenomena occurring within school teams, where multiple generations with differing professional and social experiences must develop a shared code of operation.

Organizational Culture in Polish Educational Institutions – A Definition Review

In Polish educational literature, school organizational culture is described as a multidimensional construct that shapes institutional functioning, social relationships, and organizational climate. Dobrzyniak (2015) emphasizes that the organizational culture of an educational institution provides a framework for the entire teaching and educational process, influencing both teacher–teacher and teacher–student interactions. The author underscores that this culture functions as a specific "code of organizational meanings", expressed through shared values, norms, operational standards, and the overall institutional atmosphere. Kinal (2023) highlights

the growing strategic importance of organizational culture in public schools. According to this view, culture is no longer merely a set of static values and norms but serves as a tool for guiding long-term institutional development. The school principal – viewed as an educational leader – is a crucialparticipant, with their leadership style directly influencing the preferred type of organizational culture. Effective culture management, Kinal argues, requires a shift from an operational model that responds only to immediate needs to a strategic model grounded in long-term planning, reflexivity, and the deliberate shaping of institutional identity. Lazar-Siekierka (2009) conceptualizes school organizational culture as a dynamic, living system subject to transformation by both external environmental influences and the institution's internal goals. According to this author, culture permeates all levels of school functioning – from interpersonal relationships and manage-ment styles to the implementation of educational objectives. She asserts that a high-quality organizational culture is based on the conscious coexistence of individual and institutional values and supports the creative professional devel-opment of teachers. Within the Polish context, there is an increasing emphasis on integrating both axiological (values-based) and operational approaches to school culture. Organizational culture is understood not merely as a collection of artifacts or procedures, but as a dynamic network of meanings that affects everyday decision-making and the overall working atmosphere (Dobrzyniak, 2015; Kinal, 2023).

International Perspective – Models of School Organizational Culture

Internationally, the organizational culture of educational institutions is con-ceptualized in a similar manner to Poland's, though with greater emphasis on socio-cultural context and the role of transformational leadership. Schein (2010) identifies three levels of organizational culture – artifacts, espoused values, and underlying assumptions – a framework widely utilized in studies of schools in Anglophone countries. According to this approach, a school's effectiveness is linked to the extent to which members of the school community internalize institutional values and reflect the school's mission in daily practices. Accord-ing to Stolp and Smith (1995), school organizational culture is founded on the

transmission of shared meaning patterns – norms, traditions, myths, and symbols – that are co-created by all members of the school community rather than imposed from the top down. This view underscores the symbolic dimension of leadership and the importance of institutional rituals in shaping a cohesive culture. In the United Kingdom and Scandinavian countries, there is increasing interest in cultural models grounded in shared responsibility, reflexivity, and inclusivity. Handy (1991) distinguishes between role, person, task, and power cultures, with the "person" (relationship-focused) and "task" (collaborative and innovation-oriented) types being most favored in education. Cameron and Quinn (2006) similarly argue that clan and adhocracy cultures foster creativity and broad participation in schools characterized by a high degree of teacher and student self-governance – an approach exemplified by Finnish schools. Importantly, the international discourse now emphasizes the necessity of managing both cultural and generational diversity within schools as a foundational pillar of modern organizational culture. Schools in Canada and Australia, for example, promote an open model based on intercultural and intergenerational collaboration, treating a positive organizational culture as an element of the institution's social responsibility (Kinal, 2023).

Teacher Generations – A Sociological and Professional Profile

Baby Boomers (born ~1946–1964). The Baby Boomer generation, shaped by the post-war reconstruction and a period of socio-political stabilization, is associated with values such as loyalty, commitment, and a strong sense of duty. Raised in hierarchically structured societies, they tend to value discipline, respect for authority, and stable professional relationships. In their professional lives, Baby Boomers often demonstrate high organizational identification, with job stability and procedural predictability serving as primary motivators. They generally prefer to adhere to established rules and procedures rather than pursue innovation, and their aversion to risk is balanced by a pronounced sense of responsibility and loyalty. As teachers, Baby Boomers are often seen as custodians of educational tradition. They frequently serve as "institutional mentors", passing on knowledge and cultural norms to younger colleagues. Their teaching style is predominantly

linear, teacher-centered, and authority-based. Although they may be open to dialogue, many in this cohort struggle to adapt to rapid technological change, which can hinder effective communication with younger generations. In Scandinavian and Anglophone countries, Baby Boomer educators also exhibit a conservative, centralized style, but they tend to display greater adaptability thanks to system-wide professional development programs. In Poland, by contrast, the digital skills gap among this cohort has remained largely unaddressed, which further deepens the generational divide and isolation of older teachers. Generation X (born ~1965–1980). Generation X, shaped by the socio-economic transitions and uncertainties of the late 20th century, is characterized by pragmatism, individualism, and high adaptability. While generally loyal to their institutions, members of this cohort also seek greater autonomy in decision-making. They tend to demonstrate strong independence, an ability to juggle multiple professional roles, and resilience to organizational stress. Unlike the Baby Boomers, Generation X educators value decentralized and flexible management structures, although they can function well within traditional hierarchical systems when necessary. In schools, Generation X teachers often occupy leadership positions (e.g., as principals or vice-principals), making them key actors in shaping the school's organizational culture. They are typically willing to compromise between tradition and innovation, acting as "bridges" between older and younger staff. Gen X educators generally handle modern digital tools effectively, though their enthusiasm for sweeping systemic reforms may be moderate. In many Western countries, Generation X has a similar intermediary role in middle management and has demonstrated an aptitude for leading organizational change. In Poland, however, their efforts are often burdened by bureaucratic constraints, which limits their creativity and operational flexibility. Millennials (Generation Y, born ~1981–1996). Millennials came of age during an era of rapid globalization, digitalization, and the rise of the information society. They are typically marked by a high level of self-awareness, a strong focus on personal development, and a desire for immediate feedback. Their relationship with work is often viewed as transactional – they expect a sense of purpose, flexibility, and a healthy work-life balance in return for their commitment. Millennials tend to favor flat organizational structures, a culture of open dialogue, and shared decision-making in the workplace. They value authentic

leadership, openness to change, and ample opportunities to develop and apply digital competencies. Notably, their career mobility is higher than that of previous generations, reflecting a willingness to change jobs for better alignment with their values or career goals. In Polish schools, Millennials have begun to introduce new technologies and project-based learning methods, and they place a strong emphasis on increasing student agency in the classroom. However, they often encounter both systemic and generational resistance. Their working style is sometimes perceived by older colleagues as overly "unsystematic" or lacking in rigor. Millennials generally expect open dialogue with school leadership and a receptive attitude toward innovation. When these expectations are unmet – due to rigid institutional structures or a top-down management style – it often results in professional frustration for this cohort. In countries such as Finland and the Netherlands, Millennials now form the core of many innovative school teams. Their developmental needs and desire for professional autonomy are recognized and supported through formal institutional policies (e.g., mentorship programs, collaborative planning time). In Poland, by contrast, the potential contributions of Millennial teachers remain underutilized, largely due to the absence of a strategic approach to human capital management in the education sector. Generation Z (born ~1997–2012). Generation Z has grown up in a world dominated by ubiquitous technology, social media, and ongoing narratives of global crises. They exhibit high levels of digital fluency but are also more prone to anxiety, and they have a strong need for authenticity and immediacy in their interactions. They tend to value diversity, openness, and purpose-driven work. Members of Generation Z are highly flexible and often engage in short-term or project-based assignments. Their motivation depends largely on how well an organization's mission and values align with their own personal ideals. They also expect transparent communication and clear pathways for professional development. Notably, Gen Z educators respond poorly to authoritarian leadership styles and excessive control, preferring guidance and feedback over directives. Generation Z is only just entering the teaching profession and often faces significant barriers, including excessive formalization, organizational rigidity, and the relatively low social prestige attached to the teaching career. Their working style is highly collaborative, characterized by multitasking and the use of modern

educational tools and digital resources. However, young teachers from this generation are sometimes met with skepticism by older faculty members, who may view them as "immature" or "overly entitled". Many education systems in the European Union have recognized these challenges and have implemented formal mechanisms to support new Generation Z teachers – such as structured mentoring programs, coaching, and inclusion in innovation teams – to ensure their successful integration into the school community. In Poland, however, such mechanisms for fostering intergenerational integration and systematically onboarding new teachers remain largely absent. This gap highlights a pressing need for policies that facilitate knowledge transfer and cooperation across generational lines, ensuring that the strengths of each cohort are harnessed to enrich the school's organizational culture.

Materials and Methods

The aim of this study was to explore the diversity in the perception of organizational culture in primary schools depending on the generational affiliation of teachers. The central research question posed was: *How do representatives of different generations involved in the organizational life of the school perceive and co-create its organizational culture?*

The study adopted a qualitative research design, with a focus on capturing the subjective interpretations, experiences, and reflections of individuals employed in educational institutions, while simultaneously taking into account their generational background. The use of the case study method enabled an in-depth analysis of phenomena occurring within a defined social and institutional context.

Method and Research Techniques

The study employed the case study method and involved three primary schools located in the Silesian, Lesser Poland, and Świętokrzyskie Voivodeships.

A semi-structured interview was used as the primary data collection technique. The interviews were conducted based on a pre-developed protocol containing open-ended questions focused on three thematic areas:

1. the understanding of the concept of organizational culture within the school context,
2. the identification of dominant values and norms within the organization,
3. the evaluation of relationships and collaboration between representatives of different generations.

The interview protocol also included supplementary questions regarding perceptions of leadership style, communication flow, readiness for change, and the role of new technologies in the functioning of the school.

Sample Selection

The selection of study participants followed a purposive sampling strategy based on the principle of maximum variation, typical for exploratory qualitative research (Patton, 2002). The primary criterion was the generational affiliation of the respondents, enabling comparison of how representatives of different generations perceive organizational culture in primary schools. However, the sample was not limited to biological age. A range of functional and institutional criteria were also applied to capture a broad spectrum of experiences and professional roles.

Six teachers and specialists from public primary schools participated in the study, representing four generations: Baby Boomers (1), Generation X (2), Generation Y (2), and Generation Z (1). The participants were selected based on the following criteria:

1. Generational diversity – The aim was to ensure representative inclusion of each generation currently functioning within the educational system. This allowed for the observation of both different work styles and diverse approaches to norms, values, and organizational practices.

2. Diversity of professional roles – The sample included not only teachers of general education subjects (such as Polish language, biology, and history) but also a school pedagogue, an early childhood education teacher, and a school principal. This enabled the examination of organizational culture from various institutional perspectives.

3. Level of organizational involvement – The selection encompassed both individuals in leadership or additional roles (e.g., school principal, subject team leader, internship supervisor, project coordinator) and teachers without administrative responsibilities. This made it possible to capture differences in perceptions of organizational culture between those holding formal authority and those who participate in it.

4. Type and location of school – Institutions of various types were deliberately selected: urban and rural schools, as well as those located in county and voivodeship cities. This geographical diversity was intended to highlight the influence of local context on the formation of organizational culture and intergenerational relations.

5. Professional experience – The sample included individuals with extensive professional experience (over 30 years), moderate experience (10–20 years), and novice teachers. This allowed for the exploration of professional integration dynamics, differences in expectations toward the institution, and diverse career development trajectories.

6. Attitude toward innovation and change – During the preliminary selection stage, participants' openness to new technologies, involvement in development programs (e.g., Erasmus+, eTwinning), and participation in institutional projects were also considered. This criterion was crucial for assessing to what extent the generations differ in terms of implementing and adapting to organizational innovations.

Table 1 presents the full characteristics of the interview participants, including demographic data, job roles, professional experience, and institutional context. All respondents provided informed consent and were assured of confidentiality and the right to withdraw at any stage. Pseudonyms were used to ensure anonymity.

Table 1. Characteristics of the interview participants

Nickname (Pseudonyms)	Generation	Sex	Age	Describe
B-1	Baby Boomers	Female	63	She's an early childhood education teacher with over 35 years of professional experience. She works in a municipal primary school in the Silesian Voivodeship. Barbara does not hold any additional roles but is distinguished by her long tenure, strong preference for traditional teaching methods, and low proficiency in digital technologies.
T	Generation X	Male	52	Serves as the principal of a primary school located in a small town in the Lesser Poland Voivodeship. With more than 25 years of experience, he also participates in the municipal education committee. Tomasz adopts a moderately system-oriented perspective, displays leadership competencies, and tends to view the institution through an administrative lens.
J	Generation X	Female	41	She's a Polish language teacher with 18 years of experience. She teaches at a rural primary school in the Świętokrzyskie Voivodeship. She serves as an internship mentor and head of the subject team. Joanna is characterized by her reflective attitude, awareness of generational issues, and active involvement in educational projects.
D	Generation Y	Female	34	She's a biology teacher with 10 years of experience. She works in a county town primary school in the Silesian Voivodeship and serves as the Erasmus+ coordinator and a climate education leader. Dominika is known for her innovative approach and high level of digital competence.
M	Generation Z	Male	27	He's a history teacher with 3 years of experience in a primary school in a large city in the Lesser Poland Voivodeship. As a cultural life animator, he is noted for his generational self-awareness and modern approach to teaching and school engagement.
B-2	Generation Y	Female	46	She's a school pedagogue with 21 years of experience in a primary school located in a voivodeship capital. She participates in the crisis management team and the teaching council. Beata is distinguished by her reflective thinking and her experience in managing interpersonal and organizational conflicts.

Source: developed by the Author.

The sample was not intended to be statistically representative but followed the logic of theoretical relevance. The goal was to gather rich, informative cases that could offer insights into the studied phenomenon without aiming for statistical generalization (Flick, 2011). Only public-school teachers were included, which – while potentially limiting – allowed a focused analysis within a highly standardized and regulated institutional environment.

Fieldwork Timeline and Procedure

Fieldwork was conducted between June 1 and June 20, 2025, in accordance with ethical research guidelines and with respect for participants' time and working conditions. Preparatory steps included consultations with school principals to obtain institutional approvals, as well as individual consent from each participant. Respondents were granted full anonymity and the opportunity to review their interview transcripts prior to final analysis.

Each interview lasted between 35 and 55 minutes and was conducted using a semi-structured protocol. Most sessions took place in person on school premises in a private setting (e.g., guidance counselor's office, library, or staff room). Two interviews (Maciej and Beata) were conducted online via Microsoft Teams due to the participants' absence from their workplace.

All interviews were audio-recorded (with prior written consent), and transcriptions were completed with full attention to pauses, digressions, and tone shifts. Approximately 280 minutes of recorded material were collected, resulting in over 60 pages of transcripts. A short demographic questionnaire accompanied each interview, gathering data on age, years of experience, education, job function, and previous experience in generationally diverse teams.

The study adhered to the European Code of Conduct for Research Integrity (ALLEA, 2017) and the General Data Protection Regulation (GDPR). Participants could access their data and comments and received a summary report upon request. Transcripts were anonymized and institutional details generalized.

Post-interview, analytical memos were prepared for each case to support data coding. Particular attention was given to non-verbal cues signaling

engagement, emotional distance, or tension during discussions on generational differences, authority, and trust in leadership.

The research process was preceded by a pilot study conducted in January 2025 with two teachers unaffiliated with the main sample. This allowed for verification of question clarity, interview length, and the structure of the protocol.

Description of Data Analysis Techniques

The data were analyzed using thematic analysis, following the approach proposed by Braun and Clarke (2006). This procedure was selected due to its interpretive flexibility and its ability to identify meaningful patterns within large sets of narrative data. The process unfolded in six stages: (1) familiarization with the data, (2) open coding, (3) theme generation, (4) theme review, (5) theme definition and naming, and (6) final report preparation.

In the first phase of analysis, the researcher read each transcript multiple times, making margin notes that identified areas of emotional engagement and ambivalence. Open coding followed, during which meaningful units were assigned to codes capturing various aspects such as: "communication style", "attitude toward change", "understanding of authority", "intergenerational relations", "professional development", and "school's technological culture".

After the initial coding phase (resulting in a total of 146 unique codes), the codes were grouped into broader thematic categories: (1) dominant organizational values, (2) generational conflicts, (3) work styles and expectations, (4) innovation versus tradition, and (5) inclusivity and marginalization. Each category was illustrated with representative quotations highlighting generational differences and underlying tensions.

In the third stage, data triangulation was carried out using interview notes, demographic questionnaires, and contextual data related to school types. This enabled validation of the coherence between participants' statements and their institutional roles. To ensure objectivity and minimize interpretive bias, part of the dataset was reviewed by a second independent researcher (peer review), who confirmed the relevance and accuracy of the identified categories.

The analysis was conducted using Atlas.ti 23 software, which facilitated code organization, quote management, and the creation of conceptual maps. As a result, five overarching research themes and several sub-themes were generated, forming the analytical framework of this article.

Throughout the analytical process, methodological rigor was maintained: consistency of interpretation with empirical material, transparency in the operationalization of categories, and systematic coding procedures. The outcome is a structured yet in-depth depiction of the diversity in perceptions of organizational culture in a multigenerational work environment.

Results

Organizational Culture Values and Norms – A Generational Perspective

The organizational culture of a school, understood as a set of beliefs, norms, values, and rituals shared by members of the educational community, emerges as an area marked by significant generational diversity. Although the general discourse on schooling is dominated by the image of an institution rooted in continuity, stability, and communal values, data from the conducted interviews reveal deeply ingrained generational differences in the interpretation of these concepts.

For members of older generations – Baby Boomers and, to some extent, Generation X – the school's organizational culture is strongly associated with institutional order, stemming from clearly defined roles, norms, and hierarchies. Emphasis was placed on tradition and the "ethical" identity of the teacher as an "educational missionary":

"It's not just about teaching – it's about upbringing. About passing on values – those that were and always should be: respect, responsibility, punctuality". (B-1, 63)

This age group demonstrated a predominantly normative stance, viewing organizational culture as a stable framework for action rather than a space for negotiating meanings. As one school principal noted:

"In the past, there was no such debate – there were rules, staff meetings, and that was enough. Today, everything is more blurred". (T, 52)

In contrast, members of Generations Y and Z emphasized the dynamic and relational nature of organizational culture. For them, the school is not just an institution but a community that must be actively shaped, questioned, and modified. Values such as inclusivity, collaboration, flexibility, dialogue, and transparency were frequently cited as the foundations of the "modern school":

"For me, school culture is something we build together – with students, parents, and the administration. It's not something fixed – it changes with us". (D, 34).

Respondents' statements also revealed a generational asymmetry in expectations toward the institution. Younger teachers expect participation, co-decision-making, procedural justice, and access to information. Older teachers, by contrast, prioritize organizational security and clear operational frameworks.

Within the analysis of values and norms, the concept of teacher authority held a central role. While Baby Boomers viewed authority as structural – deriving from one's professional position – Generations Y and Z considered it relational and situational:

"Authority? You have to earn it with your everyday behavior. It's not enough to be older or stricter. Students notice everything". (M, 27)

Findings indicate that professional authority is undergoing democratization – it is no longer tied to age, but to competence, coherence, authenticity, and the ability to build relationships. This shift in meaning often generates generational tensions, particularly in hierarchical relations, where older teachers expect deference and respect "by default", while younger ones seek openness and recognition of their innovative ideas.

Generational Attitudes Toward Organizational Norms and Values

It was also observed that generational groups differ in their approach to formal and informal norms. Teachers from Generation X emphasized the need to return to "principles" which, in their view, have become "blurred" in recent years. In

contrast, the youngest generations highlighted the need to redefine these principles in light of contemporary social challenges:

"Some rules, like teachers not being allowed to message students on Messenger, are outdated. We need to find new boundaries, but do it flexibly". (B-2, 46)

These issues reflect a broader generational debate on the role of technology, modes of communication, professional distance, and the redefinition of privacy boundaries within the school as an organization.

An interesting phenomenon is the internal ambivalence expressed by teachers from Generation X, who often act as a "bridge generation". On one hand, they share many values with Baby Boomers (e.g., institutional loyalty, respect for hierarchy); on the other, they resonate with younger colleagues, particularly in the context of digitalization, individualized work styles, and the need for self--development:

"On the one hand, I support modernity – trainings, changes, innovation. But on the other, I don't want the school to lose its spirit. I feel like I'm caught between a rock and a hard place". (J, 41)

The collected responses portray the school as an arena for negotiating generational identities, where different cohorts construct their own understanding of what constitutes a "good school" and its social role. These differences are rooted not only in biological age but in distinct historical, technological, and cultural contexts.

In summary, organizational values in primary schools are neither uniform nor collectively agreed upon – they are dynamically negotiated by representatives of different generations. This places the responsibility on school leaders and teams to create space for open dialogue, mutual learning, and the mediation of intergenerational tensions.

Generational Differences in Work and Communication Styles

One of the key dimensions of generational differences within school organizational culture concerns work style and modes of communication within the team. Interview transcript analysis revealed marked contrasts in self-organization,

preferred communication channels, the level of formalization in professional relationships, and expectations regarding collaboration.

Respondents from the Baby Boomer generation and the older segment of Generation X emphasized the importance of self-discipline, long-term planning, and the avoidance of excessive spontaneity. Their statements were framed by language reflecting responsibility and professional ethos:

"I always try to have everything prepared in advance. Chaos is bad – for the student and the teacher". (B-1, 63)

"We were raised to believe that if you do something, do it properly. Don't improvise at the last minute". (T, 52)

The work style of these generations showed a greater attachment to regulations, documentation, structure, and formal procedures, often accompanied by skepticism toward excessive "flexibility", which was equated with irresponsibility or superficiality.

For Generations Y and Z, the work style was based on agility, multi-tasking, and adaptability. Using applications like Trello, Teams, and Google Workspace, and organizing work iteratively were practices characteristic of younger teachers:

"I keep everything in apps – plans, notes, checklists. I tried traditional planners once, but they're just not for me". (D, 34)

"I collaborate with teachers from Spain and Lithuania, so I'm always online. Traditional meetings? They're fine – but only as a supplement". (M, 27)

Regarding internal communication, there was a clear generational divide in channel and style preferences. Baby Boomers favored direct, formal communication based on organizational hierarchy. Younger generations preferred asynchronous, remote, more egalitarian and informal interactions:

"I don't need to talk to someone during recess if I can just send them a message in chat and have it documented". (B-2, 46)

This misalignment sometimes led to misunderstandings and communication errors – particularly when the generations had different expectations regarding response times, tone, or even email etiquette:

"Sometimes someone younger writes to me without a greeting. I know it's not malicious, but I feel overlooked". (J, 41)

At the same time, certain aspects of professional communication are evolving rapidly, and teachers – regardless of age – frequently learn from each other. Generation X respondents acknowledged adopting practices from younger colleagues:

"I'm not a digital native, but I admit – Maciek taught me a few shortcuts, and now I manage documents faster". (T, 52)

Generational Differences in Collaboration and Communication Styles

In terms of collaboration style, Baby Boomers preferred individual work with clearly defined responsibilities, while Generations Y and Z favored interdisciplinary, project-based, and horizontal collaboration. These differences at times led to frustration and misinterpretation of intentions:

"I feel like younger colleagues always want to change something but rarely finish what they start. They lack patience". (B-1, 63)

"Sometimes I feel like older colleagues look down on us. But we just work differently – faster. That doesn't mean worse". (M, 27)

At the level of values, older generations emphasized individual responsibility and independence, while younger generations valued shared responsibility and resource distribution. These differences may lead to divergent expectations regarding team leadership, grassroots initiatives, and the decision-making process.

Communication analysis also revealed generational differences in language use – including vocabulary, idioms, brevity, and style. Generations Y and Z frequently use concise messages enriched with digital and memetic terminology, which older teachers sometimes find alienating:

"Sometimes I don't understand what they're saying. All this jargon, acronyms, hashtags... I just have a different rhythm of conversation". (B-1, 63)

Finally, it is worth noting that school leadership often functions as a mediator between these styles – attempting to balance formalism and loyalty with the need for flexibility and responsiveness. This requires competency in managing generational diversity, which is increasingly not only a relational issue but a key condition for effective knowledge and innovation management within schools.

Innovation versus Conservatism – Readiness for Change

The contemporary primary school represents a dynamic space for implementing both technological and organizational innovations. The analysis of interview data revealed a clear polarization in generational attitudes toward change, encompassing emotional responses as well as the willingness to implement change in practice.

Older generations – Baby Boomers and Generation X – expressed caution or reservations toward change, especially when it was imposed from above or implemented without consultation. Their narratives reflected themes of lost control, lack of influence, and distrust in the stability of new solutions:

"There's always something new. Just when you get used to something, they change it again. Reform after reform – it feels like someone's experimenting on us". (B-1, 63)

"We change tools, but no one asks if we have time to learn them. In the end, everyone does it their own way anyway". (T, 52)

This attitude did not reflect complete resistance to innovation, but rather a conditional acceptance – change is welcomed if preceded by proper implementation, training, and practical support. There is a strong sense of professional responsibility – if a change threatens the quality of student engagement, it is critically scrutinized.

Younger generations – especially Y and Z – demonstrated a pro-innovation professional identity. New technologies, digital tools, unconventional pedagogical strategies, and experimentation with organizational forms (e.g., project-based learning, interdisciplinary teams) were treated as a natural part of the teaching profession:

"Change is part of my job. Without it, I'd be bored. I need to test and improve things. That's what gives my work meaning". (D, 34)

"Digital tools aren't an add-on for me – they're everyday essentials. Communication with parents? Through an app. Student tasks? On a platform. And it works!" (M, 27)

These accounts suggest that innovation not only increases a sense of agency but is also a key source of job satisfaction for younger generations. Working with new tools is not perceived as a burden but as a developmental challenge.

However, this openness does not always meet with enthusiasm from older colleagues. Several respondents from Generations Y and Z reported experiencing "passive resistance" – a lack of support or the downplaying of their initiatives:

"I was really enthusiastic about introducing a tutoring program. But I was told, 'we tried that before – it didn't work'. That's really discouraging". (B-2, 46)

This contrast creates a tension in which innovation becomes not only a technological matter but also a symbolic one – signaling generational belonging and serving as a source of (non-) recognition. Nonetheless, examples of constructive intergenerational knowledge transfer were also present:

"There are teachers at school who don't understand tech, but they're happy to listen when I show them something. It works – if there's trust". (M, 27)

The data suggest that readiness for change is not solely a function of age but is shaped by relational capital, leadership style, and organizational climate. Where trust and collaboration exist, generational differences can become an asset – young teachers contribute innovation, while older ones provide stability and institutional knowledge.

One particularly divisive area was participation in European, digital, and interdisciplinary projects. For Generations Y and Z, involvement in Erasmus+, eTwinning, or Norwegian Fund grants is a given. For many older teachers, such activities are seen as unnecessary "complications":

"In my day, you taught your lesson, and that was it. Now – conferences, reports, evaluations... And the kids are more tired than ever". (B-1, 63)

As a result, innovation in schools emerges as a selective cultural mechanism – it integrates those who understand and embrace it while potentially marginalizing those who feel alienated by it.

Intergenerational Management and Institutional Tensions

The style of school leadership and the relationship between management and teachers emerged as one of the most conflict-prone yet fascinating axes of generational differences. Data analysis revealed that different generations have varying expectations of leaders, different definitions of what constitutes a "good principal", and diverse sensitivities regarding how organizational decisions are enforced.

Teachers from the Baby Boomer generation and part of Generation X viewed the principal as a figure of formal authority – someone who should make decisions independently, command respect, and not be subject to negotiation. Their preferred management style is hierarchical, based on a clear division of roles:

"A principal must be decisive. They can't try to please everyone – school isn't a democracy; it's an institution". (T, 52)

In contrast, younger generations – especially Y and Z – advocated for participatory leadership in which the leader does not dominate but facilitates, supports, and co-creates decision-making processes. In their view, a good principal "dismantles the hierarchy" and remains open to team input:

"I need a principal who not only tells us what to do but also asks: how do you feel about it? What do you think?" (M, 27)

"The modern school needs a dialogue leader, not a manager from a bygone era". (D, 34)

These expectations often clash with the realities of a rigid institutional structure subject to extensive external regulation (e.g., from the Ministry of Education, school boards, or local governments), which restricts leadership autonomy. Principals find themselves torn between their traditional bureaucratic role and that of a modern, supportive leader:

"I'm often a mediator. Older staff want order and loyalty, younger ones expect flexibility and instant feedback. You can't please everyone". (T, 52)

This role division can result in institutional tensions that transcend individual attitudes. Respondents noted a lack of generational integration strategies, ineffective communication, and asymmetric influence on decisions:

"I feel I have no voice. Staff meetings are just a formality. Older teachers speak, and we stay silent – not because we don't care, but because there's no space". (B-2, 46)

The findings point to a need for managing not only individuals but also the structure of intergenerational relationships as organizational capital. The studied schools lacked formal mechanisms for mentoring, intergenerational coaching, or mixed-age project teams – despite a declared willingness by respondents to engage in such practices when framed as collaboration rather than procedural formality.

Leadership style impacts organizational security and belonging – both critical to school culture. For older teachers, security means stability; for younger ones: understanding, openness, and feedback. Without these conditions, frustration, disengagement, or burnout can result.

"If no one asks how I feel in the team, I stop engaging. Young people need communication, not just instructions". (M, 27)

"I'm not against change. But when it's imposed overnight, without discussion – it's hard to keep up. That's not leadership; that's surprise management". (B-1, 63)

Effective intergenerational leadership requires a hybrid approach that combines formal authority with relational openness, procedural control with flexible communication. The key is not a one-size-fits-all model but generational intelligence – the ability to read contexts and respond appropriately to diverse staff needs.

School Culture as Community or Generational Arena

One of the most paradoxical findings from the study is that the same institution – primary school – can be perceived either as a community of shared values, collaboration, and professional identity, or as a competitive arena marked by generational tensions over influence, status, and agency.

Statements reflecting strong identification with the school often came from older teachers who tied their professional ethos to the workplace:

"I've worked here for 30 years. This isn't just a school – it's my place in the world". (B-1, 63)

"I've always been loyal to this school. I helped organize events, fix things – even after hours. I felt it was our shared cause". (T, 52)

Among younger respondents, there was more organizational distance, flexible identification, and stronger attachment to personal rather than institutional values. For them, "school" was one of many contexts for educational engagement, not a place of emotional anchoring:

"I don't get attached to buildings. What matters is who I work with and whether I can grow. If not – I'll go elsewhere". (M, 27)

Importantly, this distance did not indicate a lack of commitment. Younger generations reported strong intrinsic motivation, but did not tie it directly to a single institution. This shift in loyalty sources sometimes caused team tensions:

"I've been called disloyal for not staying after school for staff meetings. But I don't get it – if it's after hours, why is it mandatory?" (D, 34)

Such situations resulted in internal divides between the "core" and the "newcomers", the "involved" and the "part-timers", deepening the sense of fragmentation and suspicion about professional solidarity.

In some schools, respondents openly spoke of silent generational divisions affecting team dynamics:

"Our team is split. There are those who do everything the old way and won't listen, and those with fresh ideas who aren't heard. We need a bridge". (B-2, 46)

The lack of intergenerational dialogue often leads to passive rivalry for recognition and influence – particularly during class assignments, promotions, project leadership, or school representation.

"When projects come up, the older staff usually get the 'important' ones. Younger teachers have to prove themselves again and again". (M, 27)

Despite these tensions, many schools provided positive examples of intergenerational integration – especially where leaders fostered a culture of openness, respect, and shared purpose:

"There are teachers I really connect with despite our age gap. We laugh, we collaborate. Age doesn't matter if there's trust". (D, 34)

"Some younger colleagues teach me more than any training. And sometimes I show them the 'old way' – because it still works. We support each other". (B-1, 63)

These findings suggest that school culture as a community is not a given – it must be continuously negotiated and built. Key enablers include relational support structures, clear communication, opportunities for intergenerational collaboration, and symbolic recognition of diverse styles and competencies.

Absent these elements, the school risks becoming a space of generational competition – split loyalties, exclusionary rituals, and mutual distrust. With effective management, however, it can evolve into a laboratory of generational synergy, where differences become assets rather than threats.

Findings

This chapter presents the main empirical findings of the study, which explored
how generational diversity shapes organizational culture and professional interac-
tions within Polish primary schools. Drawing on qualitative data collected through
semi-structured interviews, the analysis identifies key themes and patterns that
emerged across generational groups and institutional contexts.

The findings are structured around four core dimensions: (1) the manifes-
tations of organizational culture in daily school practices, (2) generational dif-
ferences in work orientations and values, (3) intergenerational communication
and cooperation, and (4) the role of school leadership in navigating generational
complexity. Each section integrates illustrative excerpts from the interviews and
highlights both recurring tensions and successful practices that emerged from
the data.

By focusing on the lived experiences of teachers from four generational
cohorts, the chapter seeks to shed light on the subtle dynamics that influence
collaboration, inclusion, and the professional climate in school settings. These
findings lay the groundwork for the subsequent discussion, which will further
contextualize the results within existing research and offer practical recommen-
dations for school leaders and policymakers.

Manifestations of Organizational Culture in School Practice

The study revealed that the organizational culture in the participating schools is
shaped by a complex interplay between formal structures and informal relational
norms. While official school policies emphasize collaboration, openness, and
shared responsibility, everyday interactions among staff often reflect hierar-
chical tendencies rooted in traditional authority structures. These include rigid
communication patterns, unequal access to decision-making, and deference to
seniority. Despite formal declarations of inclusivity and participation, generational
distance sometimes reinforces silent divisions, limiting authentic cooperation.

Interview data suggest that organizational culture is often experienced
through symbolic routines: weekly briefings, mentoring assignments, seating

arrangements in staffrooms, or even informal codes of "who speaks first" during meetings. These cultural artefacts reflect unspoken power dynamics and frequently exclude the voices of younger teachers. Senior staff members – particularly Baby Boomers and Generation X – often act as cultural gatekeepers, establishing norms that are not always transparent to newer colleagues.

Generational Differences in Values and Work Orientations

A central theme emerging from the data is the difference in values, expectations, and professional styles between generations. Baby Boomers and older members of Generation X value institutional loyalty, procedural clarity, and long-term commitment. They associate professionalism with responsibility, discipline, and continuity. Younger cohorts – particularly Millennials and early Generation Z – prioritize flexibility, authenticity, and pedagogical innovation. They seek feedback-rich environments and favor collaborative, non-hierarchical modes of working.

These divergent orientations often lead to misunderstanding and mistrust. Senior teachers sometimes interpret younger colleagues' need for work-life balance or reluctance to conform as a lack of dedication. Conversely, Millennials and Gen Z teachers perceive rigid structures and "unwritten rules" as obstacles to creativity and psychological safety. Generational stereotypes – e.g., "entitled youth" versus "rigid traditionalists" – were found to influence how colleagues interpret each other's behavior, often reinforcing distance rather than understanding.

Communication and Intergenerational Cooperation

Communication practices emerged as a significant arena for generational conflict and learning. While older generations rely on direct, often formal modes of communication (e.g., emails, staff meetings), younger teachers prefer informal, fast, and visual forms such as messaging apps or collaborative digital platforms. Differences in tone, expectation of response time, and openness to feedback frequently triggered frustration.

Despite these tensions, instances of successful intergenerational collaboration were also reported – particularly in schools where principals encouraged mentoring, team teaching, or shared planning. In such cases, knowledge flowed in both directions: senior staff offered institutional memory and pedagogical wisdom, while younger colleagues introduced digital tools and student-centered approaches. These partnerships thrived when they were voluntary, mutually respectful, and allowed space for both structure and experimentation.

However, in many schools, mentoring was either absent or limited to administrative onboarding, failing to address cultural or relational integration. As a result, early-career teachers were left to "decipher" school norms through observation, trial, and occasional error, which heightened their professional insecurity and hindered their agency.

Role of School Leadership in Managing Generational Diversity

The role of leadership proved to be pivotal in shaping whether generational diversity became a source of tension or synergy. In schools where principals actively fostered intergenerational dialogue, implemented inclusive decision-making processes, and modelled reflexivity, staff reported greater cohesion and psychological safety. These leaders tended to adopt a participatory style, recognized the unique strengths of different age groups, and deliberately countered stereotypes. They also created protected spaces for feedback and reflection, such as cross-generational project teams or staff learning communities.

In contrast, where leadership defaulted to authoritarian or technocratic models, generational rifts deepened. Younger teachers felt sidelined or invisible, while older staff remained unchallenged in their routines. In such environments, turnover among early-career teachers was notably higher, and collaboration was replaced by parallel work.

The findings underscore that generational diversity is not inherently problematic. Rather, it is the institutional conditions and leadership approaches that determine whether it becomes an asset or a liability. Schools that treat intergenerationality as a strategic resource – rather than an inconvenience – are more likely to foster cultures of trust, innovation, and shared responsibility.

Final Remarks

Discussion of Findings in Relation to the Literature and International Context

The results of the conducted research clearly demonstrate the impact of generational affiliation on the functioning of teachers within the organizational culture of schools. Observed differences in values, work and communication styles, approaches to change, and expectations regarding management confirm findings from international studies on generational diversity in education.

According to the literature, the organizational culture of a school – understood as a set of norms, values, beliefs, and practices – is key in shaping the work climate, the quality of interpersonal relationships, and the level of teacher engagement. Research conducted in Poland indicates the predominance of an institutional model characterized by hierarchical structures and a strong attachment to traditional roles and frameworks (Dobrzyniak, 2015). Findings from our own study confirm this diagnosis, especially in the narratives of Baby Boomers and Generation X teachers, for whom stability and clarity of norms constitute an essential component of organizational security. Compared to Scandinavian countries, where the model of "school as a community of professionals" prevails, Polish schools are still marked by a greater power distance and lower employee participation in strategic decisions (Lazar, 2012). This lack of participation – especially felt by younger generations – creates structural tensions that may weaken the sense of belonging and increase staff turnover. On an international scale, the approach to managing generational diversity in Poland remains in its infancy. In countries such as Canada, Germany, or the Netherlands, strategies are being implemented to develop the competencies of educational leaders in mediating between generations, along with mentoring programs enabling mutual learning between experienced and younger teachers. Meanwhile, Polish schools still lack institutional tools to support such integration. It is also worth noting that the concept of "innovation" is understood differently across countries. In many Western European educational systems, innovation is perceived as a communal process – emerging from the analysis of the needs of the local educational community. In

Poland, as suggested by both literature and research findings, innovations often take the form of top-down reforms, which may explain the resistance of older generations of teachers toward their implementation. The research suggests the need to transform the organizational culture of schools from a hierarchical model to a learning organization that supports intergenerational knowledge sharing. This entails, among other things, creating spaces for generational dialogue, strengthening the role of interdisciplinary teams, and redefining the role of school principals – from administrators to leaders of professional communities (Dobrzyniak, 2015). Moreover, the analysis of the international context shows that generational differences do not necessarily lead to conflict if the organization develops conciliatory mechanisms based on mutual recognition and flexibility. Therefore, it is recommended to implement programs for the development of communication and relational competencies for entire teaching staff – taking into account generational communication specifics and mediation tools (Lazar, 2012). It is also advisable to consider adapting best practices from countries that have successfully built inclusive organizational cultures – such as Finland (trust and autonomy model), Canada (partnership-based team relations), or Denmark (student-oriented structuring and shared responsibility).

Conclusions and Practical Recommendations

The results of the conducted qualitative research reveal a complex picture of the organizational culture of Polish primary schools in which generational differences among teachers are particularly significant. These differences – although they may constitute a potential source of conflict – can become an important organizational asset and a factor of innovation when managed appropriately.

Conclusions

1. The organizational culture of the school is not homogeneous – its perception and practice depend largely on generational affiliation. Older generations (Baby Boomers and Generation X) prefer stable, predictable structures based on authority and loyalty. Younger generations (Y and Z)

are more open to change, innovation, flexible management forms, and horizontal communication.

2. The leadership style of the school principal significantly influences intergenerational relations. Autocratic leaders gain recognition among older staff, while those with a participative and coaching style respond better to the needs of younger teachers.

3. The absence of formal mechanisms for intergenerational integration leads to the emergence of 'invisible boundaries' within teaching teams. These divisions manifest in resistance to innovation, conflicts over work styles, and unequal access to professional development opportunities.

4. The concept of organizational loyalty is generationally differentiated – for older staff it is attachment to the institution, while for younger ones it is loyalty to values and relationships. This necessitates a redefinition of traditional management models in education.

5. Innovations in education are perceived by younger generations as a natural element of the teaching profession, while for some older teachers they represent a source of uncertainty and destabilization. Therefore, strategies are needed to bridge this gap.

Practical Recommendations

Based on the conducted research, the following recommendations have been formulated for school principals, governing bodies, and education policy makers:

1. Introduction of intergenerational mentoring programs – Establishing pairs or working groups in which experienced teachers share organizational and pedagogical knowledge, while younger ones contribute digital and innovative competencies. This knowledge transfer should be bidirectional and based on mutual respect.

2. Developing generational intelligence among school leadership – School principals should enhance their competencies related to understanding the expectations and work styles of different generations – for example,

through training in diversity management, relational communication, and mediation.

3. Review of professional advancement and task assignment rules – Transparency in decision-making processes regarding assignment of functions, participation in projects, and allocation of hours should be ensured to avoid generational favoritism.

4. Strengthening organizational culture as a culture of dialogue – Schools should create regular spaces for discussions about mission, values, and organizational vision. Integration meetings, strategic councils involving representatives of different generations, and joint project activities can contribute to building trust and community.

5. Developing teachers' metacommunication skills – Introducing training in generational communication, assertiveness, and constructive feedback can help reduce tensions in teams. Teachers must be able not only to teach but also to collaborate – despite generational differences.

6. Considering generational needs in change planning – New organizational and technological solutions should be consulted with teachers from different generations. This will facilitate their implementation and reduce resistance stemming from a lack of sense of agency.

In conclusion, generational diversity in schools should not be treated as a problem but rather as a strategic opportunity to build an organizational culture based on a balance between tradition and innovation. However, the prerequisite for utilizing this potential is conscious and competent management – both at the internal school level and within education policy.

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COP Climate Commitments and Industrial Realities: The Question of Carbon Tax in a European Context

ABSTRACT

Objectives: This paper aims to analyze the relationship between carbon tax implementation and CO_2 emissions reduction in European countries. It also seeks to assess the compatibility of national carbon tax policies with international climate commitments adopted under successive COP agreements. In addition, the study examines the impact of carbon taxation on industrial competitiveness within the European context.

Methodology: The study adopts a mixed-methods approach combining qualitative policy analysis and semi-quantitative data interpretation. A systematic review of peer-reviewed literature published between 2015 and 2024 was conducted using the Scopus and Web of Science databases, focusing on carbon taxation, climate policy, and industrial impacts in the European Union. Official policy documents from the European Commission and national governments were analysed to assess the design and evolution of carbon tax frameworks. A comparative case study approach was applied to selected European countries to evaluate differentiated policy outcomes. Quantitative data on carbon tax rates, industrial production indices, and CO_2 emissions trends were extracted from Eurostat, OECD, and World Bank databases and analysed to identify correlations and divergences between environmental objectives and industrial performance.

Findings: The results indicate that countries without explicit carbon taxes, such as Poland, exhibit significantly lower CO_2 emission reductions compared to countries with long-standing carbon taxation. The findings also show that industrial competitiveness is not necessarily undermined by carbon taxation when appropriate complementary mechanisms are implemented.

Value Added: This paper contributes to the literature by bridging the gap between international climate commitments and domestic economic realities. It provides a comparative, data-driven evaluation of carbon tax effectiveness across EU member states and highlights the critical role of policy design in determining environmental and economic outcomes. The study further offers empirically grounded insights relevant to current European climate policy debates.

Recommendations: The paper recommends greater harmonization of carbon taxation across EU member states, the indexation of carbon tax rates to emission reduction targets, and the reinvestment of carbon tax revenues into the green transition. It also emphasizes the need to protect industrial competitiveness while maintaining climate integrity, improve transparency and monitoring of carbon tax impacts, and strengthen public engagement to enhance policy acceptance.

Key words: carbon tax, climate policy, European Union, industrial competitiveness, carbon leakage, COP commitments, Carbon Border Adjustment Mechanism (CBAM)

JEL codes: Q54, Q58, H23, O44

Introduction

The global urgency to combat climate change has intensified following landmark international agreements such as the Paris Agreement (COP21) and subsequent COP summits, notably COP26 in Glasgow and COP28 in Dubai. Central to these summits is the commitment to achieving net-zero carbon emissions within the coming decades. The European Union (EU), positioning itself as a global leader in climate policy, has adopted ambitious initiatives including the European Green Deal, the "Fit for 55" legislative package, and the Carbon Border Adjustment Mechanism (CBAM) (European Commission, 2021).

However, despite these strong commitments, a growing tension persists between the stated climate ambitions and the economic realities faced by European industries. Carbon taxation emerges as a critical policy tool intended to internalize the environmental cost of carbon emissions and drive behavioral change among businesses and consumers (Klenert et al., 2018). Nevertheless, the effectiveness and acceptability of carbon taxes remain contentious, particularly in the context of maintaining industrial competitiveness and managing socio-economic impacts.

This article aims to critically examine the alignment between COP climate commitments and industrial realities within the European context, focusing on the role and limits of carbon taxation. By analyzing current policies, empirical data, and sectoral impacts, this study seeks to clarify whether carbon taxes can effectively reconcile environmental objectives with economic stability.

Principal Problematic (Problem Statement)

Despite ambitious climate commitments outlined in the COP agreements, the effective deployment of carbon taxes in Europe faces critical challenges. These include the disparity in national implementations, the potential for industrial competitiveness erosion, and risks of carbon leakage. While carbon taxes are conceptually efficient tools for emissions reduction, their real-world impact in an interconnected industrial economy like the EU remains contested. Thus, the core problematic can be articulated as follows:

To what extent do carbon taxes in the European context effectively reconcile COP climate commitments with industrial competitiveness and emissions reduction targets?

Research Hypotheses

Based on the problematic, here are clear and testable hypotheses:

- **H1**: Higher carbon tax rates are associated with significantly greater reductions in national CO_2 emissions among European countries.
- **H2**: The application of carbon taxes without accompanying support mechanisms negatively impacts the competitiveness of energy-intensive industries.
- **H3**: The risk of carbon leakage is mitigated when carbon taxation is combined with policies like the Carbon Border Adjustment Mechanism (CBAM).

Literature Review

Now, based on these foundations, here's a strong Literature Review for this research:

Climate Commitments and the Role of Carbon Pricing

The adoption of the Paris Agreement (COP21) and successive COP decisions has elevated carbon pricing mechanisms, particularly carbon taxation, as essential tools for meeting climate targets (World Bank, 2023). Carbon taxes are designed to internalize the negative externalities of carbon emissions, thereby providing an economic incentive for industries and consumers to transition toward greener alternatives (Klenert et al., 2018).

Effectiveness of Carbon Taxes in Emissions Reduction

Empirical studies reveal a positive correlation between carbon taxation and emissions reduction. Andersson (2019) demonstrates that Sweden's long-standing and relatively high carbon tax contributed to substantial decreases in per capita CO_2 emissions without hindering economic growth. Similarly, the European Environment Agency (2024) reports that countries applying effective carbon taxes have outperformed others in meeting interim emission targets. However, the magnitude of impact varies significantly depending on tax rate levels, sectoral coverage, and accompanying regulatory frameworks (OECD, 2024).

Industrial Competitiveness and Carbon Leakage Risks

One of the major criticisms against carbon taxation is its potential to impair the competitiveness of energy-intensive industries exposed to international trade (Branger et al., 2017). Without global coordination, firms may relocate production to jurisdictions with laxer regulations, a phenomenon known as carbon leakage. Cosbey et al. (2019) emphasize that the risk is particularly acute for sectors like cement, steel, and chemicals. The European Commission's recent emphasis on a Carbon Border Adjustment Mechanism (CBAM) aims to level the playing field and reduce leakage risks.

Policy Mechanisms to Balance Climate and Industrial Goals

Several studies argue that the adverse effects of carbon taxation can be mitigated through complementary measures such as revenue recycling, innovation support, and transitional aid for affected industries (Flues & van Dender, 2017; Klenert et al., 2018). Equitable use of carbon tax revenues, including compensations for vulnerable populations and sectors, is considered vital to maintaining political and industrial acceptance.

Research Gaps and Contribution

While much literature highlights the theoretical virtues of carbon taxation, less attention has been paid to comparative empirical analyses within the European Union's differentiated economic landscape. This article aims to fill that gap by examining the heterogeneous outcomes of carbon taxation across EU member states, linking policy design to real-world industrial dynamics and climate targets.

Methods

This study employs a mixed-methods approach combining qualitative policy analysis and semi-quantitative data interpretation.

Firstly, a systematic review of peer-reviewed literature from 2015 to 2024 was conducted using Scopus and Web of Science (WoS) databases. Key search terms included "carbon tax", "climate policy", "European Union", and "industrial competitiveness". Inclusion criteria targeted articles focusing on EU countries, policy effectiveness, and sectoral impacts.

Secondly, official policy documents from the European Commission (2020–2024) and national governments were analyzed to understand the design and evolution of carbon taxation frameworks.

Thirdly, a comparative case study approach was adopted to examine the differential impact of carbon taxes across selected European countries (e.g., Sweden, France, Poland, Germany).

Quantitative data on carbon tax rates, industrial production indices, and emissions trends were extracted from Eurostat, OECD, and World Bank databases. These data were tabulated and visualized to identify trends, correlations, and divergences between environmental goals and industrial performance.

Results

Overview of Carbon Taxation in Europe

Table 1 summarizes the status of carbon taxes across selected EU countries.

Table 1. Carbon Tax Rates and Coverage in Selected EU Countries (2024)

Country	Year Introduced	Carbon Tax Rate (€/tCO$_2$)	Sectors Covered	Notable Exemptions
Sweden	1991	130	Transport, heating	Energy-intensive industries
France	2014	45	Transport, heating	Industrial installations under ETS
Germany	2021	45 rising to 65 (2026)	Transport, heating (non-ETS)	ETS sectors
Poland	-	-	No carbon tax (ETS only)	-
Finland	1990	62	Heating, transport, electricity	Partial exemptions for industry

Source: European Environment Agency (EEA, 2024); OECD (2024).

Carbon Taxation and Emissions Trends

Figure 1 illustrates the relationship between carbon tax rates and emission reductions between 1990 and 2022.

**Figure 1.** Carbon Tax Rates vs. CO_2 Emission Reduction in Selected European Countries (1990–2022)
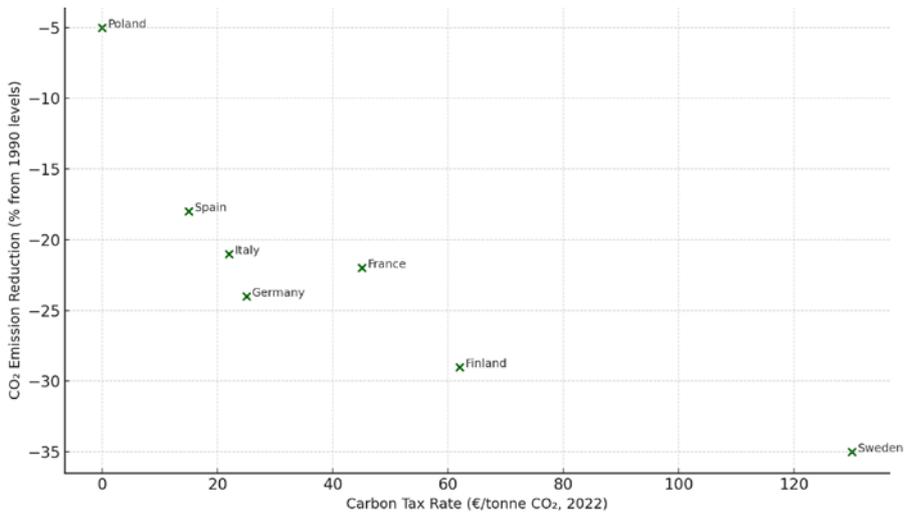
Source: European Commission. Joint Research Centre (2022): "CO_2 emissions of all world countries – 2022 Report" offers comprehensive statistics on CO_2 emissions across countries.

- X-axis: Countries (Sweden, France, Germany, Finland, Poland)
- Y-axis: % Change in CO_2 emissions from 1990
- Bar color intensity represents carbon tax rate (darker = higher rate)

Visual trend: Countries with long-standing and higher carbon taxes (like Sweden and Finland) show significant emission reductions (-33%,-29%), whereas countries without carbon taxes (Poland) show lesser reductions (-15%).

Figure 2. Visual Trend: Carbon Tax Duration vs CO_2 Emission Reduction 1990–2022
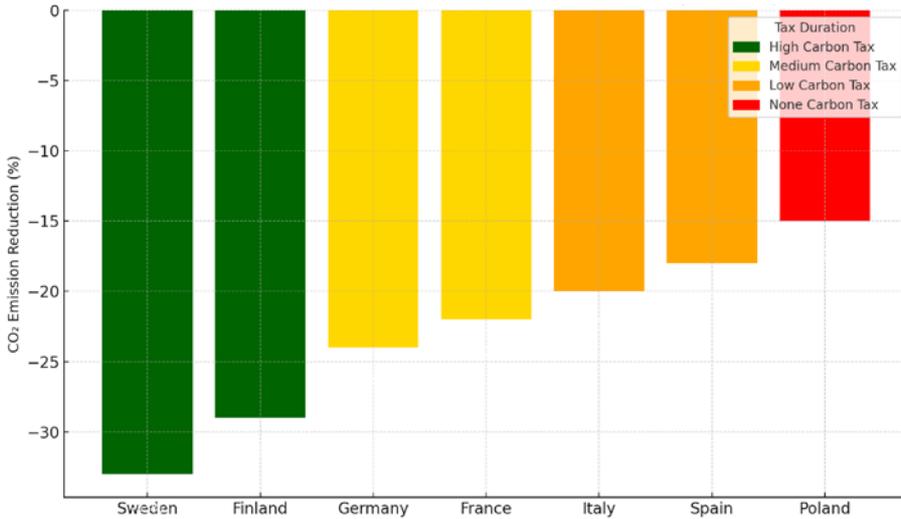
Source: Eurostat (2024), World Bank (2023).

Industrial Competitiveness and Carbon Leakage Risk

Table 2 analyses the carbon intensity and trade exposure of key industrial sectors in Europe.

Table 2. Carbon Intensity and Trade Exposure of Selected Industrial Sectors (EU, 2023)

Sector	CO_2 Intensity (kg CO_2/€ value added)	Trade Exposure (%)	Vulnerability to Carbon Tax
Steel	1.25	43%	High
Cement	1.10	38%	High
Chemicals	0.70	51%	Medium
Automotive	0.30	70%	Low
Food Processing	0.20	22%	Low

Source: European Commission (2024), Branger et al. (2017).

It visually shows how higher carbon taxes (like Sweden and Finland) are associated with greater CO_2 emission reductions compared to countries like Poland without a carbon tax.

Figure 3. Carbon Tax Rates vs CO_2 Emission Reduction in Selected European Countries 1990–2022
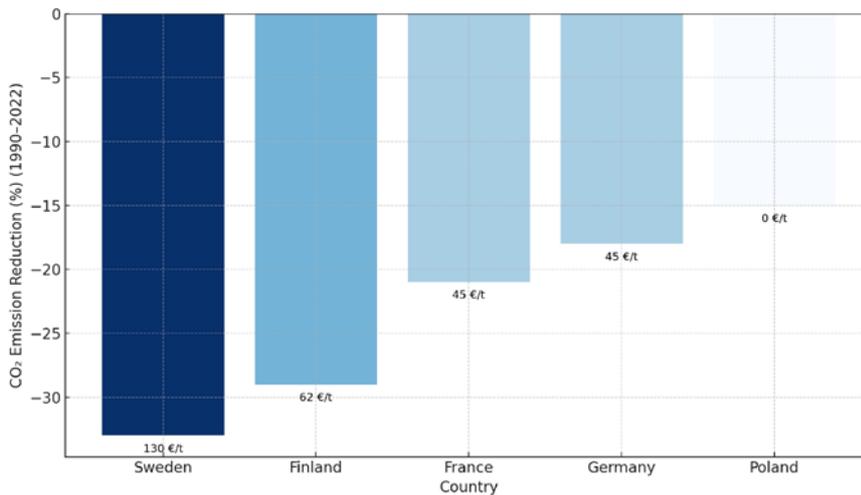
Source: Tax Foundation (2024).

Discussion

The results presented reveal a significant, albeit complex, relationship between carbon taxation, emissions reduction, and industrial competitiveness in Europe. Countries with longstanding and high carbon taxes, notably Sweden and Finland, demonstrate considerable success in reducing carbon dioxide (CO_2) emissions, achieving reductions of approximately 33% and 29%, respectively, between 1990 and 2022. These findings corroborate previous studies that emphasize the effectiveness of high and stable carbon pricing mechanisms in driving down emissions over the long term (Andersson, 2019).

However, the analysis also uncovers significant heterogeneity across the European Union (EU). For instance, countries like Poland, which have not implemented explicit carbon taxes, recorded considerably lower emission reductions. This divergence highlights the role of national political economies, energy mixes, and industrial structures in mediating the impact of carbon pricing (Flues & van Dender, 2017).

From an industrial perspective, carbon taxation poses tangible challenges, particularly for sectors characterized by high carbon intensity and significant trade exposure, such as steel and cement. As illustrated in Table 2, these sectors are highly vulnerable to competitiveness losses under unilateral carbon pricing regimes. Without adequate protective measures, such as the Carbon Border Adjustment Mechanism (CBAM), there is a substantial risk of carbon leakage, whereby production shifts to jurisdictions with laxer climate regulations (Cosbey et al., 2019).

Furthermore, the effectiveness of carbon taxes is contingent upon their design features. Exemptions for energy-intensive industries, as observed in Sweden and France, mitigate immediate industrial backlash but potentially dilute environmental effectiveness. Similarly, relatively low carbon tax rates, such as those initially implemented in Germany, may limit behavioral change unless progressively increased and coupled with supportive policies (Klenert et al., 2018).

Policy implications emerging from this analysis suggest that carbon taxation, while a crucial instrument, cannot operate in isolation. To achieve the climate objectives enshrined in COP agreements, European policymakers must adopt a comprehensive approach that includes:

- Gradual and predictable increases in carbon prices, providing time for industries to adapt;
- Revenue recycling mechanisms to alleviate regressive impacts on households and support green innovation;
- Targeted subsidies and transition support for vulnerable sectors to foster decarbonization without eroding competitiveness;
- Implementation of the CBAM to level the playing field for European industries exposed to international competition.

Finally, strong political commitment, transparent communication, and social dialogue are indispensable to secure broad-based support for carbon taxes and ensure their legitimacy and durability over time.

Conclusion

This study examined the complex relationship between COP climate commitments, carbon taxation policies, and industrial realities across selected European countries. The findings demonstrate that nations implementing long-standing and higher carbon taxes (notably Sweden and Finland) have achieved greater reductions in CO_2 emissions without severely compromising industrial competitiveness. Conversely, countries with absent or low carbon tax mechanisms, such as Poland, exhibit more modest emission declines, underscoring the decisive role of fiscal design in driving sustainable transitions.

The results highlight that carbon taxes are most effective when integrated within a broader policy framework, including revenue recycling, technological support, and the Carbon Border Adjustment Mechanism (CBAM). These combined measures enhance both environmental and economic outcomes, aligning national industrial strategies with COP climate goals.

However, this research acknowledges several methodological limitations. First, the study's data heterogeneity (arising from differences in national reporting standards and emission accounting methods) may influence cross-country comparability. Second, the analysis relied on a limited dataset covering a subset of EU countries and variables, potentially omitting other relevant policy instruments such as energy subsidies or regulatory standards. Third, the lack of time--series depth constrains the ability to fully capture long-term dynamic effects of carbon tax adjustments over multiple decades. Additionally, omitted variables, including technological innovation rates, energy prices, and political factors, may have influenced both taxation design and emission outcomes.

Future research should address these limitations by employing panel econometric approaches using longer time series and broader country samples. Further

investigation into the interaction between carbon pricing and innovation policy, as well as the distributional effects on households and small enterprises, would provide a more comprehensive understanding of the socio-economic impacts of carbon taxation. Comparative case studies across the EU and other regions could also deepen the insights into best practices for balancing climate ambition with industrial competitiveness.

In sum, this paper contributes to the ongoing debate on the practical alignment of climate commitments with economic realities, offering empirical evidence that supports coherent, equitable, and forward-looking carbon taxation as a cornerstone of Europe's sustainable transition.

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