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## DOES THE CURRENT GOVERNANCE FRAMEWORK OF THE SECTIONAL TITLE SCHEME INFLUENCE ITS GOVERNANCE PRACTICE?<sup>1</sup>

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**Abstract.** *This article investigated whether the current governance framework for sectional title schemes influences its governance practices. The primary goal was to examine the degree to which the rules of the sectional title schemes under the current governance framework are implemented and their impact on governance practices in managing those properties. Furthermore, the study investigate the effects of these guidelines on the overall governance procedures involved in administering sectional title properties. The research seeks to uncover gaps and issues within the governance structure that may impede effective property management by examining the alignment between mandated regulations and their actual implementation. The findings provided insights into how successfully the current rules enable or hinder good governance practices in sectional title schemes, with implications for policymakers, property managers, and stakeholders looking to improve. A practical recommendation was be made on the possibilities of closing the expectation gap encountered with the current governance framework.*

**Keywords:** *Sectional title scheme, body corporate, application of rules, conflict of Interest, Corruption, transparency and accountability, good Governance.*

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## 1. Introduction

The research findings presented in this article form part of the results of a comprehensive study done on the governance framework for sectional title properties in South Africa. This is the first article in the current governance framework of the sectional title scheme properties. One of the primary contributions of this study will be its capacity to empirically link governance frameworks with management behaviour regarding rule infractions while also providing useful insights and practical recommendations to improve the governance and management of sectional title schemes. The outcomes of this study can help to produce better policy suggestions to strengthen the governance framework of the sectional title scheme. Most studies conducted in this field did not consider the governance framework as one of the variables that needed to be examined to resolve problems within the schemes. The governance framework of sectional title schemes is particularly important for this study because it influences decision-making and policy execution. A solid governance framework can lead to improved decision-making, accountability, and transparency. It guarantees that all members of the corporate body follow the rules and regulations that govern the schemes. However, an inadequate governance framework can result in inefficiency and corruption. Therefore, this article will contribute to the body of knowledge about the governance of the sectional title schemes properties in South Africa. The study also adds to the overall advancement of property management practices by giving a critical evaluation of the current governance framework and increasing the understanding and practices of governance for sectional title systems.

This study's approach was based on the literature about incorporating good governance practices within the sectional title schemes and establishing the influence on bad governance, including the violations of the rules of the scheme by trustees and managing agents. This paper adopted three governance theories, namely: the agency, stewardship, and stakeholders' theories, to complement the approach used in explaining the variables of the study. The reason for adopting these three theories was that no previous studies conducted in South Africa adopted them in conducting research about the governance of the sectional title schemes. As a result, these governance theories will contribute to a better understanding of the management dynamics between property



owners, trustees, and managing agents, as well as provide a prism through which to evaluate the current governance framework's performance and improve rule execution.

The study was geographically limited to South Africa, which limits the applicability of its findings to other areas. However, this geographical focus may not fully represent the nations worldwide, making it advisable for similar studies to be conducted throughout the world to gain a more comprehensive perspective. Another significant limitation stemmed from the Privacy Act (POPI Act No. 4 of 2013), which prevents access to private information of sectional title schemes body corporates held by managing agents. Additionally, the study focused exclusively on residential sectional title scheme properties, omitting the examination of commercial sectional title scheme components within mixed-use properties managed by a single body corporate. This study will begin by providing a brief background on sectional title scheme properties in South Africa, followed by the research methodology. The rules of the sectional title scheme will also be discussed, followed by the scheme's current governance framework. The study will also discuss the impact of the legal and regulatory environment on sectional title schemes and governance practices in managing those properties, followed by recommendations and conclusions.

## **2. Background**

Before the early 1970s, the concept of shared ownership was not recognized in South Africa; it was impossible to obtain full ownership rights to a section of a building, such as an apartment or flat unless you own the whole building (Steenkamp and Lubbe, 2015). The introduction of the sectional title scheme Act no 66 of 1971 in South Africa came along with potential opportunities for people to own a portion of properties within the building. Prior to this Act people were not allowed to own portion of the building apart from owning the land where the entire building was built. By that time South African property law did not recognise a separate ownership of the building. Thereafter, South African government decided to repeal Sectional title scheme Act no 66 of 1971 and replaced by sectional title scheme Act 95 of 1986 to ensure that the scheme was regulated.

Due to land prices and demand for affordability houses, many countries have adopted sectional title schemes around the world (Fisher and McPhail, 2020). The South African government was



not exempted to those land challenges like the rest of the world. In South Africa, this Act was modelled from countries such as Singapore and New South Wales in Australia (Steenkamp,2017). So, the South African government adopted the sectional title scheme Act model from those countries to provide houses to the people in the country. The majority of black people were excluded from owning property in the country when this Act was introduced because of apartheid, which was rooted in property law. Ti (2020) agree that the sectional title scheme has the potential to alleviate some of the deleterious effects of apartheid by providing more housing and a platform to foster integration.

Despite the abolishment of the Group Area Act of 1966 in 1990 and the implementation of progressive housing policies in South Africa, whereby sectional title scheme was placed in the centre of the democratic government housing policies, to help by redressing the legacy of apartheid housing policies. There was outcry by many properties' owners regarding the governance of these schemes. The South African government's intervention was to introduce the Sectional Title Scheme Management Act no 8 of 2011 and Community Scheme Ombud Service Act no 9 of 2011 to mitigate these predicaments and their effects. Although the establishment of those Acts was meant to improve the sector, however, the sectional title schemes are still in crisis with governance issues. Baboola-Frank (2020) states that even though sectional title scheme is currently regarded as a profitable market, the governance of that scheme is still a challenge to many property owners. Steenkamp (2017) supports this claim that the sectional title scheme contains many unclear and contradictory regulations which pose a challenge to owners regarding the governance of the body corporates. In terms of section 37(1), the boards of trustees are required to prepare the body's corporate annual financial statements despite considering their skill levels. In addition, those contradictory rules of the scheme make trustees disregard it which lead-disregard it, which leads to poor governance of the scheme in general. However, one of the main problems with the sectional title scheme regulations in the country is the application of the rules.

Furthermore, the sectional title scheme allows the managing agent to open an account for the body corporate on their behalf while they are just employees of the body corporate. In addition, there are no consequences for trustees and a managing agent who disregard the rules of the schemes are no consequences for trustees and managing agents who disregard the rules of the





schemes, and many-body corporates find themselves in financial difficulties (Dlamini and Boshoff, 2017). It is these kinds of practices that undermine good governance principles of the sectional title schemes.

The main purpose of the study was to examine the degree to which the rules of the sectional title schemes under the current governance framework how they are implemented, and their impact on governance practices in managing those properties. There are a lot of theories for corporate governance on how organizations can achieve good governance. Although there many corporate governance theories used by different authors, agency, stewardship, and Maslow's hierarchy of needs are the best theories to explain the challenges of good governance of the sectional title schemes. The agency theory is best explained by Jensen and Meckling (1976), who noted that there are three things that cause agency conflicts, namely the opposing interests and goals between principals and agents, insufficient internal control measures to be used by principals, and information asymmetry. The agency theory advocates that poor corporate governance is caused by the separation of ownership and control, which results in information asymmetry, therefore, there is a need to align the self-interest of agents with the organisation's objectives (Almashhadani and Almashhadani, 2022). In terms of Section 6(1) of the Scheme Act, the corporate body must appoint the trustees, and all the corporate responsibilities are delegated to them. that is where agency problems arise because of this separation of ownership, which leads to information asymmetries. In addition, the agency theory is employed in this study because of its relevance to the structure of the sectional title scheme property hierarchy and the functions of managing agents, trustees, and property owners in terms of good corporate governance. The agency theory was adopted in this study to gain a better understanding of the contractual relationship between the agent (Trustees/ managing agents) and principal (Property owners).

Furthermore, the stewardship theory views governance from the legal perspective of the firm, where the separation of ownership occurs because the owners of the organisation hire the manager to act on their behalf or as stewards for the owners' interests (Thabane and Van de Venter, 2018). The stewardship theory advocates that managers of the organisation are left alone to do their job because owners believe their interests are aligned with theirs. The same applies to the body corporates of sectional title schemes, in terms of Section 40(1) and (2), where each



elected trustee must stand in a fiduciary relationship with the body corporate, without prejudice. So, the relationship between trustees and the body corporate is based on trust. In this study, the trust relationship between owners and management is the source of good governance because the interest of both parties is aligned with the objectives of the organisation.

This study further used the Maslow hierarchy of needs to better explain the issue of behaviour regarding the agent (managers and Trustees) and Principal (Owners) relationship within the body corporates. The Maslow hierarchy of needs was postulated in this study to provide further explanation of this issue. According to Numonjonovich (2022), the Maslow hierarchy of needs advocates that people perform best at work based on the level at which they are in the pyramid. So, this means that, a best performing manager is the one who is on top bottom level of pyramid in the self-actualisation level. Therefore, this pyramid of needs will further assist the body corporates in hiring well-developed managing agent whose interest will be aligned with the property owners to improve their scheme governance. Although all theories indicated in this study are best explain the governance of the organisation, however they do have some limitations on them. One of the limitations of agency theory is that it focuses more on agents self-serving interests while ignoring the fact that some agents may act contrary to that because they might be motivated by factors such as professional work ethics. The stewardship theory has been criticised in recent times, with the trust owed by the directors having been eroded by corporate scandals involving risk trading, no disclosure, and a lack of transparency and accountability by managers (Thabane and Van de Venter, 2018). However, most criticism of Maslow's hierarchy of needs is that people question its validity and why the focus of this pyramid is ethnocentric and based on self-actualisation needs.

### **3. Research Methodology**

The research design for this paper was based on secondary data and content analysis, and the data was acquired from public sources. The researcher used content analysis since it is a flexible method for examining text data (Smith and Marx, 2021). The search for secondary data in this study started from academic libraries at Tshwane University of Technology. The research specialist from the Tshwane University of Technology was used to assist in searching for relevant academic sources and archives from the university libraries. The secondary data for this paper



were obtained from sources such as journal articles, dissertations, thesis, and Google Scholar. Other institutional publications, such as Community Schemes Ombud Services and the National Management Agent Association, were also used to obtain relevant data about the regulations and application of sectional title scheme rules and the current governance framework of these schemes. However, in this study, the secondary data used were for the period between 2015 and 2024.

Furthermore, the data collected from various sources was consolidated to ensure similarities in formats. Then, all secondary data collected findings were compared with other sources regarding governance issues across different studies of the sectional title schemes. The researcher analysed the trend in rule violations or implementation by both trustees and managing agents and its impact on the governance practices of the schemes.

#### **4. The rules of the sectional title**

The Sectional Title Scheme Management Act no .8 of 2011 mandates that all sectional title property schemes be established, regulated, or managed by means of four types of rules: conduct rules, management rules, participation quotas rules, and exclusivity rules. The scheme Act grants the developers the authority to create rules prior to the foundation of the scheme or the establishment of the body corporates. These rules are legally binding for all members of the corporate body. Section 35(1) of the STSMA declares that the rules must provide for the control, management, administration, use, and enjoyment of the sections and the common properties. The STSMA further requires that all rules must apply equally to all owners of the units. The rules must accompany the developer's application for a sectional title scheme, which means that it is mostly formulated by the developer. Section 10(5) stipulates that the body corporate has 10 days to register changes to these rules after the establishment of body corporates when a resolution has been reached in a general meeting. These rules must be available for all body corporate members.

Section 10(2) indicates that the management, as well as the conduct rules, can be substituted, amended, or repealed by the corporate body through unanimous resolution or special resolution. This assertion was supported by CSOS Circular No. 2 (2018:2). The requirement is, however, a unanimous resolution of 85% or a special resolution of at least 75% of owners, calculated both in



value and number of the votes, must support the resolution. It could also be agreed to in writing by members of the scheme in case of unanimous resolution, which needs to be obtained in changing the management rules. Before submitting the amendment of rules to the CSOS for approval the body corporate must ensure that this matter was discussed and approved at a general meeting or special general meeting.

The implementation of the rules of sectional title schemes is subject to several limitations. According to Circular No. 2 of the CSOS (2018), the body corporate must ensure that the proposed changes to the rules are legal, reasonable, and equitable to all scheme members. The Ombudsman office must take the necessary steps to guarantee that the scheme's rules are in accordance with South Africa's constitution, while the board of trustees must enforce the rules. The rules of the scheme play an extremely critical role in creating a conducive environment for every member to enjoy. The rules of a sectional title scheme are good if they serve the intended purpose. Amending ineffective rules, however, can be quite challenging for property owners because of the requirements needed to approve such amendments.

The sectional title scheme comprises a co-ownership share, which determines the rights and responsibilities of each owner and their voting power in the administration of the development (Çağdaş et al., 2020). In terms of section 11(1) read with subsection (2) of the sectional title scheme section, the effect of a quota is to determine the value of the vote of the owners of the section. The participation quota in section 34(2) is read with this rule because it determines the contribution of the owners in terms of a levy. However, these rules are affected by the developer when the scheme is first registered. Thereafter, the body corporates can modify these rules under Section 11(2) to allocate a different value to a section owner's vote and modify their liability. Çağdaş et al. (2020) reveal that the most common approach to the determination of the ownership shares is based on equality, the relative size or relative value of each condominium unit, or a combination of these. The issue of participation quotas has an impact on how decisions are made within the sectional title scheme. When owners vote for unanimous and special resolutions, for example, the issue of participation quota determines the value of the owners' vote. Van der Merwe (2020) points out that this modification is subject to provisos. For example, in a situation where a sectional owner is adversely affected by such a resolution, written consent must be



obtained from the said owner. In terms of STSMA subsection (4), the quota of a section shall determine the value of the vote of the owner of the section in any case where the vote is to be reckoned in value.

Van der Merwe (2020) further explained that the participation quotas influence the governance structure of the schemes since owners with larger quotas have more authority and influence over scheme decisions. Also, the participation quota influences the outcome of decisions such as trustee elections, budget approval, and rule amendments. The unequal representation in body corporates, which is brought by participation quota, can create conflict among the owners because the majority owners might try to influence the direction of the scheme at the expense of minority owners. However, the rules of the sectional title scheme lay down the framework of the governance of the corporate body. However, the primary cause of poor governance within the schemes is a participation quota which can have a negative impact on all the section titles schemes resolutions.

In terms of Section 3(1) of STSMA, all members of the body corporate are liable to pay a monthly levy. However, the current ambiguous rules of the sectional title scheme are not clear or enforceable for defaulting owners. Under the current act, body corporate or trustees do not have the power to disconnect services such as water or electricity from any defaulting members. Failure to collect levies might result in insufficient cash for maintenance and repairs, causing building degradation and owner disputes. Therefore, the body corporates should be given the power to disconnect such services to all non-compliance owners to ensure that schemes are well maintained because their actions affect other members.

## **5. The current governance framework**

According to the Sectional Titles Act No. 95 of 1986, which regulates multi-unit properties in South Africa, the residential sectional properties are first managed, administered, and controlled by the developer before being transferred to the body corporate. In turn, the Act grants the body corporate the right to assign all its management responsibilities to the board of trustees for overseeing the management process, upon the formation of the body corporate. With this current governance framework, the board of trustees is the one who appoints the managing agent at the



trustees meeting, and these managing agents, as employees of body corporates, are the ones who open the account of the body corporate and invest their money on their behalf. Recently, there has been a sharp increase in multi-unit properties across the world, South Africa included. This growth has been accompanied by a governance crisis relating to the management and sustainability of these properties. Training of trustees was cited as the most effective measure to ensuring good governance; however, what remains unanswered is the existence of the association between governance framework for sectional titles and good governance practices and implementation of the sectional title rules and sound governance.

Due to the substantial number of contradictory and confusing legal aspects of the current sectional title legislation, there have been various incidents of fraud in the industry in recent times (Steenkamp, 2017). In many cases, a poor governance framework is always associated with ambiguous rules, which often lead to a lack of accountability and transparency. Therefore, this current study built on this gap and examined the degree to which the rules of the sectional title schemes under the current governance framework are implemented and their impact on governance practices in managing those properties. The fact that no research studies have yet been undertaken on the governance framework of the sectional title scheme properties and the practical operation of this framework. Therefore, this study warrants to be undertaken to bridge the gap in academic literature in the South African context.

## **6. The impact of legal and regulatory environment on sectional title schemes governance practices and management of those properties.**

The origin of the sectional title scheme property was based on the vertical subdivision of high-rise buildings rather than a traditional horizontal subdivision of the building or land (Harry, 2019; Izanda, Samsudin, and Mohsin, 2022). The developers decided to extend this rule into a mixed two-tier scheme which was not the original intention. As a result, the governance of sectional title schemes has been a challenge to many property owners for many years now because of this development, despite the benefits of solving the housing problems in many countries around the world. Therefore, there is a need for proper and good corporate governance practices in the management of these dwellings.



According to Salah (2021), the governance framework is there to encourage the efficient use of resources and equally hold people accountable for the stewardship of those resources. The governance framework of the sectional title schemes was thus meant to promote good governance because there is a higher credit risk in financing a poorly managed scheme. Therefore, to mitigate a dysfunctional corporate body, it is the responsibility of all stakeholders, including CSOS, to the best possible defence mechanism. The STSMA provides a way for judicial management of a scheme to protect owners in the event of poor administration, a body corporate's failure to uphold its statutory commitments, or if it becomes unable to pay its debts.

The expansion from vertical structures to the horizontal format led to the evolution of the governance framework. For the scheme to fulfil its intended objectives, there is a great need for proper governance. Van der Merwe (2018) states that the person who creates the governance document for the sectional title scheme must be familiar with the property to provide a succinct document that is appropriate for that specific building. Infighting between owners and trustees, weak regulations and rules of the schemes, poor maintenance, unscrupulous trustees, and poor cooperation between the trustees and management agents all contribute to the overall negative impression of the sectional title scheme that is presented in the literature.

Most issues with sectional title schemes are related to ignorance regarding the rules and regulations of the governing schemes. Ignoring these rules will render the property ungovernable (Johnson, Boipuso and Gaisi, 2016). Dlamini and Boshoff (2017) illustrated this concept through the example of the trustees of a sectional title scheme who embarked on a painting project, despite it being rejected at the AGM. In terms of section 39(1), the corporate body placed a restriction on the trustees, but they disregarded those restrictions without any consequences. Baboola-Frank (2020) also found that the sectional title rules that governed Indigenous people in relation to Aboriginal sectional tile rights in South Wales were riddled with controversy. Kyere and Ausloos (2019) pointed out that one role of corporate governance is to manage these conflicts between the principals and the agents. Salah (2021) concluded that an effective corporate governance system is vital because it helps to specify the distribution of roles, responsibilities, and resources among different stakeholders of the organisation. Good governance of the sectional





title scheme is a critical tool that could increase investments, economic growth, and adherence to organisational policies and procedures.

Aspan (2017), on the other hand, explained that one of the problems of implementing good corporate principles is that the conditions cannot be promoted within the organisation if it has not been well established. The implementation of management and conduct rules in sectional title schemes was intended to provide a conducive environment for good corporate governance. Steenkamp and Lubbe (2015) disagree with this assertion, revealing that the problem with many sectional titles schemes is that the corporate body is not being run like a business organisation because of the ambiguity of rules, inadequate enforcement mechanisms and conflict of interest of both trustees and managing agents.

Dlamini and Boshoff (2017) pointed out, however, that the lack of financial control measures and consequences for trustees who mismanage the funds leaves many body corporations vulnerable to abuse by the board of trustees. Since good governance is based on rules and policies, the lack thereof will lead to a failure to implement good governance within the organisation. This will also hamper the procedures of holding the board of trustees accountable, thus preventing good governance from thriving in the current environment (Lee and Yip, 2020) while causing financial stress and misconduct (Paulina and Barus, 2021).

Dlamini and Boshoff (2017) claimed that once trustees are appointed, they become a law unto themselves, which often puts the corporate body in financial jeopardy. Yau, Ho, and Li (2017) suggested that the reason for this behaviour is that they are striving to maximize their own profits or interests. They often do not have the best interest of the scheme at heart and engage in opportunistic behaviour using the scheme's resources. As such, the board of trustees views themselves as above the rules of the scheme which should be applied equally to all members (Gelter and Helleringer, 2018).

Another challenge to the implementation of good governance practices is the absence of a prescribed financial framework model. Therefore, this study intends to reveal all the problems that might be caused by this lack of a financial reporting framework for the sectional title scheme. The STSMA, rule 26(5)(b) states that the sectional title scheme properties can use any financial





standards framework, and the body corporate at AGM must appoint an auditor to audit their finances for their current fiscal year in terms of prescribed management rule 17(6)(j) (vi). According to Steenkamp and Lubbe (2015), the appointment of an auditor is done by the managing agent on behalf of the corporate body to audit themselves. The introduction of the sectional titles scheme Act no 8 of 2011 by the government was meant to solve the governance issues within the sectional title properties. However, this initiative has not yielded the desired results yet.

## **7. Recommendations**

The focus of this study was on the governance of sectional title schemes based on literature about the perceptions of the owners of these schemes. This makes the study unique since this approach was not used by previous studies. Based on the findings of the study, and considering how crucial sectional title programmes are to resolving housing issues brought on by a lack of available land, a series of recommendations and suggestions have been put forth to address various aspects of governance within the sectional title scheme industry.

Primarily, it is advisable that the government should mandate a corporate governance code tailored specifically for the industry, serving as a comprehensive management guideline. The Community Scheme Ombud Service (CSOS) is recommended to play a role in vetting trustees after their election by body corporates. To combat corruption and enhance transparency, the adoption of a procurement policy for hiring outside service providers is encouraged.

Furthermore, the establishment of a dedicated financial reporting system for the sectional title scheme industry is recommended. Eligibility rules and requirements for trustees and managing agents should be prescribed by the Act, and a performance contract between body corporates and trustees should be implemented. Consequences, including criminal charges, should be in place for trustees who violate body corporate rules, with CSOS coordinating with law enforcement.

Managing agents and trustees should be prohibited from preparing annual financial statements, instead relying on qualified accountants. Managing agents should no longer have control over body corporate finances, and an audit committee should be established to monitor financial reporting and ensure rule compliance. Clear segregation of duties should be emphasised, and the



application of management and conduct rules in residential sectional title schemes should be clarified.

The participation quota and voting system for the schemes need clarification, and technology should be integrated to grant members access to financial information. Mandatory provision of meeting minutes to CSOS for annual rule reviews is suggested, and a shift from a simple majority voting system to consensus is recommended to prevent conflicts of interest.

Legal remedies should be established to address trustees' transgressions, and CSOS should conduct on-site inspections. Encouragement of committee' formation, such as an audit committee, should be facilitated. The governance framework should be expanded to include an independent audit, excluding trustees. Inconsistencies in scheme regulations should be rectified to enhance management accountability. Lastly, the implementation of a consequences management plan is advised to curb corruption and fraud while ensuring the segregation of duties throughout scheme management for accountability. Additionally, altering the effect of the vote by participation quotas is suggested to maximise owner participation in body corporate decision-making.

## **8. Conclusion**

Considering the above discussion, this paper argues that there is a poor implementation of the rules of the sectional title scheme by both trustees and managing agents under the current governance framework, and this has an impact on governance practices in managing those properties. While efficient governance of a sectional title scheme depends on the meticulous execution and enforcement of rules. One of the main impediments to poor governance is the lack of consequences because the scheme rules are insufficient to correct the unethical behaviour by the scheme management. This lack of consequence management has led to fraud poor maintenance of the building and disputes among owners within the sectional title schemes. Sectional title scheme legislation anticipates transparency and accountability, as well as compliance with scheme rules by all members of the body corporate, to ensure the schemes' good governance. However, the regulations used to govern sectional title scheme rules are insufficient to promote good governance of this type of property. Therefore, both trustees and managing



agents violate the rules of the schemes because the current regulations are too vague to enable owners to hold them accountable.

The conclusion is further that the governance framework needs to be reviewed to address the many shortfalls pointed out by this study. In addition, the study has revealed that the roles of CSOS and EAAB were minimal and need to be expanded so that they can collaborate and improve the governance of this scheme. To solve the country's housing crisis, it is imperative that the sectional title scheme's governance be improved. The study proposes an expanded governance framework that can address these shortfalls and assist in making sectional title schemes a solution to the housing shortages in South Africa. The new structure will give the body corporate the power to appoint new boards of trustees, and independent Audit committee members. Although this committee will comprise property owners within the scheme who are not previous or current trustees, it will oversee the scheme's operation. However, this is in line with the agency theory argument that organisational structure is one of the causes of poor governance. Therefore, the proposed framework will improve the governance of the sectional title scheme because the current structure does not promote transparency and accountability in the management of the scheme.

## Reference

1. Aimashhadani, M. and Aimashhadani, H.A. (2022) 'CEO duality and firm performance: a review from The Middle East perspective', *International Journal of Business and Management Invention*, 11(1), pp. 55-60.
2. Aspan, H. (2017) 'Good corporate governance principles in the management of limited liability company', *International Journal of Law Reconstruction*, 1(1), pp. 87.
3. Baboolal-Frank, R. (2020) 'An Analysis of Sectional Title Dispute Resolution in South Africa', *Journal of International Dispute Settlement*, 11(4), pp. 659-670. [Online]. Available from: [https://repository.up.ac.za/bitstream/handle/2263/81647/BaboolalFrank\\_Analysis\\_2020.pdf?sequence=1&isAllowed=y](https://repository.up.ac.za/bitstream/handle/2263/81647/BaboolalFrank_Analysis_2020.pdf?sequence=1&isAllowed=y) [Accessed 15 August 2023].
4. Çağdaş, V. et al. (2020) 'Co-ownership shares in condominium – a comparative analysis for selected civil law jurisdictions', *Land Use Policy*, p. 95
5. Dlamini, N. N. and Boshoff, B. (2017) 'Residential multi-owned properties' management: Majority suffers in the hands of the few', *ResearchGate*, 73(4), pp. 1-16.



6. Fisher, R., and McPhail. (2020) 'Residents' Experiences in Condominiums: A Case Study of Australian Apartment Living', *Housing Studies*, 29(6), pp. 781-799.
7. Gelter, M. and Helleringer, G. (2018) 'Opportunity makes a thief: corporate opportunities as legal transplant and convergence in corporate law', *Berkeley Business Law Journal*, 15(1), pp. 92-153.
8. Harry, N.R. (2019) 'The pros and cons of sectional title ownership', Randles Attorney, Jan. 14. [Online]. Available from: <https://randles.co.za/2019/01/14/the-pros-and-cons-of-sectional-title-ownership> [Accessed: 05 July 2022].
9. Izanda, N.S.S., Samsudin, S. and Mohsin, A. (2021) 'Malaysia Strata Title Governance: An Overview Legislative Creation of Special Building in Malaysia', *Journal of Legal, Ethics and Regulatory Issues*, 24(6), pp. 1-9.
10. Johnson, K., Boipuso, N. and Gaisi, I. (2016) 'An evaluation of sectional title schemes on the provision of residential housing in Gaborone', *International Journal Advances in Social Science and Humanities*, 4(7), pp. 23-29. [Online]. Available from: [www.ijassh.com](http://www.ijassh.com). [Accessed: 19 August 2023].
11. Kyere, M. and Ausloos, M. (2021) 'Corporate governance and firms' financial performance in the United Kingdom', *International Journal of Finance & Economics*, 26(2), pp. 1871-1885.
12. Lee, R. and Yip, M. (2020) 'Exclusion of duty and the irreducible core content of trusteeship: a re-assessment', *Journal of Equity*, 10, p. 131. [Online]. Available from: <http://ink.library.smu.edu.sg>. [Accessed: 15 August 2023].
13. National Association of Managing Agents. (2008) Code of Conduct for NAMA Members. [Online]. Available from: <http://www.saaa.org.za/Downloads/Publications/AUD007%20A%20comparison%20of%20first%20and%20third%20generation%20sectional%20title%20legislation.pdf> [Accessed: 15 September 2021].
14. Numonjonovich, M.M. (2022) 'Economic development and the role of Maslow's hierarchy of needs', Web of Scientist: *International Scientific Research Journal*, 3(7), pp. 5-10.
15. Paulina, J. and Barus, I. (2022) 'Corporate governance and ownership structure on performance', *Private Social Sciences Journal*, 2(1), pp. 1-6.
16. Salah, Udin. (2021) 'The corporate governance models for banks: a comparative study', *Studies in Business and Economics*, 16(1), pp. 210-220.
17. Smith, R. J. and Marx, B. (2021) 'Transparency report disclosure practices of large – and medium – sized audit firms in South Africa', *Journal of Economic and Financial Sciences*, 14(1), pp. 1-14.
18. South African. (2011) *Community Schemes Ombud Service Act*, No 9 of 2011, Government Gazette, 552(34368), June 14. 519.
19. Steenkamp, L. and Lubbe, D. (2015) 'The Sectional Title Industry in South Africa: Perspectives of Accounting and Auditing Practitioners', *Corporate Ownership & Control*, 12(2), pp. 1-5.
20. Steenkamp, L. (2017) 'Risk in the South African sectional title industry: An assurance perspective', *International Journal of Social, Behavioural, Educational, Economic, Business and Industrial Engineering*, 11(2), pp. 293-302.



21. South Africa. (1986). Sectional Title Schemes Management Act, No.95 of 1986, *Government Gazette*, 255(10440): September 17. 1943.
22. South Africa. (2011) Sectional Title Schemes Management Act, No. 8 of 2011, *Government Gazette*, 552(34367): June. 518.
23. Thabane, T. and Van Deventer, E.S. (2018) 'Pathological corporate governance deficiencies in South Africa's state – owned companies: a critical reflection', *Potchefstroom Electronic Law Journal/ Potchefstrooms Elektroniese Regsblad*, 21(1) pp.1-31. Available: [https://pdfs.semanticscholar.org/2109/edaf849c6043c35f96434f6af5969be36960.pdf?\\_ga=2.99384541.235906336.1671602422-971247802.1671465529](https://pdfs.semanticscholar.org/2109/edaf849c6043c35f96434f6af5969be36960.pdf?_ga=2.99384541.235906336.1671602422-971247802.1671465529) [Accessed: 15 March 2022].
24. Ti, E.S., (2022) 'Comparative lessons in sectional title laws: mitigating urban inequality in South Africa; *Oxford Journal of Legal Studies*, 42(4), pp.1012-1039.
25. Van Der Merwe, G.G. (2016) 'Many faces of sectional title: A comparative survey of the inadequate legal treatment of non-residential sectional title schemes', *Journal of South African Law*, 3, pp. 428-446
26. Van der Merwe, C.G. (2018) 'Comparative survey of the legal challenges faced by mixed-use sectional title (condominium) developments; *Journal of South African Law/Tydskrif vir die Suid-Afrikaanse Reg*, 2018(1), pp.36-51.
27. Van Der Merwe, G.G. and Paddock, J. (2019) 'Judiciary redress against a body corporate of a sectional title scheme for failure to comply with its maintenance obligations before and after the new sectional title legislation came into operation: Discussion of Lyons vs The body corporate of Skyways 2016 6 SA 405 (WCC)', *Stellenbosch Law Review*, 30(3), pp. 434-446.
28. Yau, Y., Ho, D.C.W. and Li, R. (2017) 'Benchmarking property management agent's performance in Hong Kong', *International Journal of Development and Sustainability*, 6(8), pp. 650-666.



## HOW DIFFERENT PUBLIC AUTHORITIES REFLECT INTERNATIONAL MIGRATION?<sup>1</sup>

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**Abstract.** *Migration represents a social phenomenon, influential and which is encountered globally, especially in Romania, where people choose to leave the country in search of better conditions, meaning that Romanian migration represents the most frequent typology of migration encountered in Europe by East and West. Romanian migration represents a form of dynamic migration, which produces significant changes, and its effects are most felt in the economic and social sphere. However, an important aspect of migration and diaspora is represented by the way data is reported both at the national and international level, especially since such information helps to evaluate and monitor Romanian citizens outside the border, influences the perception of diaspora and contributes to the development and implementation of policies dedicated to this community.*

**Keywords:** *diaspora, Romania, migration, migrants, reporting methodologies*

**JEL CODE:** J83; K37; O15

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## 1. Introduction

Migration represents a social process with a strong influence on society at the international level, but especially in Romania, a society where more and more citizens choose to leave the country in search of a better life or driven by unmet needs in their home country, either for short periods or for indefinite periods. Romanian migration is the most common migration in Eastern and Western Europe, occurring dynamically and causing changes in Europe and beyond. This provides an opportunity to understand the changes taking place in European states and in Romania.

Given the impact of the migration phenomenon, studying it is a current and relevant topic, which increases the desire to delve deeper into this subject, leading to a comparative political analysis of the reporting methodologies used at the national and international levels. The phenomenon of migration is closely linked to economic development and globalization, which has led to increased competitiveness among neighboring countries, especially in attracting highly qualified labor, representing the most valuable resource. However, beyond the scale of this phenomenon, which is gaining more and more momentum in Romania, migration is also a controversial and extremely sensitive topic, sparking interest in understanding and deepening the subject (Raiu & Juknevičienė, *The Science of the State. A comparative analysis of Statistical National Offices in the European Union*, 2021).

When discussing migration and the diaspora, we also talk about the data reporting methodology used at the national and international levels, which allows for the evaluation and monitoring of Romanians abroad. These data influence the perception of the size and specific characteristics of the Romanian diaspora and contribute to the creation and implementation of policies dedicated to Romanian communities abroad (Raiu C. V., *An Ontology of Good Governance. A Political Theory Approach*, 2015). In this context, a comparative political analysis of the reporting methodologies for the Romanian population abroad was developed to highlight existing problems and inconsistencies, with the aim of proposing solutions to manage the situation of the Romanian diaspora more effectively. This research starts from the premise of reporting and monitoring methodologies for Romanians in the diaspora, both at the national and international levels, in this case referring to data sources and the definition of emigrants.





When reporting citizens at the national and international levels, discrepancies in reported data are noted, such as the size of a segment of the Romanian population abroad, its characteristics, and its trends. These discrepancies in reporting methodologies influence the creation and implementation of policies dedicated to the Romanian diaspora, as well as how they are perceived in Romanian society and in the destination country.

## **2. Methodology**

The main purpose of the research is to deepen and analyze a large topic and its impact on the development of society and public policies in Romania. In this sense, the research proposes the following research objectives: 1. analyzing the institutions that collect statistical data on migration, and 2. identifying the techniques used to report citizens leaving the country.

This research focuses on *how the statistical data of Romanians abroad are collected at the National and International levels?* In this context, the current research presents the following institutions of interest: *The National Institute of Statistics (INS), Eurostat, UNESCO, UNHCR, and the World Bank*. All these institutions provide periodic statistical information on international migration, especially regarding Romanians living outside Romania's borders. In this case, official statistics encompass a lengthy process of data collection, processing, analysis, and dissemination. Each analyzed institution differentiates the international migration situation, using various methodologies for data collection and reporting, adapted to specific purposes and available resources. Here below is a more detailed analysis:

### **1. National Institute of Statistics (INS)**

- Use selective statistical surveys and censuses;
- Collaborates with local ministries and institutions;
- Guarantee data consistency and accuracy through direct consultation and comparison with other sources.

### **2. EUROSTAT**

- It is based on surveys, questionnaires, and administrative sources;





- Collaborates with national statistical institutions within the EU;
- Conducts consistency checks and validations with direct consultations.

### **3. *UNHCR***

- Collect data through statistical activities and field assessments;
- Working with governments, refugee organizations and NGOs;
- Directly consult with the registered persons under their protection.

### **4. *World Bank***

- Collect data through economic and administrative cooperation;
- Use secondary sources such as the United Nations, IMF, OECD and Eurostat;
- Verify the data through consistency checks and expert consultation.

### **5. *UNESCO***

- Run their own statistical institute and uses surveys and questionnaires;
- Use secondary sources such as the World Bank, the United Nations, the OECD and academic research;
- Data verification through expert consultation.

The purpose of such statistical data is to administer and create policies tailored to contemporary society. According to Law no. 226/2009, these statistical data are compiled and produced by the following institutions:

1. Firstly, governmental authorities and public institutions, including the National Bank of Romania, which gather data and information on demographic, social, economic, financial, legal, and environmental situations. In order to facilitate scientific research of public interest, this information is essential for drawing links and comprehending interconnections between many domains (Parlamentul Românie, 2009);



2. Second, in compliance with certain legal provisions governing its establishment and operation, the National Bank of Romania is able to furnish particular statistical data within its purview (Parlamentul Românie, 2009).

In this case, statistical data from official sources are largely collected, processed, and subsequently disseminated to any institution in need, such as governmental agencies or international organizations (Pârțachi, 2018). Furthermore, it has been observed that there is a diversity of statistical data sources, involving various collection methods employed by National Statistical Institutes or researchers. Consequently, statistical research benefits greatly from the use of a variety of data sources, such as:

- Extensive observations, which include studies centered on a population that has been statistically observed, such as census data;
- Statistical observations using opinion surveys to get particular information on the statistical population under observation;
- Partial statistical observations, such as pilot surveys, similar to the previous category but not mandatory in terms of representativeness;
- Administrative sources recorded in administrative registers concerning population records, which complement the pool of existing statistical information. (Pârțachi, 2018)

In such situations, understanding the sources of statistical data is crucial, as it represents a key aspect in research activities, whether for documentation, analysis, or further research (Pârțachi, 2018). The most widely used and often cost-effective or free source of statistical data is represented by official sources, which also offer credibility advantages. Due to the National Statistical Institutes in each country, researchers benefit from a wealth of statistical data that can be utilized in both administrative and informational processes. Therefore, understanding and highlighting how statistical data are distributed is essential, whether referring to international organizations or National Statistical Institutes, all of which aim to disseminate information on various social, economic, demographic, and other aspects.



Next focus on the research on the elements that make up Romania's statistical system and how it is organized in accordance with Law No. 226/2009:

- The National Institute of Statistics, along with its territorial directorates and other organizations under its jurisdiction, is the first and principal entity;
- Statistical offices under the central government's public administration (Parlamentul Românie, 2009);
- Any statistical office under local public administration (Parlamentul Românie, 2009);
- Statistical offices under the authority of public authorities and institutions, excluding those under the National Bank of Romania (Parlamentul Românie, 2009);
- Finally, the National Bank of Romania, within the scope of its activities (Parlamentul Românie, 2009).

The aforementioned statistical offices are authorized to produce official statistical data under the provisions of Law no. 226/2009, which ensures the organization and operation of statistical activities in Romania in an official manner (Parlamentul Românie, 2009). Taking into account the National Bank of Romania that was previously mentioned, it is an organization that functions inside the national statistical system, generating official statistics and carrying out its designated tasks within its area of expertise. In accordance with its areas of expertise and activity, the National Institute of Statistics may develop its own procedures for the gathering, processing, analysis, distribution, and creation of statistical series in conjunction with the National Bank of Romania (Parlamentul Românie, 2009).

Moreover, the National Bank of Romania is a member of the European System of Central Banks, which enables it to develop statistical programs for the implementation and enhancement of official statistics (Parlamentul Românie, 2009). By examining the main institutions in Romania and globally regarding the process of collecting, processing, analyzing, and disseminating data, every individual benefits from the transparency and accuracy of the data. This aspect, regarding how data are collected and processed, is particularly important in research and must be emphasized to ensure the credibility of scientific endeavors.



### *The National Institute of Statistics*

The National Institute of Statistics collects and processes the statistical data that it makes available to citizens both through periodic reports and through the TEMPO Online platform. As a result, any statistical information published on the website of the National Institute of Statistics is accompanied by a government license that is granted to open data, provided following a protocol from 2014. The purpose of this protocol, signed since 2014, provides permanent, free access to all the data found in the TEMPO Online database in Romania, which provides statistical information, such as data specific to social, economic, financial, justice, environmental, utility statistics public, territorial administration and sustainable development (Iordan, 2017).

The maintenance of this database - free of charge - along with the method of collection and eventual modernization of them, certainly represents a long-term and extremely difficult process due to the extremely limited number of financial resources required. This may affect the processing and publication of statistical data, an aspect noted in certain sections available on TEMPO Online, where certain statistical data are not updated. Regarding the specific ways of collecting, processing, and interpreting the data collected by researchers, it can be difficult as a result of several meanings for certain concepts.

An example in this case is provided by the concept of employment, which in the sense of the Ministry of Labor represents something else, compared to the Ministry of Finance, and this highlights a problem faced by the researchers of the National Institute of Statistics in Romania (Iordan, 2017). Since 2017, the creation of a draft law was aimed at the creation of statistical offices in each ministry, the purpose of this draft law being to clearly establish common samples and the coordination of databases, so as to ensure the high coherence of public policy proposals (Iordan, 2017). And as a result, the population census, since 2017, was intended to be completed by the housing census, an aspect that could be supported and coordinated with the help of the National Agency for Cadaster and Real Estate Advertising, but also by the County Statistics Directorates, in order to create several data collection points in electronic format, through the online platform (Iordan, 2017).



Next, analyzing the statistical methodologies used by the National Institute of Statistics in Romania, in accordance with Law no. 226/2009 in force at the time, we could observe the fact that the National Institute of Statistics represents that producer of statistical data at the national level and which has the authority to establish the specific methodologies for carrying out statistical-type scientific approaches, in accordance with the annual national statistical programs, thus these methodologies are approved according to the order signed by the president of the National Institute of Statistics (Parlamentul Românie, 2009).

As a result, the information made available by the producers of official statistical data, who collect the data in accordance with their field of activity, but have the opportunity to establish their own statistical methodologies and techniques, without the need for approval from the National Institute of Statistics (Parlamentul Românie, 2009)). The legislation in force highlights the fact that, during the entire period of data collection and processing, statistical data researchers can apply the techniques and methods that ensure compliance and maintenance of the correctness and veracity of the statistical data produced (Parlamentul Românie, 2009)). In addition, it is important to note that the principle of confidentiality must be respected throughout the processing and storage of the collected statistical data, and in this case, researchers are obliged to separate the data that have been identified as belonging to those who provided them from the variables which have been registered, i.e. to preserve anonymity (Parlamentul Românie, 2009).

Another obligation that falls to both the producers of statistical data and the National Institute of Statistics is to destroy both the questionnaires used throughout the duration of the research and the references to the stored identification data (Parlamentul Românie, 2009). However, there is an exception, namely that of the fact that the data that are necessary to update the information provided in the statistical registers, after the end of the processing stage, but no later than one and a half years from the end of the reference period (Parlamentul Românie, 2009). Also, the producers of statistical data together with the National Institute of Statistics have the obligation to record and store all information under conditions of maximum security and safety (Parlamentul Românie, 2009).



In this situation we are talking about any statistical material or document that must not be destroyed either accidentally or without approval, but it is important to avoid other situations such as the falsification or inappropriate use of statistical data (Parlamentul Românie, 2009). Regarding the processing rules, respectively the storage rules and any other technical or organizational conditions can be developed in accordance with the specific areas of competence of the National Institute of Statistics, it being necessary to comply with all legal provisions and the approval of the president of the National Institute of Statistics from Romania (Parlamentul Românie, 2009).

Therefore, at the level of Romania, official statistics is one of the most important branches of knowledge of a society, because it can provide quantitative and qualitative information that contributes to an administrative system and the creation of public policies both at the micro level and at macro level (Institutul Național de Statistică, 2022). That is why there are multiple differences between official and public statistics, so that the first and most important category provides information collected and disseminated in accordance with the compliance with some normative acts, respectively by complying with the regulations at the European or national level (National Institute of Statistics, 2022). As a result, statistics become useful to a certain type of public when they are provided correctly, quickly and ensure the satisfaction of the users of statistical data, but especially if they are free (Institutul Național de Statistică, 2022).

According to national and international rules and laws, the National Institute of Statistics in Romania utilizes particular methodology for reporting on migration. Among these techniques are:

- Estimating migration stocks, which represent populations delimited by specific criteria at a given time, such as the stock of emigrants (people with Romanian citizenship who have had their habitual residence in another state for at least 12 months);
- The stock of immigrants (people without Romanian citizenship who have had their habitual residence abroad for at least 12 months but live in Romania for at least 12 months), is one way to measure the annual flows of emigrants and immigrants in accordance with the definitions for long-term temporary international migration, which involves a change of residence for a period of at least 12 months;



- Compliance with the habitual residence criterion and the 12-month threshold for measuring international migration flows according to European regulations.

### ***Eurostat***

It is important to understand the importance of Eurostat in terms of statistics, being the main responsible for analyzing and publishing statistics at the European level, in order to make comparisons at the level of the member countries of the European Union (European Commission, no date). Among Eurostat's main responsibilities are the development of definitions, classifications and methodologies for statistics at national level for the member countries of the European Union.

Also, Eurostat has a large responsibility regarding the aggregation of official statistical data of the European Union and the Member States, due to the fact that it uses data collected by statistical authorities at national level, in accordance with European standards. Finally, Eurostat will make European statistics available to decision-makers and citizens, using the Eurostat website, but also through other channels (Comisia Europeană). Thus, Eurostat represents a portal that includes statistical data made available by the European Commission and any other statistical information from the European Union (Pârțachi, 2018).

Eurostat disseminates statistical data in such a way that it is accessible to all people, using three languages of international circulation, namely English, French and German, depending on the areas of interest. Eurostat provides both general and regional statistical information in areas such as economy, finance, social, industry, trade, agriculture, fisheries, transport, international trade, environment, science and technology. As a result, it can be seen that the interface used by Eurostat for the dissemination of statistical data is very friendly and very easy to access, especially free, to provide statistical data to all interested persons. In addition, this portal the statistics provided by Eurostat are disseminated to countries that are not part of the European Union and, at the same time, particularly important for the neighboring countries of Southern Europe (Pârțachi, 2018).

To make the statistical information presented by Eurostat easier to understand, the portal uses databases structured by themes, tables according to the themes of interest, tables in accordance



with European Union policies and graphical representations, all of these (Pârțachi, 2018). Thus, the statistical system is an efficient one to understand, due to the fact that it provides a database and periodic information, in which graphs, tables and figures are used, which are explained by experts and researchers, to facilitate the understanding of the data.

The information is also structured and presented at the level of each region of interest, and this aspect highlights the fact that individuals within Eurostat make constant efforts to provide high-quality statistical information that reflects reality and supports the institutions that use this data.

According to the European Union regulations in the field of migration statistics, Eurostat uses the criterion of habitual residence and the 12-month threshold to measure international migration flows, considering a person to be an immigrant or an emigrant according to these criteria. The National Institute of Statistics (INS) estimates and transmits annually to Eurostat the data on the flows of emigrants and immigrants (European Regulation no. 862/2007, art. 2, paragraph 1, letter b) (Parlamentul European, Consiliul European, 2007). Estimating migration stocks is a difficult process, and in recent years there have been significant revisions of them in various countries in the European Union. International migration statistics are also disseminated by other international bodies such as the Organization for Economic Co-operation and Development (OECD) and the United Nations (UN), which adopt different practices from Eurostat, leading to different results in data dissemination.

### ***The Office of the United Nations High Commissioner for Refugees (UNHCR)***

The United Nations High Commissioner for Refugees (UNHCR) is an agency based in Switzerland that provides assistance to refugees, supports individuals and protects fundamental human rights in order to identify the most appropriate long-term solutions for that refugees can find a place that gives them a sense of home (UNHCR - The UN Refugee Agency).

UNHCR has created databases dedicated to informing populations that have been displaced (such as refugees, asylum seekers or people who are internally displaced) and this activity has been carried out for at least 70 years and also include demographic information of these individuals (UNHCR, 2023). At the same time, within the databases offered by the UNHCR there are also those people such as the stateless who, in the vast majority, have not been displaced, so the





purpose of this database is to support the authorities to create the most relevant solutions for displaced persons, measures such as their repatriation or resettlement (UNHCR, 2023).

The main data sources on which UNHCR operates are the following:

- The data provided by the United Nations High Commissioner for Refugees are collected through annual statistical activities, since 1951, the year in which the United Nations High Commissioner for Refugees took over (UNHCR, 2023);
- That data provided by the United Nations Relief and Works Agency for Palestine Refugees in the Near East, so this information focuses mainly on Palestinians registered under the mandate of the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) (UNHCR, 2023);
- The data that is provided by the Internal Displacement Monitoring Center (IDMC), information dedicated to people who are internally displaced, especially in areas of conflict or with a high degree of violence (UNHCR, 2023);
- These data made available by the United Nations High Commissioner for Refugees (UNHCR) are relevant, due to the fact that the information provided is both about refugees (needed by difficult conditions, such as political ones, to leave their native country and look for areas that provide them with safety), as well as about people who voluntarily leave the country for more favorable living conditions.

### ***The World Bank***

The World Bank disseminates statistical information specific to its field of activity, i.e. provides economic results for over 125,000 companies from approximately 139 countries (Pârțachi, 2018). In the case of the statistical information made available by the World Bank, it is outlined in a schematic form, carefully structured, so that it is easy to understand by researchers, but also by citizens or media institutions. Also, the World Bank has a database of world statistics, integrated into a portal, to distribute the information in an organized way for each country, respectively for each topic of interest, thus everything is arranged on websites web, and the topics are structured as follows:



- First of all, the *data*, which represents the initiative of the World Bank through which it creates *Open-Data* through which it makes available to users the possibility to access the data provided by the World Bank. Thus, the World Bank information made available through a database that generates tables that are already formatted, or generates certain explanatory reports, is presented. In addition, there is a section where world development indicators are found, which provide information on political development, economic development, agricultural development and environmental development (Pârțachi, 2018);
- Secondly, there are *Doing Business Indicators*, specific to the description of the business environment, which provide a diverse range of statistical information for several aspects dedicated to international business development. It also offers indicators specific to the business environment that offer the opportunity to compare the economies of over 180 countries, statistics that are closely related to the availability of credits, respectively to cross-border trade (Pârțachi, 2018);
- Thirdly, we have *Investing Across Borders*, which represents those cross-border investments, presenting the country-level indicators, depending on the topics of interest, such as the cross-border investment sector, opening foreign businesses, accessing land to start investment projects industrial, arbitration in case of commercial disputes. Thus, through this online platform of the World Bank, laws, regulations and practices that can affect direct investments globally are compared (Pârțachi, 2018).

According to the information made available by the World Bank, we can see that they have not been updated since 2015, a fact that shows that the data on international migration at the level of Romania have not been updated, in order to have an up-to-date picture. As a result, we can observe that the phenomenon of international migration is not a subject addressed by the World Bank, thus the last centralization was carried out in 2015, resulting in the most recent value of 226,943 migrants.



| Selected Countries and Economies |                  |                   |
|----------------------------------|------------------|-------------------|
| Country                          | Most Recent Year | Most Recent Value |
| Romania                          | 2015             | 226,943           |

*The situation of Romanian migrants, 2005-2015. Source: (World Bank Group, revised 2012), <https://shorturl.at/moxwB>*

### ***The United Nations Educational, Scientific and Cultural Organization (UNESCO)***

The United Nations Educational, Scientific and Cultural Organization (UNESCO) has its own statistical institute with the role of providing particularly important information on subjects such as education, science, culture or communication worldwide, to enable researchers and anyone interested to obtain information and indicators depending on the country, region or time period (years, months), the platform being available in two languages of international circulation such as English and French (Pârțachi, 2018). Thus, the UNESCO provides its users with a comprehensive database of up-to-date information in areas of social interest, education, culture, science, technology and innovation, the information being accessible within an arranged list in alphabetical order for all countries globally. The UNESCO has its own Statistical Institute (ISU) which provides high-quality, reliable and internationally comparable statistical information on education, science, communication and culture (UIS.Stat, UNESCO, no date).

This Statistical Institute of the United Nations Educational, Scientific and Cultural Organization is an official statistical agency with the role of producing current databases in accordance with the requirements, needs and changes taking place in the aforementioned fields. This official statistical agency of the United Nations Educational, Scientific and Cultural Organization was born from the desire to support the policies and investments necessary to produce changes in the lives of citizens and people in need, but also to contribute to the good development of contemporary society.



The Statistical Institute of the United Nations Educational, Scientific and Cultural Organization provides free access to statistical data for all member countries, respectively for all regional groupings within UNESCO from 1970 to the present. Also, the Statistical Institute of the United Nations Educational, Scientific and Cultural Organization supports and promotes the development and scientific endeavors to create sites and applications designed to use the data disseminated by this institution.

In addition, the United Nations Educational, Scientific and Cultural Organization Institute for Statistics supports a data browser as well as a bulk data download service, abbreviated BDDS (UIS.Stat, UNESCO, no date). Therefore, the United Nations Educational, Scientific and Cultural Organization (UNESCO) collaborates with several states, which are responsible for collecting and providing data in specific fields, such as education, science and culture. It also sends questionnaires and surveys to national agencies and important entities in each member country - through this data it collects internationally comparable data. In addition to data collected from member countries, the United Nations Educational, Scientific and Cultural Organization (UNESCO) also uses data from secondary sources, such as data provided by the World Bank, United Nations, etc. and the validation of the collected data are subject to a rigorous verification process by consulting our own experts.

### **3. Discussion**

Given that this research addresses the issue of migration statistics by analyzing how migration statistics are processed or disseminated, especially Romanian migration and starting from the fact that in 2021 there were over 4 million Romanians registered outside the borders, we easily see that Romania ranks in on 17th in the list of countries of origin for global migration, according to a Global Migration Report from 2022, the most current report to date (International Organization for Migration, 2021).

As a result of the Global Migration Report from 2022, it is evident that the ratio between the Romanian population who left the country and the ratio of individuals of other nationalities who migrated to Romania is 6 to 1, meaning that the number of Romanian emigrants is six times greater compared to the number of foreign immigrants in Romania in December 2020 (International Organization for Migration, 2021). Thus, it can be observed that the value of



remittances sent by Romanians abroad was over 7.5 billion dollars in 2020, a sum that decreased compared to 2019.

Regarding the proper management of labor migration in Romania and abroad, it can only take place based on a carefully constructed informational system, in accordance with the regulations of the United Nations (Vasile, 2018). However, it is important to emphasize that such a system in Romania requires specific policies and measures for conception, cooperation, and especially coordination among those involved in analyzing the labor migration market. In this case, to accurately measure the volume, structure, and intensity of external migration movements, as well as the motivations or impact of these movements at the international, national, and local levels, represents a challenging aspect. Migration as a highly complex phenomenon can have multiple causes, and for each individual it can represent a different meaning, whether it is simply a change of residence or migration due to reasons such as the need for a better life.

In the case of labor migration, it represents an extremely important factor in the globalization of the labor market (Vasile, 2018). It is important to underline that in order to create an adequate and well-established informational system, several measures and actions under careful coordination and cooperation are necessary, such as:

Careful collection of basic, primary information using administrative sources or any other relevant sources for this type of information;

Constant application of the subsidiarity principle during the collection, processing, subsequent analysis, and dissemination of collected data and information;

Clear coordination and horizontal and vertical cooperation between all individuals and authorities providing information, whether they are public or private persons or institutions;

Finally, the development and implementation of a standardized, well-prioritized system based on indicators that are relevant, expressive, credible, and accessible to all (Vasile, 2018).

Such a form of collecting information and statistical indicators represents a very relevant and valid aspect in order to provide a concrete picture of the phenomenon of migration outside the borders of Romania.

In addition, the collection and indexing of information based on these measures and procedures can lead to the creation and implementation of specific policies for external migration, all resulting in the exploitation of Romania's human capital (Vasile, 2018). In the course of the



present research, it has been observed that the measurement of migration, respectively the understanding of the specific number of citizens outside the borders of Romania and any other country, represents a sensitive aspect. Clearly, despite all technological innovations and developments in tools dedicated to measuring international migration and the number of citizens who have left Romania, this cannot be measured concretely in order to generate a final, real number of the population leaving the country. In addition, measuring migration, respectively the circulation of individuals outside the country in general, represents a process that starts with the following recommendations that are elaborated by the United Nations, specifically:

The International Organization for Migration must provide clear and specific statistics dedicated to international organizations, especially in the field of migration;

In the field of migration, especially Romanian migration, it is important to have official statistics from Eurostat (which provides the most relevant information from all areas in Europe) that present the characteristics of flows and stocks of international migration, using a level of detail that allows comparison of statistical information from EU member states;

In addition to the recommendations provided by the United Nations, national statistics are recommended to use specific elements at the national, regional or local level (Vasile, 2018).

It is important to create tools or identify techniques dedicated to measuring international migration, and this aspect is recognized by major organizations such as the International Organization for Migration or the United Nations (Vasile, 2018). As a result, when reconfiguring techniques for collecting and interpreting statistical data, the following measures may be necessary to provide a clear picture of this phenomenon:

Constant adaptation and updating of recommendations in the field of migration provided by the United Nations to ensure the generation of concrete and conclusive policies for its management;

Also, compatibility must be ensured between concepts and methodology for national statistics in the field of migration, primarily between organizations and institutions that produce statistical information, even if these are collected and interpreted in Romania;

Currently, more attention needs to be paid to aspects of migration, especially informing about this phenomenon, especially in Romania;

Prioritize regulations on international migration to identify, introduce and apply national regulations on this phenomenon, but all of these must occur in accordance with recommendations



provided by international institutions and at the European level in the field of migration (Vasile, 2018).

Therefore, when it comes to a sovereign state, it is particularly important to respect the right to determine which persons transit national territory, who remains in the country, and under what conditions these processes occur. Thus, this right is enshrined in the Universal Declaration of Human Rights, emphasizing that citizens have the right and freedom to leave any country, even their native country, and the right and freedom to return to the country of origin (Vasile, 2018). Throughout time, during the communist period, it has been noted that the number of people leaving the country has steadily decreased. Thus, from 1990, when the highest number of departures from the country was recorded (96,929), until 1994, when 17,146 people left post-communist Romania. From 1995, when there was a significant increase in migration, approximately 25,675 people leaving the country, the number of people who left Romania decreased until 2002, where the lowest number of international migrations was recorded, specifically 8,154 people (Cruceru, 2010). The period 2002-2004 led to an increase in the number of people who left post-December Romania, but from 2006 to 2008, the number of people seemed to decrease due to the economic crisis facing the country at that time.

As a result of the fact that the Romanian economy suffered as a result of the crisis, in 2009, the number of people who left the country increased to 10,211 people, and this detail highlighted the need of Romanians for security and stability, a desire fed by a better life, but outside the country. This table, based on information generated by the National Institute of Statistics from Romania, highlights the importance of this phenomenon for researchers, being a long-term analysis that resulted from the collapse of the Communist regime.



Source: (Cruceru, 2010)

The phenomenon of international migration in the case of Romania highlighted the following aspects: with the opening of borders during the country's transition from the communist regime to democracy. Additionally, this phenomenon led to a deeper desire for analysis due to the breakdown of statistical information by gender, which provided a much clearer and more concrete picture regarding the evolution of families remaining in the country. For the period analyzed (1990-2009), the gender distribution is as follows: regardless of the year they left Romania, the largest proportion was recorded among females. This highlighted that the need to meet family needs and job availability for this gender category is greater among women. Furthermore, upon analyzing the number of people who left the country by gender category, it was found that the high percentage of females led to an unfavorable outcome, particularly evident in the birth rate and the children who remained at home. The root of this issue is rooted in long-standing cultural preconceptions about women's roles in the home, particularly with regard to raising and educating children. It was shown that children's development tended to be weaker when their moms were absent.

#### 4. Results and conclusions

The statistical data currently gathered are imprecise and do not accurately reflect the circumstances of the population living outside of Romania, given the research goal of examining the problem of international migration and its influence on the evolution of Romanian society and public policy. It became evident when the communist system fell that a sizable portion of





Romanians had emigrated abroad in quest of better opportunities. The migration situation did, however, improve over time, and the census was unable to accurately capture the statistical truth of this occurrence.

| Reporting Methodologies used at the National and International levels |   |   |  |  |  |
|---|---|---|--|--|--|
| Criteria  | Institutul Național de Statistică   | EUROSTAT  | UNHCR  | Banca Mondială   | UNESCO   |
| Citizenship   | YES   | YES   | YES  | YES  | YES  |
| Country of Birth  | YES   | YES   | YES  | NO   | YES  |
| Time threshold  | 1 calendar year   | 1 calendar year   | 1 calendar year  | 1 calendar year  | 1 calendar year  |
| Usual residence   | YES   | YES   | YES  | YES  | YES  |
| Reporting Periods   | Annually (TEMPO ONLINE)<br>Every 10 year (Census)   | Annually  | Annually   | Annually   | Annually   |
| Period  | 1 calendar year   | 1 calendar year   | 1 calendar year  | 1 calendar year  | 1 calendar year  |
| Data source   | "Econometrics of International Migration Estimation":<br>- selective statistical research;<br>- the census.   | - Use questionnaires and surveys to ensure comparability of data;<br>- Uses data from administrative sources and national registers.  | - Data collected through UNHCR + UNRWA statistical activities (registration of persons under UNHCR protection);<br>- Field surveys and assessments.    | - Data collected through economic and administrative collaboration activities, from the governments and national statistical agencies of the member countries. | - Owns its own statistics institute;<br>- questionnaires and surveys to national agencies and important entities of the member states. |
| Multiple sources for Data Collection, Verification, and Validation    | - Collaborate with ministries, government agencies and local authorities in Romania.<br>- Performs consistency checks and compares data with other sources to identify and correct possible errors;<br>- Data verification involves direct consultation with data providers for clarifications and corrections. | - Collaborates with the national statistical institutes of the EU member states, responsible for the collection and reporting of data at national level, according to the standards and methodologies established by Eurostat;<br>- Performs consistency checks and data validation involves direct consultation with national statistical offices. | - Collaborate with host country governments, national refugee agencies, NGOs;<br>- direct consultation with persons registered under UNHCR protection. | - Use secondary data sources, such as UN, IMF, OECD, Eurostat;<br>- Data verification involves consistency checks and expert consultation.                     | - Use secondary data sources such as World Bank, UN, OECD, academic research;<br>- Data verification involves consulting experts.      |

Particularly after the self-numbering 2021 census, there is a dearth of particular information, and disparities are evident in both the population living in Romania and at the national level. Competent agencies routinely conduct research to support activities connected to migration policies and strategies and to distribute information regarding international migration. In order to disseminate information about international migration, competent authorities regularly conduct research to support initiatives related to migration policies and strategies. This allows the information to be centrally managed in an online database and accessible to everyone at any time. The main purpose of this research was to examine and analyze important issues and their effects on the development of Romanian society and public policy in more depth. Finally, in order to



make the reporting methodology used clearer, the below table has been created to suggest a clearer view of this aspect:

Therefore, each institution analyzed the reports on the status of international migration in different ways, mainly in terms of data collection methods and purposes of data reporting, as well as available resources. In addition, the importance of the term varies from institution to institution, especially according to criteria for defining certain aspects, criteria such as citizenship, country of birth and time thresholds defining immigration. Moreover, the methodology of data collection is different because institutions such as Eurostat, the World Bank, UNESCO and UNHCR use surveys, while institutions such as the National Statistical Institute prefer both surveys and censuses as data collection methods. Data collection methods differ, as some studies aim to implement a country's migration policy, while others provide information to institutions. Nevertheless, all these approaches are technocratic-based, and less political (Raiu & Mina-Raiu, 2023)

As for the usefulness of information on international migration, it is essential that national public institutions and governments implement public policies to support migration flows (Raiu C. , 2012). The importance of the collection and documentation of migration-related data by the National Statistical Institute is important for effective governance, and the data collected by the National Statistical Institute (INS) by organizations such as Eurostat, UNHCR, the World Bank and UNESCO are fundamental for the creation and implementation of public policy at the national and international levels.

*Also, are methods such as selective statistical surveys and censuses sufficient for Romania's governance needs?* Romanian migration data is collected by methods such as selective statistical surveys and population censuses. These are necessary to understand demographic trends and plan appropriate policies in areas such as employment, education, health and social security. The National Statistical Institute (INS) has adopted stringent methods for data collecting and verification, which increases the accuracy of the data. But problems with data integrity could arise, especially with groups of illegal immigrants and those living in remote areas.

There is much disagreement over the veracity of the data provided to support the current administration. However, because the National Statistical Institute's (INS) methodology is uniform and accessible for scrutiny worldwide, there is a reduced likelihood of notable



manipulation. Transparency and methodological publication also affect data reliability. Additionally, by using these data, public services like health and education can be more efficiently allocated to meet the needs of the general public.

*Who will benefit from this migration data?* These statistical data are also useful for international organizations such as the United Nations, Eurostat, UNHCR, the World Bank and UNESCO to monitor global migration trends. In addition, migration data is important for non-governmental organizations as it creates intervention and support programs for migrants, including health, protection and educational services.

In addition, migration data serves the interests of government power, as it can be used to justify policies and decisions, increase international funding, and demonstrate progress and special needs. Finally, statistics are effective for the public at both national and international levels, especially for raising awareness and creating public discussion about migration trends, so that these data are easy, accessible and easily understandable for all categories of people.

The research highlights the importance of the phenomenon of international migration, which is supported mainly by statistical data provided by public institutions such as the National Statistical Institute, the World Bank, UNHCR, UNESCO and Eurostat. All these data are aimed to analyzing and presenting the migration situation in Romania, and in particular in Romania, to show how statistics about this phenomenon are presented. Considering that the research started with the desire to analyze and define the methodologies used in migration reporting at the national, European and international levels, we observed that different institutions pay special attention to this issue. We can observe that after the scientific approach, the migration situation in Romania was analyzed, especially after the Communist period, it was noted that the largest number of people left the country.

Most migration data mostly center on the overall count of individuals exiting a country and sociodemographic details categorized by age, gender, and origin. Data at national, European, and global scales are available online via public platforms and databases, although specific data collection methods were not detailed. In conclusion, a scientific approach allowed this research to observe that the census is the primary tool used to report the population by age, gender and gender, but in certain cases, it does not reflect the accuracy that are presented and sampled throughout the research. Also, for certain statistics, there are no updated data in the database so



far, but the continuous evolution of this phenomenon of migration is due to the continuous transformation of modern society.

## References

1. Comisia Europeană. (n.d.). *Eurostat - European Statistics*. Retrieved from <https://shorturl.at/Mtgxj>
2. Cruceru, A. A. (2010). *Analiza statistică a fenomenului migrației românilor* (Vol. nr. 11). Revista Română de Statistică.
3. Institutul Național de Statistică. (2022). *Statistica oficială din România*. Retrieved from <https://shorturl.at/Qespp>
4. International Organization for Migration. (2021). *Romania among the top 20 countries in the world with the highest emigration (In Romania)*. Retrieved from <https://shorturl.at/vzPbZ>
5. Iordan, A. C. (2017). *Accesul la date statistice* (Vols. Info INS - Buletin Informatic).
6. Parlamentul European, Consiliul European. (2007). *Regulamentul (CE) nr. 862/2007 al Parlamentului European și al Consiliului din 11 iulie 2007 privind statisticile comunitare din domeniul migrației și protecției internaționale și de abrogare a Regulamentului (CEE) nr. 311/76 al Consiliului privind el.*
7. Parlamentul Românie. (2009). *Legea nr. 226/2009 privind organizarea și funcționarea statisticii oficiale în România*. Monitorul Oficial nr. 397 din 11 iunie.
8. Pârțachi, I. V. (2018). *Sursele de date statistice - punct de pornire în analizele statistice. Particularități ale principalelor surse de date statistice oficiale în Romanian* (Vols. Statistical Review - Supplement nr. 5).
9. Raiu, C. (2012). *Ortodoxie, postcomunism și neoliberalism. O critică teologico-politică*. București: Curtea Veche.
10. Raiu, C. V. (2015). An Ontology of Good Governance. A Political Theory Approach. *Revista Română de Economie*, 154-169.
11. Raiu, C. V. (2015). An Ontology of Good Governance. A Political Theory Approach. *Revista Romana de Economie*, 40(1), 154-169.
12. Raiu, C. V., & Jukneviene, V. (2021). The Science of the State. A comparative analysis of Statistical National Offices in the European Union. *Romanian Statistica Review*, Issue 2, 14-28.
13. Raiu, C., & Mina-Raiu, L. (2023). Who Runs Public Administration? A Longitudinal Study of Technocratic Ministerial Appointments in Post-Communist Romania (1991–2021). *Transylvanian Review of Administrative Sciences*, Volume 19, Issue 70, 109-127.
14. UIS.Stat, UNESCO. (no date). Welcome to UIS.Stat. Retrieved from <https://data.uis.unesco.org/Index.aspx>: <https://data.uis.unesco.org/Index.aspx>
15. UNHCR - The UN Refugee Agency. (n.d.). *About us*. Retrieved from <https://shorturl.at/ObIFD>
16. UNHCR. (2023). *Refugee Data Finder*. Retrieved from <https://shorturl.at/mRnjz>



ROMANIAN JOURNAL OF PUBLIC AFFAIRS

17. Vasile, V. P.-F. (2018). Statistica migrației.
18. World Bank Group. (revised 2012). *International migrant stock, total – Romania*. Retrieved from <https://shorturl.at/moxwB>



## PUBLIC OPINION MANIPULATION THROUGH MASS MEDIA. A STUDY CASE ON GAZA-ISRAEL CONFLICT<sup>1</sup>

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**Abstract.** *This paper presents how the mass media and new communication technologies influence the formation of public opinion. The main purpose is to demonstrate that social media plays an essential role in influencing the public. By analyzing the main functions of the mass media and manipulation techniques, we will observe how these are reflected in the news about the Gaza-Israel conflict, as well as the effects they generate.*

**Keywords:** *public opinion, manipulation, Israel, Gaza, conflict*

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## 1. Introduction

Manipulating people's interests is a recurrent topic in history, with roots stretching back to ancient times and persisting through the ages. Great historical figures like Alexander the Great, Napoleon, and Martin Luther King primarily wielded unparalleled oratory skills, capable of moving masses, evoking powerful emotions, and uniting people for common goals. The art of oratory gave rise to the art of manipulation, which seeks to control the hearts, minds, and actions of the masses. Manipulation is a crafty practice that can reshape the psycho-emotional structure of individuals, directing them like puppets, highlighting the vulnerability of people to external influences. Only through strong awareness and constant vigilance individuals can protect themselves from the flood of false news and deceit that pervades all around. Before the advent of mass media, mass manipulation was challenging to achieve and targeted smaller, more homogeneous groups (Raiu, 2012). Today, it is very easy for millions of people to be ensnared in this game, as they spend a lot of time on the internet or watching TV.

An analysis of Cicero's famous work "*De amicitia*" reveals the role of flattery in electoral campaigns, the use of lies, empty promises, and falsehoods to manipulate the populace and gain trust. In 64 BC, a year before the consular elections in which his brother participated, Cicero outlined clear directions for manipulating public opinion and influencing perceptions as desired (Voinea, 2014). The famous Latin expression "*Panem et circenses*" by Juvenal, translated as "bread and circuses," demonstrates that mass manipulation is a psychological game exploiting primary needs while suppressing higher aspirations. It is evident how collective attention is diverted from real issues to trivial matters, making people easily controllable through minor promises. It is very interesting how the attention of thousands of people can be easily distracted from serious problems by placing minor subjects at the center of debate.

Assuming that the manipulation of public opinion is a factor that spreads societal discord by increasing tensions among people and turning public spaces into conflict zones, the following chapters will explore the main functions of mass media and how it influences public opinion. Alongside the study of mass manipulation techniques and their effects, we will also focus on providing practical and current examples to demonstrate the application of theoretical principles to real-world situations.





## 2. A literature review on mass-media: the Fourth Estate and the manipulation of public opinion

### 2.1. The primary functions of mass media in a Constitutional State: a forum for political disapproval and a crucible for public opinion

A foray into media history will take us to the town of Antwerp in the Netherlands in 1605 when the first periodical newspaper appeared, later developing daily newspapers. For the next hundred years, newspapers continued to spread around the world and be the main source of information for millions of people, until the advent of the telegraph, radio and, later on, the television. But with them, the first forms of manipulation of public opinion through the media were also born.

Mass media is the most popular means of mass message transmission in a continuous development, with an amazing influence and conviction, fact which brought it the reputation of "fourth estate". The essential element of the media is **communication**. Thus, in order to have a clarification of the concept of media, it is necessary to note the role and size of communication. Communication appears as a primary necessity in maintaining social relationships. Etymological, „communication” has its origin into the Latin "communis", from which the word "common" was formed and this word refers to "something that belongs to many". (Lesenciuc 2017, p. 11)

There are many definitions of communication, which demonstrate its complexity, beyond a simple action. According to the American psychologist Carl I Hovland, communication is an art. In his opinion, communication can be defined as the process by which "an individual (emitter) sends a message (usually verbal) to change the behavior of the other person (receiver)"(Hovland, 1948). Journalist Richard Dimbleby in *More than words* sees communication as a form by which all our senses are touched and not limited to verbal communication alone. Moreover, he argues, communication is an art that must be refined. (Dimbleby and Burton, 2020) Communication has been divided into several specific forms: direct, indirect, multiple and collective, the last one being known as mass communication. (Radulescu 2015, p. 63)





The peculiarity of mass communication lies in the fact that it is addressed to very large groups of different people, whose only common denominator is given by the consumption of the same product. Mihai Coman points out in his book *Introduction to the media system* that "the mass represents a huge conglomerate of people who do not know each other, do not live in relationships of spatial proximity, do not communicate or have common values and purposes, but they are linked by only one thing – the consumption of the same cultural product, widely distributed through modern technologies." (Coman 2016, p. 17).

Media was metaphorically called „the fourth estate” due to its characteristic to influence large groups of people, but also to stimulate the state to make certain decisions, contributing to public debate and the supervision of power to ensure transparency (Raiu, 2015). Claude-Jean Bertrand believes that through the role of „intermediaries between citizens and governors, the media is transformed into central institutions, into pivots of democracy” (Bertrand, 2001, p. 37).

In order to have a broader understanding of the designation "fourth power", we need to relate to its functions and observe what role they play in the formation of public opinion.

In the work *The Image of the Public Institution*, Professor Corina Radulescu identifies four essential functions of the mass media: "informative, formative, commercial, and recreational" (Radulescu 2015). Claude-Jean Bertrand argues that in a democracy, "the mass media represents an industry, a public service, and a political institution: three somewhat incompatible roles" (Bertrand, p. 34). Based on these classifications of the functions of mass media, it must be noted that in a rule-of-law state, it also serves as a guarantor of freedom of expression, correct information, and political impartiality by exposing irregularities and maintaining transparency for the public.

Thus, perhaps the most important function of the mass media is to **supervise power**, ensuring accurate, unbiased information that exposes deviations to the public. Claude-Jean Bertrand maintains that the title of "the fourth estate" given to the media derives from an "independence and qualification that allows them to evaluate and criticize those elected on behalf of citizens" (Bertrand, 2001, p. 36) Bertrand also notes that some of the main actors in the media are



politicians, who have attempted, and sometimes succeeded, in controlling the dissemination of information to the public, either through censorship or by purchasing media outlets.

Closely related to this primary function is the **function of information**. Through information, important global news quickly reaches billions of people, influencing opinions on various subjects and even mobilizing people from different parts of the world to act similarly for a common cause. For example, in 2023, southern Turkey was severely affected by two earthquakes, resulting in the deaths of thousands and leaving many others injured or homeless. News about this calamity dominated the headlines for weeks, prompting people worldwide to donate clothes, money, or food for those affected.

**The formative function** complements the first two, consisting of the media's role in shaping and educating public opinion. Today, thousands of articles on various topics—from science to religion, linguistics, finance, economics, law, to astronomy and cybernetics—are published online daily. Communication experts believe that the formative function aims to "express and shape opinions, behaviors, and mentalities, contributing to the general level of knowledge and education in culture and civilization" (Rădulescu, 2015, p. 96).

The formative function of the mass media has an ambivalent dimension, as it decides what types of information people are exposed to, what is broadcasted, and consequently shapes beliefs and attitudes toward societal events. The media uses the image of popular individuals to create admired models and successfully instills behaviors and thought directions. Certain habits can even be subliminally implemented through advertisements.

**The commercial function** reflects the media's power to sell and stimulate consumption, with the ultimate goal being profit. By manipulating information, the media creates needs in the collective mind that otherwise would not exist. It exerts immense psychological pressure, turning the public into victims of shopping. "The two established means of mass manipulation are advertising and propaganda. The immense expenses incurred worldwide for advertising aim to form a conviction in clients that can transform them into buyers" (Rădulescu 2015, p. 96). For example, at the beginning of the pandemic from 2020, parts of the media contributed to the general panic, giving



the impression that very bleak times and even famine were imminent. This led to the toilet paper crisis and the instantaneous emptying of store shelves worldwide.

Another highly popular function of the mass media today is **entertainment**, which caters to people's need to detach from everyday life. By consuming entertainment, individuals enter a virtual world, an imaginary reality that provides a sense of relaxation and fun. The enormous popularity of social media platforms confirms the necessity of this media function. Statistics show that over 5 billion people worldwide use at least one social media platform. This popularity has created new professions for content creators, from travel vloggers to motivational speakers and influencers.

Experts in the field believe that the mass media serves as the stage for public debates, acting both as a source of public opinion and as a driver of democracy: "The mass media contributes to the social organization of debates and amplifies democratic social dialogue, becoming an essential condition for democratic evolution: the democratization of society passes through the democratization and pluralization of communication, with the mass media constituting a fundamental source of public opinion" (Moraru, 2008).

## 2.2. Public Opinion as "Agreement in Diversity"

It's astounding how millions of unique and different people from completely opposite corners of the planet can believe in the same things or share a common opinion about something. Public opinion unites many microenvironments (the personal opinions of individuals) into a macro environment (a generalized opinion, a complex of emotions, thoughts, and views on issues that go beyond the personal sphere and affect the community).

Martial Pasquier asserts that "mass media groups together very varied realities with specific rules, logics, and codes" (Pasquier 2018, 212). This arises from the fact that media is not a homogeneous ensemble; each media channel has its own particularities, meaning that the way information is transmitted can differ greatly from one radio station to another, and there are differences in how news is conveyed through radio, newspapers, or television, influenced by the space each medium can allocate to a given piece of news. In this context, the challenge arises of



reaching a common and accepted agreement in a world marked by differences of opinion on general issues.

The German sociologist Jürgen Habermas was concerned with the phenomenon of diversity in public opinion, which unites different views into a common agreement, and he is credited with the concept of "agreement in diversity" developed in his works. (Habermas and McCarthy, 1985) In the early 1980s, Habermas developed the *Theory of communicative action*, which places central importance on communication in society. He highlights the role of reason and rational communication in building a common space for mutual understanding in a world marked by differences, with the public sphere being dedicated to dialogue to maintain democratic values. By "agreement in diversity" Habermas suggests that a level of understanding on a subject can be reached despite differing personal views in a public environment becoming more and more technocratic (Raiu & Mina Raiu, 2023).

Once with the modernization of mass media, the public space begins to shape very differently. The emergence of the public sphere becomes conditioned by the existence of the mass media, which is seen as a tool of democracy, playing an essential role in what will be called the "new public sphere" along the XXth century (Raiu, 2023). Mass media becomes the space for free discussions on various topics, allowing the expansion of the media horizon by bringing everyday issues to public attention, as Camelia Beciu presents in *Sociology of Communication and the Public Sphere*. The same author highlights the media function of the new public sphere, characterized also by online activism due to the emergence of the internet and discussion groups, where communication has an informal character and there is a shift from public interest to commercial interest (Camelia Beciu, 2016). The appeal to the emotional side of discourse aims to sensitize, potentially even manipulating public opinion.

Furthermore, the emergence of the internet generates and develops microenvironments, discussion forums on different topics that can even impact political decisions or be uncomfortable for governments, but it also mobilize people en masse for causes they believe in, which can lead to protests or strikes. An example of this occurred in 2019 when Moldovan entrepreneur Ștefan Mandachi launched the slogan "șîeu" as a criticism of the government's neglect in building highways in that region of Romania. Those words were more than just criticism; they sparked an



entire movement against the poor management of road infrastructure in Romania, which had led to thousands of accidents in recent years. The day he inaugurated, as a protest, the first meter of highway in Moldova, was a day when employees of several multinational companies and institutions held a brief strike in solidarity with the movement that had become very popular on Facebook, even featuring a logo many added to their profile pictures. His manifesto elicited reactions from politicians and brought the topic into public discussion. Subsequently, "Romania wants highways" became a frequently used slogan in the public space and even at various protests.

### 2.3. The manipulation of public opinion by the media through transforming the public sphere into a private zone of conflict

Conceptual changes in the public space have led some authors to argue that individuals' ability to filter information through critical thinking is disappearing, giving way to an ease of accepting what the media sells. Nevertheless, it should be remembered that media also has the commercial function, which is increasingly exploited today. **The public sphere can be transformed into a private zone of interest when public opinion is manipulated, and public debate is steered in the desired direction by actors controlling the media through advertising or favoritism.** Psychologists argue that "the modern man is a probable victim of propaganda, a certain victim of manipulation by political, commercial, and media organizations" (Teodorescu, 2007).

Habermas draws attention to the transformation of what was once a public opinion focused on moral principles into an opinion influenced by consumerism, which leads to shaping people's preferences to serve consumption. "The goal of communication becomes influence, and the public opinion thus constructed becomes the opinion of the masses on private perspectives, which have thus penetrated the public sphere." (Lesenciuc, 2017). Professor Coman highlights that through his studies, Habermas shows that in the new public sphere mass media messages and debates are controlled by financial interests, leading to the disappearance of the rational dimension (Coman 2016).



Since public opinion can be shaped in the desired direction, people's thinking is formed based on the messages transmitted by the media without filtering the information personally. Media can amplify or diminish the significance of an event or situation, hide an occurrence by focusing attention on a trivial but impactful event. For instance, a government adopts an abusive legislative measure, but the media highlights a famous actress's divorce or a major accident in a distant country. This has led some authors to consider propaganda as the primary function of the mass media. An example is the manipulation of public opinion through propaganda by political parties. Bertrand believes that politicians use the media to influence public opinion, gain votes, highlight their achievements, while distorting reality and omitting certain aspects (Bertrand, 2001).

The specialized literature defines manipulation as "the action of determining a social actor to think and act in a way compatible with the initiator's interests, not with their own, by using persuasion techniques that intentionally distort the truth, giving the impression of freedom of thought and decision" (Coman, 2016, p. 103). Manipulation is characterized by disinformation and lies, propagating false news presented under the guise of truth, giving the impression of an indisputable reality. The information that reaches the public sphere is carefully controlled to serve the interests of those who wish to maintain control. The same author mentioned above evokes that manipulation involves a psychological struggle aimed at diminishing individuals' critical spirit to filter received information through reason. Media manipulation is also characterized by censorship of sensitive subjects, even if not overtly. For example, videos discussing certain political or social topics are automatically deleted by social media platforms or their algorithms reduce visibility for most users.

Moreover, transforming the public sphere into a private zone of conflict implies the affinity for certain sensitive subjects that appear in public discussions, leading to the ambivalent development of opinion, which divides people and creates a conflictual zone. The emphasis is on contradictory discussions, generating conflict and strong emotions that polarize the public, making them easy to manipulate. These emotions can include hatred, pity, regret, anger, appreciation, etc. The same author notes the intentional fragmentation of transmitted information, either by omitting parts or by conveying falsehoods, leading to a misunderstanding of the subject.



### 3. Manipulation of public opinion by the media: Techniques and examples

#### 3.1 Techniques for manipulating public opinion through mass media and social networks

In order to observe how manipulation influences our opinion and what effects it produces, we need to understand what it entails and how it is carried out. There are four main ways through which manipulation occurs: **misinformation, non-information, counter-information and sub-information**. Thus, not only the transmission of false information but also the silence of the press about a subject is a form of public opinion manipulation that shapes people's minds. At the same time, it is noted that the media processes the information, amplifies the rumors to take the public debate in the desired direction. However, an essential feature of manipulation is that it does not leave freedom of thought, but only gives a false impression that we are master of our thoughts, feelings, and even actions. **Studies show that the effectiveness of communication is influenced by the credibility level of the source that is sending the message.** The more trustworthy the source conveying the message is considered to be, the more receptive the audience will be to what it asserts.

New technologies play the most important role in manipulating public opinion because they have assertive effects and are accessible to everyone. Today, social networks such as Facebook and Instagram boast an astounding number of over 5 billion users, placing them at the top of electronic communication media. Meanwhile, the YouTube platform records approximately 10 billion users, facilitating the instantaneous transmission of various news to any corner of the world. Through social media, influential public figures can even instill beliefs in people, control crowds, and transmit convictions. For example, the message "Stop Asian Hate" posted by American singer Justin Bieber on Instagram in 2021 garnered over 2 million reactions from fans worldwide. The fact that an internationally renowned superstar intervenes in a social issue carries great persuasive power over those who follow him. But, even though social media is an efficient means of mass communication, it also allows for the proliferation of numerous fake news stories in the public space.



The main techniques of manipulating public opinion are: **propaganda, control of information and emotions, distraction, framing, omission and amplification of different situations.** These techniques are commonly used for various types of manipulation, as manipulation can take several forms. Generally, the most common form of manipulation is psychological, closely related to informational and emotional manipulation. (Cebanu and Pravițchi, 2020) However, public opinion is also influenced by economic, media, political, technological, informational, and social manipulation.

### 3.2. Vulnerability of public opinion to media manipulation

Media is known for its tendency to manipulate public opinion through various ways. Most often, it distracts the audience from one topic by placing another of less importance in the foreground and creating amazing news that keeps the audience distracted from real problems. To gain a clearer picture of how the media manipulates public opinion, we will focus on the following example from the Romanian public sphere.

It concerns a news story from October 2022, when it was rumored that Elon Musk rented Bran Castle and came to Romania to celebrate Halloween. The rumors spread rapidly and were taken over as main news by the major Romanian televisions. Without concrete evidence to support information about his participation in the famous private party inside the castle, the press presented various arguments and testimonies: "from the hotel where he stayed, to the barn where he ate" (Cincea 2022), and headlines like "Elon Musk is coming to Romania" ([www.stirileprotv.ro](http://www.stirileprotv.ro), 2022) made front-page news. But it all turned out to be a setup when, on December 31, 2022, Elon Musk himself denied being in our country, as a response to a comment on X, the former Twitter, where he wrote, "I did not attend to that party in Romania" ([www.x.com](http://www.x.com), 2022). While some newspapers, such as *Libertatea*, apologized to readers for misinformation, others remained silent on the matter.

This event makes us wonder if it was just an attempt by the media to exploit its commercial function by prioritizing audience over accurate information, or if there is something more to it. Could it be an attempt to distract the public attention by placing an unimportant subject in the spotlight? The coincidence is that these rumors surfaced just as Romania was commemorating the





7th anniversary of the tragic Colectiv nightclub fire, where 64 people died. Not only did the mass media fail to give the necessary attention to the news regarded to that event, but apparently, these were overshadowed by alleged mysterious visits. This might had happened because Romania of 2022 still did not have any suitable hospital the effective treatment of severe burns, despite such incidents becoming more frequent in recent years, as highlighted in a report by the national television. Could the news about Elon Musk have been merely a political manipulation to divert attention from serious social issues, from corruption and the lack of action?

Nowadays, it has become even easier to manipulate the public opinion due to the development of artificial intelligence. New challenges are generated by the fake news phenomenon and some of them seem so real that is very hard to say what is false and what is true. For example, in March 2023 a photo of Pope wearing a Balenciaga jacket became viral on Internet and many people were fooled by it. Soon, it was proven that the photo was AI-generated, but it was too late because a lot of people were already outraged. However, it is believed that the experiment marked the first major mass misinformation caused by AI.

#### **4. Case Study: Social Media and the shaping of public opinion. The Middle East conflict**

If the wars of recent years, natural disasters, and health and economic crises were not enough, the outbreak of a new conflict has put humanity on alert, and the media contributes to shaping public opinion regarding events in Gaza and Israel through societal polarization. What is the impact of manipulation on public behavior? In the following analysis, we will observe the effects of manipulation and how it is carried out.

The Middle East is known for its frequent armed conflicts, maintained by terrorist groups and political rivalries, as well as the involvement of external states in local events. The area is like a volcano ready to erupt at any moment. This happened again on October 7, 2023, when Hamas, which exercises control over the two Palestinian territories: the Gaza Strip and the West Bank, crossed and attacked Israel's southern border, bombing several settlements and targeting people attending a music festival. The day resulted in more than 250 kidnappings and approximately 1,200 casualties, as reported by the BBC ([www.bbc.com](http://www.bbc.com), 2024). This action by Hamas received a violent response from Israel, which on October 9 launched an offensive, classifying the Hamas



attack as a terrorist attack and its actions as a mission to combat terrorism, self-defense, and an attempt to rescue hostages.

The study period covers approximately six months from the outbreak of the conflict, and relevant data regarding the manipulation of public opinion are recorded, without addressing the subject from a political or subjective perspective.

### *Public figures and influencing followers' opinions on social media*

As we have seen in previous chapters, authors in sociology have often argued that one of the functions of the media can also be considered propaganda. It is noted that in the conflict between Gaza and Israel propaganda is mainly used in manipulating public opinion, along with fake news, framing and disinformation.

A lot of messages have been spread through platforms like Twitter, TikTok, and Instagram, to incite hatred among internet users towards one side of the conflict. We also see a distortion of reality, manipulating public opinion through the dissemination of rumors and fake news about the events. Referring back to the statements in previous chapters about the credibility of the source, we observe how the involvement of worldwide superstars in this conflict by expressing their opinions about the events generates effects among their followers.

Celebrities such as Angelina Jolie, Bradley Cooper, and the Hadid sisters have publicly spoken about the events in Palestine and the cruelty of war, showing their support for the population there. Although their actions were intended to convey a message of peace, public opinion split into two camps: supporters of Israel and supporters of Palestine, with manifestations of hatred against Jews reaching alarming levels again. In a world of cancel culture, expressing a firm opinion on something can trigger a chain reaction. For example, an article in the American publication *The Guardian* highlighted that celebrities who spoke about the Gaza conflict suffered abuses, censorship, and some were even fired by major advertising agencies because Hollywood has firmly supported Israel since its founding as a state, in 1948. (Smith 2023) One example is the case of Oscar-winning American actress Susan Sarandon, who was fired from the media agency she worked for due to her public support for Palestine, as stated in the same article.



Political organizations labeled messages supporting Palestine as anti-Semitism, and any message condemning Israel's actions automatically attracted this classification, which only fueled the anger of internet users and divided the world into two groups. Statements in which celebrities condemned the attacks and suffering caused by the fighting in Israel and Gaza were often taken out of context to influence and manipulate public opinion. For example, Bella Hadid, who is an international model with Palestinian origins, was very vocal about Gaza, publicly expressing her support for her homeland and condemning Israel's actions. The star has over 61 million followers on Instagram, and a post of hers from May 16, 2024, about the Zionist Movement and the oppression of Palestinians in recent decades gathered over 1 million reactions. According to *Time Magazine*, the model is among the top 100 most influential people of 2023, which proves she enjoys credibility among her fans. Why is it important to have all this information? After declaring in one of her speeches that she would continue to advocate for Palestine's liberation even if there would be repercussions on her career, a false news story spread online, claiming that the famous fashion house Dior had terminated Bella's contract due to her statements and had replaced her with another model of Israeli origin (Hannah Hudnall 2023).

Hatred against ordinary Jews was increased by spreading that fake information, and many anti-Semitic messages spread online. The news turned out to be false, as the model's contract with the famous brand had expired long before the conflict broke out. Manipulation occurred through the exposure of false news and the creation of a story that would touch the public. Indeed, an Israeli model appeared in the new campaign of the fashion house, but it was just a coincidence that their new collection was launched just a few days after the Gaza conflict started, with its date being pre-set. This shows how easily information spreading online can be controlled to manipulate public opinion.

### *Media Subjectivity in Event Reporting*

Framing is used many times in the news about this conflict. How does it manifest? Firstly, the language the media uses to present news about the two sides is carefully chosen to subtly convey an evident message: victim versus aggressor. Let's take BBC, the renowned London broadcasting station, as an example and observe how it presents news about war victims. It is noteworthy that



BBC is considered among the most reliable global news channels, with a weekly audience of over 318 million people, according to their statistics center (BBC, 2023).

On October 9, 2023, just two days after the conflict erupted, in a post on platform X, BBC headlined that "over 500 people have died in Gaza as a result of Israel's retaliations," while "over 700 people have been killed in Israel since Hamas launched attacks." ([X](#), 2023) Labels are placed through language, even if indirectly. By the manner in which events are presented, what Israel does is seen as self-defense, while what Palestinians do is seen as a crime. We can observe how the media's function of informing is contaminated by subjectivity and political favoritism. Furthermore, Western media has been accused numerous times of manipulating public opinion regarding the Gaza conflict. But like in any other war, in the end, those who suffer the most are those who can defend themselves the least: ordinary people. Therefore, the media should use its function of overseeing power and provide objective information about both sides while also advocating for peace.

Another thing the media does is fail to provide a complete picture of the situation. For example, it highlights the crimes committed by Hamas, the attacks, and the mistreatment of hostages, presenting Israel's actions as a defense against the attacks from the opposing side. However, it does not show that the people of Palestine are subjected to severe restrictions by Israel and have faced numerous abuses over time. The press speaks little about the fact that human rights have often been violated in Gaza and the West Bank, and this is a very old issue. For instance, the organization Human Rights Watch published a report in 2017 that detailed the abuses of power committed by Israel against the two occupied territories, under the pretext of national security against Palestinian rebels. According to the report, the people of Palestine were victims of unjustified killings, had their movement restricted or even banned, had their homes demolished, and faced restricted access to the two Palestinian areas. The same report mentions that there were armed responses from Palestinian terrorist groups in reaction to the abuses against the population (Human Rights Watch, 2017).

The International Federation for Human Rights (FIDH) also posted an article highlighting that Israel's actions in Gaza since the conflict began are entirely against human rights, depriving civilians of food, water, and electricity. Additionally, the article published on November 9, 2023,



enumerated a series of severe violations and atrocities such as mass killings of civilians, including many children, the forced depopulation of Palestinian territories through military force, mass arrests, and torture in prisons, censorship, violence against Palestinians who speak out about abuses, and other similar actions (FIDH, 2024). A statistical calculation shows that in the first four weeks after the conflict erupted, the number of arrests among Palestinians increased by 18% compared to before, and in April 2024, statistics indicated that the number of incarcerated Palestinians had nearly doubled compared to before October 7 (Al Jazeera, 2024). These individuals were subjected to violent treatment in prisons, and local sites show that one of the most frequent reasons for incarceration was publicly expressing support for Palestine. ([www.addameer.org](http://www.addameer.org), 2024)

In a recent article published by *Fox News*, one of the largest international media outlets, it is highlighted in the title that Israel killed two Hamas commanders in one of the attacks on the city of Rafah, a place where civilians have taken refuge from the war, but also dozens of civilians. It is important to analyze how the events are presented. Fox News emphasizes in the first part of the article that there were numerous terrorists in that area and that the attack was directed against legitimate targets. As for the civilians killed in the attack, the news reports that there were a few dozen civilian casualties, with the exact number being uncertain. Although the article mentions that civilians were injured, that a fire broke out as a result of the bombing in which many people perished, and that the number of Palestinian casualties has reached tens of thousands since the conflict began, it ultimately concludes by stressing that it is important for those territories to be freed from terrorism (Fox News, Bradford Betz and Trey Yingst, 2024). Here, aspects contributing to psychological propaganda can be observed.

When Israel bombed hospitals in Gaza, such as the one in Shifa, several international newspapers like *The Times*, *The Guardian*, and *Associated Press (AP)* published articles propagating the news conveyed by the Israel Defense Forces (IDF), which claimed that Hamas leaders were hiding beneath hospitals where there are underground tunnels. To reinforce the justification for the necessity of the attack on the largest and best-equipped hospital in Gaza, the media amplified the idea of Hamas using human shields. To make the IDF's justification plausible, they spoke about recordings in which Palestinians complained that Hamas leaders were not allowing them to



flee south to seek shelter from the war. This was used as evidence by Israel to argue that human shields were being used in the conflict zone in Gaza, according to an article by *The Guardian* (Peter Beaumont, 2023). *AP* also talks about these human shields but highlights the lack of concrete visual evidence that the organization's leaders are hiding under hospitals ([www.apnews.com](http://www.apnews.com), Josef Federman, 2023). On the other hand, *Al Jazeera* highlights that the bombings on hospitals were devastating and that not only were the buildings destroyed, but many doctors also perished. It is observed that the media tends to be biased. Even if they present information, it is exposed from an angle favorable to them, thus justifying or countering the opposing viewpoint.

Let's analyze two headlines from the international press. On one hand, we have an article from *The Guardian*, and on the other, an article from *Al Jazeera*. Both are considered biased: the former is pro-Israel, and the latter pro-Palestine. Both have a significant global impact, with millions of followers. The subject of the articles is marked by the use of human shields in Gaza, but who is accused of using them changes depending on who writes the article.

Neither of the two major newspapers denies the existence of human shields, but each presents the situation from its own perspective to suggest a clear message. While American and European media, through sites like *The Guardian*, *AP*, *BBC*, and others, published articles accusing Hamas of using human shields, Middle Eastern media channels wrote the exact opposite, accusing Israel of doing so.

Western media, reiterating Israel's statements, highlighted that human shields are being used in Gaza. For instance, an article from *The Guardian* published on October 30, 2023, titled "What are human shields and how has Hamas been accused of using them?" (Peter Beaumont 2023), presents how civilians are used by Hamas as human shields to make Israel be accused of war crimes for attacking vulnerable areas where the organization's leaders are hiding. Israel justified the bombing of hospitals in Gaza by stating that there are many tunnels under them where members of the terrorist group are hiding. Although at the time of the article, Israel's statements were not demonstrated by international sources and there was no visible evidence to attest to these things, such strategies had been used in past confrontations, and it might have been justified this time as well since international conventions condemn attacks on sensitive areas such as



hospitals, schools, and churches, where there are civilians, as war crimes: "the act of attacking or bombarding, by any means, towns, villages, dwellings or buildings which are undefended and which are not military objectives" (Rome Statute of the International Criminal Court, July 17, 1998), art. 8, lit. b,(v)). The use of human shields is illegal, and places where this occurs should not be targeted. The article also highlights that the group does not really care about people, using them to hide, hoping that the adversary will respect international laws.

Thirteen days after this article in the British newspaper, *Al Jazeera*, the main broadcasting station in the Middle East, published an article titled: "What are human shields and why does Israel use them in Gaza?" (Federica Marsi 2023) and highlighted that there is no conclusive evidence to show that Israel's claims are true and mentioned that Hamas denied Israel's accusations that it is hiding under hospitals and using human shields. Furthermore, it accuses Israel of using this argument just to bomb vulnerable areas. Why is this categorization used? Experts believe that the term *human shield* is used by both sides to blame each other for the killings

Several techniques of public opinion manipulation can be observed, such as **framing** and **misinformation**. On the one hand, media labeled as pro-Palestine presents the idea that Israel accuses Hamas of using human shields merely to justify its actions, which are destructive to civilians. On the other hand, Western media emphasizes that the terrorists are the ones employing such tactics, disregarding the consequences for people, making it impossible to avoid collateral casualties.

Another manipulation tactic is through **language**: in the *Al Jazeera* article, emotionally charged terms such as "crime," "abuse," "civilian damage," and "victims" are used to generate sympathy for the people of Gaza and outrage against the Israelis. In contrast, *The Guardian* opts for a more technical and military perspective. **The perspective** from which situations are presented also matters: the British newspaper's article focuses on national security and the Israeli army, while the Qatar's newspaper focuses on human rights and the Palestinian perspective.

It's noteworthy that pro-Palestinian newspapers minimize or even omit the fact that taking hostages is also a war crime condemned by international conventions, just as pro-Israel media try to mask many parts of reality. The way news is presented significantly influences public opinion





and further divides it into two rival camps. These articles present events as self-defense missions and anti-terrorist actions, discussing technical and military details of attacks and bombings between the two sides, but minimizing or briefly mentioning the impact on civilians to distract from human rights violations. If pro-Palestine media ignores the fact that taking hostages is a human rights violation, pro-Israel media avoids discussing that hundreds of thousands of Gaza residents are transferred by Israel to various areas within the Gaza Strip, only for the most severe attacks to occur precisely there.

*Social Media – between debate and polarization through the spread of fake news and misinformation*

A TikTok video posted on May 7, 2024, serves as one of the most illustrative examples of public opinion manipulation on social networks regarding the Israel-Hamas conflict and how the media divides public opinion into two camps. The 16-second video, which has amassed a total of 7.7 million likes and 43 million views, is the perfect example of how psychological and emotional manipulation occurs. Four words with a strong psychological impact are used: “same planet, different worlds” (tiktok.com, 2024) and the images presented evoke strong indignation on one side and deep pity on the other. The video is a comparison between the 2024 Met Gala in New York and the war in Gaza. In the first few seconds, Zendaya, a famous actress from Disney and Hollywood movies, is seen walking the red carpet in a festive dress, immediately followed by apocalyptic scenes of bombings and explosions in the Gaza Strip. Then, for a second, another sequence from the lavish event in America appears, followed by an image of several hungry and dirty children picking a few plant remnants from the dirt with their bare hands in Northern Gaza, just to have something to eat. The image of a celebrity waving to the crowd during the gala evening, with a broad smile while wearing an elegant dress, is juxtaposed with the image of women torn by grief, mourning their families lost under the rubble from the bombings in Gaza, and at the end, the message: “Free Gaza” appears.

The post garnered over 53,000 comments, most of which support Palestine and disapprove of Israel, America, and, of course, the celebrities attending such events. The world we live in has often been compared by netizens to the famous Hunger Games film series, accusing the event organizers of siding with Israel; otherwise, they would have canceled this event, which distracts





public attention and debate from the conflict to what happened on the night of the Met Gala, from the guests' speeches to their outfits. Users who did not express approval of this opinion were harshly criticized in the comments by those who support Palestine. Words like "genocide," "massacre," and "victims" frequently appear, contributing to framing through the use of language. We can see how such a video contribute to the polarization of society by considering the fact that this video was shared over 300,000 times and reposted by dozens of other accounts, generating several million additional views. The background music chosen for the clip further conveys the idea of social inequality, as it is taken from the Hunger Games series.

In the film, for example, there is a society divided between the powerful and the common people, where authoritarian control is exercised, maintaining population submission through violence. Similarly, the idea is conveyed that the same thing happens in Gaza, where people are forcibly subjected by a stronger economic and military authority, and any attempt to retaliate is severely punished. Additionally, one could refer to the fact that civilians caught in conflict appear in the film, just as children, women, and helpless people fall prey to the unequal war.

Emotional manipulation is among the preferred forms of influencing public opinion, especially by social media. Notably, videos that depict the tragedies of people who fall victim to war and elicit strong emotions are frequently used. For instance, a video was posted on TikTok showing a woman screaming in pain amidst a sea of rubble because, upon returning from grocery shopping, she finds everything destroyed by bombings. The title used is: "She went to buy flour and found her family buried in the rubble." This video was viewed by over 15 million people and garnered 2.3 million likes, according to TikTok statistics.

Fake news are used to manipulate the public opinion too. Whether using artificial intelligence, taking images and words out of context, or propagating lies, fake news alarms and creates strong emotions in those who see it. The days immediately following the Hamas attack, a series of fake images taken from video games emerged, showing Israel under aerial assault by Hamas. The images, published on the X network, spread rapidly and appeared both on social media and on some television channels worldwide. Shortly after, BBC journalist Shayan Sardarizadeh debunked these accusations and provided evidence showing that the images were taken from the video game Arma 3 ([www.x.com](http://www.x.com), 2023)



Of course, public opinion is also manipulated on the Palestinian side by disseminating false images. France24 debunked several fake news stories circulating online and on television. It was proven that images from Syria and Ukraine were being used by users as evidence of the Israeli offensive in Gaza (france24.com, Catalina Marchant de Abreu, 2023).

*From online messages to real-life actions*

The effects of manipulating public opinion can already be seen in society by how people relate to the two sides. While there is generally compassion, leniency, and approval towards injured Palestinians in the conflict, there is an exaggerated antipathy, hatred, and hostility towards ordinary Jews. Some journalists and sociology experts even talk about antisemitism. In these conditions, the ability to distinguish between cause and effect, between political struggles and ordinary people, is essential. Public disapproval of Israel's military actions spills over onto ordinary Jews, who become targets of insults, threats, and even violence.

Conversely, the public support enjoyed by Palestinians is used to minimize the consequences of actions by provocateurs and terrorists, and to obscure the fact that not all Gaza immigrants are honest people; some may even cause various problems in the countries they reach.

From heated discussions on forums and social media to street movements, there was a fragile step that materialized into protests in several countries around the world. From America to Spain, the UK, Qatar, Indonesia, South Africa, and Venezuela, people united in protests of solidarity with Palestine, calling for peace and an end to the war. However, the protests and general outrage towards Israel are often used by lobby groups to exert pressure on governments. Fake news on social media led to mass mobilizations, but things have considerably escalated, with movements for peace turning into boycotts of brands, verbal and physical aggression against both Jews and ordinary Palestinians.

One of the effects generated by the way events were presented on social media is the boycott of several international brands. Among the most controversial and boycotted brands was Starbucks, the American coffeehouse chain with locations worldwide. According to northjersey.com, campaigns against Starbucks were based on distortions between the company and the workers' union, which expressed support for Palestinians on social media (northjersey.com, 2023).



Several public figures and associations in America immediately reacted to this gesture and urged people through their messages to boycott the brand, arguing that "drinking from Starbucks is like drinking Jewish blood" ([www.ojchamber.com](http://www.ojchamber.com), 2023) or claiming that the brand supports Hamas terrorism. Later, the company's management disavowed the union's statements, stating that they do not support or represent their point of view, and even sued the union for inappropriate use of the brand name. In turn, the union sued the parent company, accusing it of defamation and falsely suggesting that they support terrorism.

Starbucks claimed it wanted to stay away from political involvement, but these statements angered internet users as the company had used political and ideological trends for publicity over the years. For example, it publicly supported mixed marriages and welcomed Syrian refugees to America, but this time it preferred to appear neutral, leading to massive controversies and boycotts.

The hashtag #boycottstarbucks quickly went viral on social media, with mobilizations worldwide for protests and boycotts. A TikTok video posted by the Palestinian organization "Within Our Lifetime" showed thousands of people protesting in front of a Starbucks store in New York, using slogans accusing the brand of supporting the genocide in Gaza. The video amassed approximately 43 million views and over 5 million likes, along with hundreds of thousands of comments against Starbucks, again dividing internet users into two camps: pro-Gaza and pro-Israel. Market studies show that Starbucks' shares dropped by 9% in the first three months after the movement against the company erupted, also affecting its image.

The way lobby groups and propaganda expose the issue is unethical, as they present things from a perspective that suits them. Social media videos show young people sabotaging American university graduation ceremonies or disrupting public order, spreading hate speech, and glorifying many agitators. Such behavior not only fails to help the suffering people of Gaza but also worsens their situation by creating the idea that immigrants are harmful. Today, it is very dangerous to be Palestinian in Israel and Jewish anywhere outside of Israel. It is truly sad that the suffering of defenseless people is being used for selfish interests. For example, in April this year, American university campuses were targeted by anti-Israel agitators inciting hate and



antisemitism. Several people were arrested by the police, but videos of them began circulating online, accompanied by messages of support calling them champions of humanity and heroes.

Reuters published data showing that in 2023, the UK recorded the highest number of antisemitic incidents in the last 40 years, driven by the conflict that began on October 7. According to information published on this site, two-thirds of the incidents were recorded on October 7 itself when Hamas attacked Israel (reuters.com, 2024).

It is important to maintain an objective reporting of events and to focus on discussions for peace, ending the conflict, and protecting civilians. Degenerating into accusations against actors who have no control over what is happening is not a solution, and polarizing society does not lead to beneficial effects.

## 5. Conclusions

To sum up, we can say that the public opinion manipulation is a phenomenon deeply rooted in history, manifesting through shaping collective perception in the desired form by those who can direct masses of people. As observed in chapters above, manipulation is a meticulously carried out practice, with present forms based on thousands of years of perfected techniques. From Cicero's "bread and circuses" to controlling masses through AI technologies, where reality becomes increasingly indistinguishable from falsehoods, one of the greatest dangers to accurate information in society is the rapid increase in the spread of fake news through AI. Even though a careful analysis can help even non-specialists distinguish fake images from real ones, if the phenomenon is not stopped or thoroughly regulated, it will become very difficult or even impossible to make this distinction in the future.

Consider, for instance, the video game images used as war propaganda in the Israel-Palestine conflict, the indignation they can stir, and the extent of their effects. The video game "Arma 3" was used to show the world how Israel was being bombed by Hamas, creating a media frenzy where news of airstrikes dominated the front pages for several days. This prompted public figures and various brands to defend Israel, fueling the anger of the pro-Palestine camp. Simultaneously, AI-generated images of wounded or even killed Palestinian children served as arguments for the worldwide protests that erupted. Even though it was later proven these were fake, once



movements and a perspective are set in motion, it becomes very difficult to stop the phenomenon. This is evidenced by the increase in violence against Jews and protests, as highlighted in Chapter III.

Studying manipulation forms and analyzing the main techniques can help recognize true information from falsehoods and foster critical thinking. In this regard, news should be verified from multiple sources before being believed. As observed in the previous chapter, the term "human shields" was used by both Western and Arab media, differing only in the actor attributed to using them. Analyzing multiple sources makes it clear that the same subject can be presented very differently from one publication to another, depending on each one's ideological perspective.

The examples provided show how easily sensationalism can replace public interest, with audience appeal taking precedence over unadorned reality. Why did a news story about a billionaire attending a party in Romania capture public attention just when the debate should have been focused on remembering the tragic Colectiv club event? When a sensitive topic arises that could awaken the public's critical spirit and even spark protests, the media offers a commercial product to distract attention long enough for the danger to pass. This is evident from the situation described in subchapter 2.1, where the news about Elon Musk disappeared immediately after the period when the victims of the October 2015 fire should have been commemorated. The spectacle around his presence in Romania lasted just long enough to overlap with this painful event for us as a country, then quickly faded away. Even though we tend to be drawn to the magnetism of fabulous news, we should focus on what is happening in society as a whole and ask ourselves if a spectacular headline is trying to omit or hide an important but delicate subject.

Comparing how mass media and social media report events shows that manipulation exists in both, but social media today has a much faster effect. The simple fact that hashtags mentioned in Chapter III can gather millions of uses shows how far the phenomenon can go. For example, the video of protesters against Starbucks garnered 43 million views, and these street and online movements caused the company's shares to drop by 9% in the first three months. Social media itself becomes an essential tool in forming public opinion, as these situations show its significant impact on our decisions. Furthermore, the source of the message is equally important. The



examples regarding Palestine show how the source has a high level of control over public opinion and how a simple impactful post can mobilize people.

However, unlike traditional mass communication channels, fake news on social media is exposed more quickly. Investing in systems that efficiently detect fake news is a first step in combating manipulation, but this situation has an ambivalence. On one hand, algorithms block what is reported as untrue content, but on the other, the question arises of where this phenomenon ends and censorship begins. Recent events in the Middle East have presented situations where videos showing real situations on the ground or testimonies of victims were simply blocked by platforms like Facebook or YouTube.

The most suitable way to combat manipulation is skepticism about what we see and hear. Filtering information, analyzing sources, and seeking at least three perspectives on what reaches us are effective methods to determine if we are witnessing media manipulation. The moment we start asking questions is the moment we step out of manipulation and observe the truth. Public opinion manipulation will always exist in one form or another, but ways to combat it will also continually emerge. Today, despite increasing censorship, social media remains one of the main sources of truth, as the same subject appears in videos, clips, and debates presenting the situation from multiple perspectives. The public outrage over the AI-manipulated images from Gaza, mentioned above, and their quick debunking as fake news, demonstrate that social networks transmit information faster than traditional media.

In conclusion, public opinion manipulation through mass media is a common phenomenon that is spreading increasingly and must be combated through personal efforts to discern the nature of news and by media channels not straying from their functions in favor of material and subjective goals.

## References

1. Al Jazeera, Federica Marsi. (2023), *What is a 'human shield' and why is Israel using the term in Gaza?* <https://www.aljazeera.com/news/2023/11/13/what-is-a-human-shield-and-why-is-israel-using-the-term-in-gaza>, accessed on 26<sup>th</sup> May 2024



2. Al Jazeera, Nashed, Mat. (2024). „*The Thousands of Palestinians Israel Arrests, Tortures, Holds Even in Death*”. <https://www.aljazeera.com/news/2024/4/17/the-thousands-of-palestinians-israel-arrests-tortures-hold-even-in-death>.
3. AP News, (2023), *Is Hamas hiding in Gaza's main hospital? Israel's claim is now a focal point in a dayslong stalemate* <https://apnews.com/article/israel-palestinians-hamas-war-shifa-hospital-ce8fda9821a011a6cb6e4a3df5c90916> accessed on 26.05.2024
4. BBC, (2023), *About the BBC*, accessed on 25 mai 2024, <https://www.bbc.com/aboutthebbc/whatwedo/worldservice>
5. BBC, (2024) *Israel Gaza war: History of the conflict explained*, <https://www.bbc.com/news/newsbeat-44124396> 5, accessed on 20.05.2024
6. Bradford Betz și Trey Yingst. 2024. „Israeli airstrike on Rafah kills 2 top Hamas commanders, dozens of civilians”. *Fox News*, 26th May 2024. <https://www.foxnews.com/world/israeli-airstrike-rafah-kills-2-top-hamas-commanders-dozens-civilians>.
7. Cebanu, Marina and Pravițchi, Galina. (2020). „Efectele psihologice ale manipulării în mass-media”, [https://ibn.idsi.md/sites/default/files/imag\\_file/216-219\\_15.pdf](https://ibn.idsi.md/sites/default/files/imag_file/216-219_15.pdf)., accessed on 23th May 2024
8. Cincea, Melania. 2022. „Vulnerabili în fața dezinformării”. *Puterea a cincea*, <https://putereaacincea.ro/vulnerabili-in-fata-dezinformarii/>.
9. France 24, (2023) „*Images of war in Ukraine used to falsely illustrate Israeli ground offensive in Gaza*”, <https://www.france24.com/en/tv-shows/truth-or-fake/20231031-images-of-the-war-in-ukraine-used-to-falsely-illustrate-israel-s-ground-offensive-in-gaza>.
10. Frau, Lucas, Northjersey.Com, (2023). „*Why Are People Boycotting Starbucks? A Look inside the Scrutiny of the Coffee Chain*”. <https://eu.northjersey.com/story/news/nation/2023/12/14/starbucks-why-everyone-boycotting-controversies-explained/71885557007/>.
11. Fidh, (2023) *Alarming increase of human rights violations against Palestinians in the occupied territory and against Palestinian citizens of Israel* <https://www.aljazeera.com/news/2024/4/17/the-thousands-of-palestinians-israel-arrests-tortures-hold-even-in-death> accessed on 26.05.2024
12. Fox News, (2024), *Israeli airstrike on Rafah kills 2 top Hamas commanders, dozens of civilians* <https://www.foxnews.com/world/israeli-airstrike-rafah-kills-2-top-hamas-commanders-dozens-civilians> accessed on 26.05.2024
13. Human Rights Watch (2017), *Israel: 50 Years of Occupation Abuses* <https://www.hrw.org/news/2017/06/04/israel-50-years-occupation-abuses> accessed on 26.05.2024
14. Instagram (2021), <https://www.instagram.com/justinbieber/p/COTxu68nIJc/>, 11st May 2021,
15. Moraru, Victor. (2008) „*Puterea, mass-media și constituirea spațiului public*”. [https://ibn.idsi.md/sites/default/files/imag\\_file/6-18\\_4.pdf](https://ibn.idsi.md/sites/default/files/imag_file/6-18_4.pdf).
16. Moraru, Victor, and Tacu Mariana. (2014) „*Mecanismele de funcționare a mass-mediei: teorii și efecte*”. *Revista de Filosofie, Sociologie și Științe Politice* 165 (2): 161–76.





17. Peter Beaumont, The Guardian, (2023). „*What Is a Human Shield and How Has Hamas Been Accused of Using Them?*” <https://www.theguardian.com/world/2023/oct/30/human-shield-israel-claim-hamas-command-centre-under-hospital-palestinian-civilian-gaza-city>.
18. Reuters, (2024) *UK records worst year for antisemitism after outbreak of Israel-Hamas war*, <https://www.reuters.com/world/uk/uk-records-worst-year-antisemitism-after-outbreak-israel-hamas-war-2024-02-15/> accessed on 28<sup>th</sup> May 2024
19. Smith, David. 2023. „People Are Being Penalised’: Hollywood Divided over Israel-Hamas Conflict”. *The Guardian*, decembrie 2023, sec. Culture. <https://www.theguardian.com/culture/2023/dec/02/hollywood-divide-israel-gaza-conflict-susan-sarandon-cynthia-nixon>.
20. State, Andreea Monica. „*COMUNICARE NARATIVĂ ȘI IDENTITATEA BRANDING-ULUI UNIVERSITAR*”, (2016) <https://revistadesociologie.ro/en/sites/default/files/andreamonicastate.pdf>.
21. *STATUTUL din 17 iulie 1998 DE LA ROMA AL CURȚII PENALE INTERNAȚIONALE\**), accessed on 28.05.2024, <https://legislatie.just.ro/Public/DetaliiDocumentAfis/34774>.
22. StirilePROTV (2022). „*Elon Musk vine în România. A închiriat Castelul Bran pentru o petrecere cu vedete și miliardari*”. <https://stirileprotv.ro/stiri/actualitate/elon-musk-vine-in-romania-a-inchiriat-castelul-bran-pentru-o-petrecere-cu-vedete-si-miliardari.html>.
23. The Jerusalem post, (2023), *Jewish orgs. call to boycott Starbucks over union's support of Hamas*, accessed on 25<sup>th</sup> May 2024, <https://www.jpost.com/business-and-innovation/banking-and-finance/article-768968>
24. TikTok, (2024) <https://vm.tiktok.com/ZGeVeCKkL/> accessed on 25.05.2024
25. TikTok, (2024) <https://vm.tiktok.com/ZGe4Cg14X/> accessed on 25.05.2024
26. TikTok, 2023, <https://vm.tiktok.com/ZGeVRKcB1/>, accessed on 25.05.2024
27. Voinea, Alexandru Lucian. 2014. „*Communication and Manipulation to Cicero*”. *Journal of Romanian Literary Studies*, nr. 05, 218–27.
28. United Nations Türkiye „*Gaza: Number of Children Killed Higher than from Four Years of World Conflict*”. (2024) <https://turkiye.un.org/en/263401-gaza-number-children-killed-higher-four-years-world-conflict>.
29. Usa Today News, Hudnall, Hannah (2023). „*Bella Hadid's Departure from Dior Is Unrelated to Her Palestinian Support | Fact Check*” <https://eu.usatoday.com/story/news/factcheck/2023/12/08/bella-hadid-dior-departure-mischaracterized-in-viral-posts-fact-check/71829132007/>.
30. X, (2022). [https://x.com/elonmusk/status/1609090415516614658?ref\\_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1609090415516614658%7Ctwgr%5E881477fd80af7eb6e888046085a6b3149cc0ed88%7Ctwcon%5Es1\\_&ref\\_url=https%3A%2F%2Fstirileprotv.ro%2Fstiri%2Finternational%2Felon-musk-vorbeste-pentru-prima-data-despre-povestea-cu-petrecerea-de-halloween-din-romania.htm](https://x.com/elonmusk/status/1609090415516614658?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembed%7Ctwterm%5E1609090415516614658%7Ctwgr%5E881477fd80af7eb6e888046085a6b3149cc0ed88%7Ctwcon%5Es1_&ref_url=https%3A%2F%2Fstirileprotv.ro%2Fstiri%2Finternational%2Felon-musk-vorbeste-pentru-prima-data-despre-povestea-cu-petrecerea-de-halloween-din-romania.htm).
31. X, (2023), <https://x.com/Shayan86/status/1711180889453953238>, accessed on 20.05.2024
32. X, BBC News, (2023) <https://x.com/BBCWorld/status/1711340677571674567>





33. Bertrand, Claude-Jean. 2001. „O introducere în presa scrisă și vorbită”. *Iași: Polirom* 12, [https://polirom.ro/img/cms/Biblioteca/o\\_introducere\\_in\\_presa.pdf#page=31](https://polirom.ro/img/cms/Biblioteca/o_introducere_in_presa.pdf#page=31)
34. Beciu, Camelia. (2016). *Sociologia comunicării și a spațiului public*, Polirom
35. Coman, Mihai. 2007. *Introducere în sistemul mass-media*, Polirom
36. Dimpleby, Richard, and Burton, Graeme. 2020. *More than words: An introduction to communication*. Routledge.
37. Ficeac, Bogdan. 1996. *Tehnici de manipulare*. Nemira.
38. Habermas, J., and McCarthy, T. (1985). *The Theory of Communicative Action: Volume 1: Reason and the Rationalization of Society*. Boston: Beacon Press.
39. Lesenciuc, Adrian. 2017. *Teorii ale comunicării*. Editura Academiei Forțelor Aeriene" Henri Coandă". [https://www.afahc.ro/ro/facultate/cursuri/2017\\_teorii\\_ale\\_comunicarii.pdf](https://www.afahc.ro/ro/facultate/cursuri/2017_teorii_ale_comunicarii.pdf).
40. McQuail, Denis. 1977. „The influence and effects of mass media”. *Mass communication and society*, 70–94.
41. Mucchielli, Alex. 2016. *Arta de a influența. Analiza tehnicilor de manipulare*, Polirom
42. Pasquier, Martial. 2018. *Comunicarea organizațiilor publice*. Editura Universității din București- Bucharest University Press.
43. Profiroiu, C.M., Negoită, C.I., Costea, A.V. (2024). *Digitalization of public administration in EU member states in times of crisis: the contributions of the national recovery and resilience plans*. *International Review of Administrative Sciences*, 90(2), 336-352.
44. Raiu, C. (2012). *Ortodoxie, postcomunism și neoliberalism: o critică teologico-politică*, București: Curtea Veche.
45. Raiu, C. (2015). *An Ontology of Good Governance. A Political Theory Approach*. *Revista Romana de Economie*, 40(1).
46. Raiu, C. (2023). *Public Governance and Religion. Key Historical Turn in Modern Romania*. București: CH Beck.
47. Raiu, C., Mina-Raiu, L. (2023). *Who Runs Public Administration? A Longitudinal Study of Technocratic Ministerial Appointments in Post-Communist Romania (1991–2021)*. *Transylvanian Review of Administrative Sciences*, 19(70), 109-127.
48. Rădulescu, Corina. 2015. *Imaginea instituției publice*. Editura Universitară.
49. Teodorescu, Bogdan. 2007. *Cinci milenii de manipulare*. Tritonic.



## THE IMPACT OF DIGITAL TRANSFORMATION ON DEMOCRACY.A STUDY CASE ON #REZIST MOVEMENTS.<sup>1</sup>

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**Abstract.** *This paper examines how the evolution of information technologies and digital tools has revealed their capacity to facilitate mass participation in legislative processes. Our primary objective is to highlight the transformative role of digital platforms in strengthening digital democracy. By analyzing the intersection of technology and civic participation, we aim to illustrate how digital tools are reshaping traditional democratic paradigms and empowering citizens to actively contribute to governance (Raiu, 2015). Particularly, the Romanian #rezist protest exemplifies the power of online organization and mobilization in contemporary activism through digital platforms. In this context, the #rezist movement underscores how digital technologies can facilitate rapid and effective mobilization, transcending geographical boundaries to foster a unified voice for social and political change.*

**Keywords:** *impact, digital transformation, democracy*

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## 1. Introduction

*Digital democracy* is perceived as a decisive factor in changing the attitudes of both citizens and decision-makers regarding economic and social realities. Starting from the expectations that this new trend creates among all individuals, an important step is the conceptual clarifications aimed at ensuring a better understanding of digital democracy as a whole. To this end, this chapter will provide theoretical elements focused on defining the term digital democracy. Subsequently, starting from the complexity of the implications of digital technologies on the democratic process and acknowledging the variety of opinions expressed about digital democracy, we aim to discuss both the main advantages brought by this trend and the significant challenges it generates. In a world where digital technologies are becoming increasingly integrated into our daily lives and the functioning of democratic institutions, it is essential to evaluate their impact on political participation, governmental transparency, and other aspects of democracy.

The transformation of society has had a significant impact on the traditional democratic process, and the digital revolution has opened up new possibilities for civic participation and the functioning of democracy (Raiu, 2012). The Internet and social media have become crucial platforms for public debate, social mobilization, and political activism, with the concept of digital democracy gaining attention both in theory and in contemporary political practices. Thus, this research paper emphasizes that digital technologies not only transform democratic processes but also amplify citizen participation and engagement, thereby providing a new framework for contemporary democracy. It highlights the essential role of digital technologies in redefining political participation and promoting significant social changes.

Based on these statements, the primary aim of this research paper is to highlight the impact of digital technologies on the democratic process. To achieve this, I will focus on the phenomenon of digital activism, with a particular emphasis on the political movement #rezist. I will explore into how digital technologies have revolutionized traditional methods of political engagement and mobilization. By examining the #rezist movement, I aim to illustrate the power of digital platforms in organizing protests and disseminating information. This case study will provide



insights into the effectiveness of digital activism in influencing policy decisions and shaping political discourse. By bringing to light the dynamics of the #rezist movement, we aim to underscore the significance of digital activism as a vital component of modern democracy.

## 2. A literature review on digital democracy

The development of information technologies and digital technologies has brought to the forefront how these could enable the masses to participate directly in the legislative process (Tullock, 1967) (Dahl, 2008). The effects of this approach, known today as digital democracy, have been perceived as a *total revolution*, wherein technologies can address some of the existing problems both in the political sphere and regarding citizens' trust in government institutions (Snell, I., Thaens, M., van de Donk, W. (eds.), 2012, p. 50).

*Digital democracy*, defined as the use of information and communication technologies (ICT) and computer-mediated communication (CMC) to stimulate the democratic process or active citizen participation (Hacker, K.L., van Dijk, J. (Eds.), 2000, p. 1), has become one of the recent and widely discussed concepts in the academic literature of nowadays. Previously, the phenomenon was known under concepts such as *e-democracy*, *virtual democracy*, *cyber-democracy*, etc. Similarly, some of the previously points of view argue that digital democracy examines how technological developments can combine with basic social, economic, and political conditions to create new ways of practicing democracy (Hague, B.N., Loader, B.D., 1999). Summarizing the aforementioned opinions, *digital democracy* is understood as the practice of democracy where digital tools and technologies (Simon, J., Bass, T., Boelman, V., Mulgan, G., 2017) or self-governance facilitated by instant, peer-to-peer digital communication (Fuller, 2023, p. 3). Thus, digital democracy addresses the participatory potential of new communication technologies, including various forms of participation such as electronic voting and online deliberation (Asenbaum, 2019).

In line with the points mentioned earlier, digital democracy is considered an attempt to practice democratic principles without spatial, temporal, or other physical limitations. Thus, digital democracy complements traditional democracy rather than replacing it (Hacker, K.L., van Dijk, J. (Eds.), 2000). In other words, digital democracy should not supplant but rather integrate



representative democracy by harnessing computational tools and platforms (Contucci, P., Omicini, A., Pianini, D., Sîrbu, A. (Eds.), 2019). Therefore, digital democracy is assimilated as an evolution of the democratic process that encourages active citizen participation through technology and the internet, aiming to enhance it through the introduction of interactive and modern elements (Medimorec, D., Parycek, P., Schossböck, J., 2011). Drawing on the aspects mentioned above, we can acknowledge that digital democracy is defined not only by what we do (voting, debating, protesting) but also more fundamentally by who we are; in this context, digital democracy is defined by the material reconfigurations of individuals engaging in performative democratic processes both online and offline (Asenbaum, 2019).

The transformation brought about by digital technologies on democracy can be synthesized into four essential directions, as follows: (1) the role of governance and citizenship, (2) the public sphere, (3) the relationship between participation and representation, and (4) issues of domination and rights (Berg, S., Hofmann, J., 2021). Based on these considerations, there are views that support a broader perspective on digital democracy, defined as the pursuit and practice of democracy from any standpoint, using digital media in online and offline political communication (given that political activities occur not only on the internet but also in physical meetings where digital technologies are used for support) (Hacker, K.L., van Dijk, J. , 2000). Overall, these digital tools and practices represent the foundational pillars of participatory digital democracy, providing citizens with the opportunity to actively engage in political processes and contribute to building a more democratic, transparent, and inclusive society.

The implications of digital technologies on democratic processes highlight the challenges, opportunities, and fundamental changes in governance and citizen political engagement (Iftimoaei, 2015). Thus, digital democracy has opened up new possibilities for political action beyond participation and representation. Digital technologies enable citizens to exert their political influence through online activism, advocacy campaigns, and large-scale social mobilization (Chadwick, 2009). Examples such as Occupy Wall Street or the Arab Spring illustrate how digital technologies can influence social and political movements, facilitating the organization and coordination of political action on a global scale. However, these forms of



political action can also be vulnerable to information manipulation and control of digital platforms by interested actors.

Existing viewpoints in the specialized literature argue that the internet promotes democracy by: (1) multiplying channels for political information and participation; (2) providing new opportunities for communication, mobilization, and organization for citizens and civil organizations; (3) creating new pluralistic spaces where citizens can discuss issues of general interest; and (4) stimulating collaborative projects and knowledge exchange with political decision-makers (Mosca, 2013). Based on these considerations, a series of advantages or opportunities can be identified that arise from practicing democracy through the use of digital technologies.

Digital democracy, configured to allow extensive participation in decision-making processes, entails distributing responsibilities to the entire community, where each individual is called upon to make their own choices and initiate actions towards implementing policies they deem fair. The impossibility of outsourcing responsibility compels every involved actor to be aware and act proactively to address any deficiencies they observe within society. In these conditions, responsibility constitutes a fundamental yet often neglected element in the context of democracy. In other words, through technology, citizens are provided with a personalized way to participate in the democratic process (Parycek, P., Rinnerbauer, B., Schossböck, J., 2017). Consistent with these points, academic literature acknowledges that through digital technologies and the communication channels derived from them, citizens will be more vocal in shaping governmental agendas (Hacker, K.L., van Dijk, J. , 2000).

In the context of societal evolution, another advantage brought by the use of digital technologies in the democratic process is the increased transparency (Grossi, D., Hahn, U. et. al., 2024). Thus, the influence of digital communication is noted, which allows individuals to document any type of debate through unrestricted access to information. According to Gauja's opinion, digital platforms and social networks can be considered essential factors in strengthening democracy through active citizen participation in the online environment (Gauja, 2021). Taking into account the aforementioned aspects, we can affirm that digital technologies have facilitated direct involvement of individuals in the democratic process. An example of this is the adoption of



electronic voting, where technology has enabled the exercise of a fundamental right (Vayenas, 2017).

Digital platforms serve as indispensable tools in efforts to ensure transparency and government accountability to its citizens. They provide opportunities to present diverse information to the public, ranging from public budgets and current policies to performance evaluation results. This enhanced transparency serves as a cornerstone of a healthy and functional democracy, empowering citizens to monitor and assess governmental actions more efficiently and comprehensively. Through digital platforms, citizens can swiftly access updated information about how public funds are spent, political decisions, and their impact on the community. This direct access to essential information enables citizens to better understand governmental decision-making processes and actively participate in them. Furthermore, the transparency offered by these digital platforms encourages public debate and contributes to increasing civic awareness and engagement. Moreover, these platforms facilitate ongoing monitoring of government activities and how well it achieves its objectives and promises. By providing accessible and easily understandable data and information, citizens can evaluate the efficiency and effectiveness of government in managing public issues. Thus, these digital platforms not only enhance government accountability but also promote continuous improvement in performance and public services.

Essentially, the evolution of digital platforms in governance exemplifies a proactive approach to democratic participation, leveraging technology to foster an informed and engaged citizenry. As technologies evolve, these platforms continue to evolve as well, adapting to new challenges and opportunities in the realm of democratic governance (Raiu C. , 2023). Thus, digital democracy entails an approach where participation in decision-making processes is extended, and responsibility is distributed across the entire community. Each individual is called upon to take personal involvement and initiate actions for implementing policies they deem fair. This evolution brings advantages such as increased transparency and facilitation of peer-to-peer communication on public issues, bypassing traditional intermediaries. Moreover, the use of digital technologies in democracy provides opportunities to enhance government transparency and accountability through digital platforms that grant access to information about public





budgets, policies, and government performance. These platforms facilitate the monitoring of government activities and encourage civic engagement, thereby contributing to the strengthening of democracy and increasing citizen awareness and participation in political processes.

However, this approach can also generate challenges related to representativeness and fairness of participation, considering the unequal access to digital technologies and varying digital skills among citizens. In the context of the digital influence on the political sphere, issues such as governance transparency, the spread of misinformation, data privacy concerns, and the politicization of content distributed through social media channels have been discussed. Thus, there are concerns about the potential for digital platforms to be used to spread false or manipulative information, impacting public opinion and the integrity of the democratic process. Additionally, social media algorithms can contribute to political polarization by limiting users' exposure to divergent opinions and promoting content that aligns with their political profile.

The Internet has transformed and diversified participatory actions, providing a vast space for the expression of political attitudes and communication behaviors, essential for maintaining transparency in digital democracy. E-participation facilitates civic activism and improves communication between governments and citizens, thereby strengthening responsible policies (Raiu, C., Mina-Raiu, L., 2023). Social networks and virtual communities play a crucial role in digital democracy, offering new contexts for civic discourse. Globally used digital tools and platforms demonstrate how technology can enhance the quality, legitimacy, and transparency of decision-making processes. Thus, the Internet has played an essential role in transforming and diversifying participatory actions, providing a vast space for expressing and demonstrating various political attitudes and communication behaviors. Adapting to this ever-changing reality is crucial for maintaining transparency in democracy in the digital era. As a result, more and more actions of active citizen participation have emerged through the use of participatory platforms. In these circumstances, e-participation is defined as the expansion and transformation of societal participation in democratic and consultative processes, mediated by information and communication technologies, primarily through the Internet (Sæbø, O., Rose, J., Flak, L.S., 2008).





Civic activism using digital technologies facilitates citizen engagement, improves communication, and feedback between governments and citizens, thereby strengthening responsible policies (Webb, 2020). The permanent connection to the online environment has highlighted the importance of social networks and virtual communities in citizen participation as essential factors in implementing e-democracy or digital democracy (Robertson, S., Vatraru, R., Medina, R., 2009) (Maciel, C., Roque, L., Garcia, A.C., 2010). Currently, numerous digital tools and platforms are used worldwide, aiming primarily at active citizen involvement in the democratic process. This demonstrates how digital tools can be used to enhance the quality, legitimacy, and transparency of the decision-making process (Simon, J., Bass, T., Boelman, V., Mulgan, G., 2017). According to academic literature, social networks are considered a new type of online public sphere or a context for civic discourse and debate through public discourse and online discussions, offering opportunities for electronic participation and digital democracy. However, there are opinions suggesting that online engagement processes have had no visible impact on governmental legitimacy (Gastil, J., Richards, R.C., 2017). Additionally, according to opinions, blog readers are involved in a series of participative activities, both online and offline. This information supports the emergence of hybrid participation, which combines real and virtual engagement in political activities, defining digital democracy (Gil de Zúñiga, H., Veenstra, A., Vraga, E., Shah, D., 2010).

The emergence of digital technologies and shortcomings in the traditional voting system have led to the development of electronic voting, a part of e-governance and digital democracy, seen as a way to improve the democratic process and increase confidence in elections (Profiroiu, C.M., Negoită, C.I., Costea, A.V., 2024). Electronic voting allows voters to securely and privately cast their ballots online, in both supervised and unsupervised forms, promising to reduce logistical barriers, human errors, fraud, and electoral costs. However, its implementation involves political and security challenges, and its effects on political participation are complex and unpredictable. While electronic voting can enhance the accessibility and accuracy of voting, it is just one aspect of efforts to promote civic engagement and political commitment, requiring continuous and diverse measures to ensure equal participation of all citizens.



In the context outlined above, the exercise of democracy through digital technologies has significantly increased recently, involving citizens in the decision-making process through various digital tools. This trend underscores the potential of technology to transform the political sphere and the desire of citizens to exercise their democratic rights. Estonia, a pioneer in electronic voting since 2005, has demonstrated success in increasing voter turnout, and citizens' trust in e-governance is high. In Switzerland, Geneva and other cantons have adopted electronic voting, maintaining a balance between innovation and security. Norway ceased its e-voting program due to anonymity concerns, while Canada has successfully implemented electronic voting in Ontario and Nova Scotia. In Asia, Pakistan and India have conducted limited tests of electronic voting for diaspora and in certain states. These examples highlight the challenges and benefits of electronic voting, showing its potential to improve democratic processes through technology, provided integrity and security are maintained.

Summarizing the previous aspects, it can be stated that the internet and digital technologies have profoundly reshaped how citizens participate in the democratic process, offering new opportunities for political expression and civic engagement. E-participation and electronic voting have shown that technology can facilitate stronger civic activism and more efficient communication between governments and citizens, thereby enhancing the transparency and legitimacy of the decision-making process. Examples from various countries highlight both the potential and challenges of electronic voting, underscoring the need for a careful balance between innovation and security. While digital technology promises to improve the accessibility and accuracy of the electoral process, its success depends on ongoing measures to ensure security and public trust. Therefore, efforts to promote digital democracy must be comprehensive, encompassing not only advanced technologies but also policies that guarantee equal and informed participation of all citizens.

### 3. Methodology

Taking into account the digital transformation at the level of society, the main objective of this paper is represented by the identification of the impact that digital technologies have on the traditional democratic process. Subsequently, the research question can be summarized as follows: *what is the impact of digital technologies on democracy?*



Starting from the main objective and the previously mentioned research question, the following secondary objectives were identified, aimed at ensuring a better structuring of the present research endeavor:

**Specific objective no. 1:** Identifying the main opinions from the academic literature regarding the concept of digital democracy;

**Specific objective no. 2:** Analyzing the model of digital activism, by analyzing the events organized in Romania in 2017, known as the #resist protests, as a result of the adoption of Emergency Ordinance no. 13.

In order to achieve the main objective, but also the secondary objectives, the present research paper was properly structured to provide the required framework for identifying the impact that digital technologies have in the democratic process and, in particular, the way in which democracy was founded digital. To this end, each section aims to bring to the fore key elements from a theoretical point of view and, complementary, to ensure the anchoring in social and political reality, by providing relevant examples that strengthen the theoretical arguments. Subsequently, a systematic review of the academic literature was undertaken and the available data regarding #resist protests were analyzed.

#### **4. Results and discussions**

The extent of digital technologies' use in the democratic process has been highlighted by numerous examples identified in the specialized literature. Theoretical landmarks have underscored how some traditional activities have acquired a digital dimension, such as electronic voting or e-participation. These transformations have been facilitated by the rapid progress of information and communication technologies, which have democratized access to information and enhanced citizens' interaction with political institutions.

The theory of digital democracy is based on the premise that digital technologies not only extend and diversify the ways in which citizens can participate in political processes but also fundamentally transform the nature of this participation. Through online platforms, citizens can inform themselves, debate, and influence political decisions in a much more direct and efficient



manner than in the past. These platforms allow for constant and bidirectional interaction between voters and representatives, promoting a more transparent and accountable form of democracy. Thus, to complete the theoretical picture of digital democracy constructed in the first two chapters, we propose in the following sections to present a large-scale digital activism event in recent years in Romania, known as #rezist, which emerged in reaction to Emergency Ordinance No. 13 from 2017.

On January 31, 2017, the Romanian Government led by Prime Minister Sorin Grindeanu adopted Emergency Ordinance No. 13 (O.U.G. 13), which proposed a series of amendments to the Penal Code and the Code of Criminal Procedure. The main legislative changes proposed in the ordinance included the following aspects (Government of Romania, 2017):

- Introducing a value threshold for the offense of abuse of office, establishing that the act would be considered a crime only if the damage exceeded 200,000 RON. If the damage was below this threshold, the act would not be penalized criminally.
- Narrowing the definition of the offense of abuse of office, specifying that it applies only if the act is committed in violation of the law and not just secondary or internal regulations.
- Reducing the penalty for abuse of office from 2-7 years to 6 months - 3 years in prison or a fine.
- Granting amnesty for certain penalties, especially for offenses with a lower degree of social danger.

The legislative measures proposed by O.U.G. 13 were perceived as a direct attack on justice and an attempt to shield corrupt politicians from prosecution. Many voices from civil society and the political sphere accused the government of intending to protect its own members and allies from criminal accountability, with critics highlighting that the ordinance would allow well-known corrupt politicians to evade punishment. This perception was reinforced by the political context in which the ordinance was issued, where several high-ranking politicians were under investigation or on trial for corruption. Consequently, O.U.G. 13 was seen not merely as a



technical amendment to the criminal legislation but as a strategic move to directly influence ongoing cases and trials in the courts.

The fight against corruption became a public issue. In this context, the adoption of O.U.G. 13 generated an immediate massive reaction from civil society. Hundreds of thousands of people took to the streets of Romanian cities, especially in Bucharest, to express their disapproval and protest against the ordinance, demanding the resignation of the government. The protests were mainly organized through social networks, where the hashtag #rezist became a symbol of the resistance movement.

On the evening of the adoption of Ordinance 13, a spontaneous protest took place in Bucharest, gathering approximately 25,000 people mobilized through the use of the social network Facebook. Existing opinions support that the first 24 hours were decisive in establishing a cohesive civic movement (Tompea, 2018), primarily mobilized through digital tools. The protests continued in the following days in Bucharest and other cities across the country. February 5th marked a peak in mobilization, with the event being heavily covered and analyzed in the media. Over 600,000 protesters took to the streets nationwide on this date. This day remains in contemporary Romanian history as the moment when the largest protests since the Revolution of 1989 took place, reflecting the profound dissatisfaction of citizens with the government and its decisions (Trif, 2017).

The #rezist movement quickly transcended Romania's borders, garnering support from Romanian communities in the diaspora. The #rezist protests spread to 81 cities in 36 countries and led both to the repeal of the ordinance and the fall of the government (Adi, A., Lilleker, D. , 2017). In support of the Romanians in the country who took to the streets to protest and condemn the controversial legislative measures, numerous European capitals witnessed diaspora protests organized in front of Romanian embassies and consulates. These movements attracted international media attention and sensitized global public opinion to the situation in Romania. Considering the aforementioned aspects, the #rezist protest is regarded as one of the most extensive and well-organized civic movements in Romania's recent history, reflecting civil society's struggle against corruption and for the defense of the rule of law.



The #rezist protests were a remarkable example of democracy in action, highlighting the citizens' ability to mobilize against abuses of power and demand transparency and accountability from the government. The global expansion of these protests demonstrated the solidarity of the Romanian diaspora and drew international attention to the fight against corruption in Romania. By repealing the ordinance and the fall of the government on February 5, 2017, the #rezist movement demonstrated that the voice of the people can bring about significant changes in a country's political leadership, thus strengthening democratic values and the rule of law.

The #rezist movement clearly illustrates the potential and impact of digital technologies on contemporary democracy. Studying this movement provides valuable insights into how citizens can use new technologies to influence political processes, defend democratic values, and promote significant social changes. Thus, digital democracy is not merely an extension of traditional democratic practices, but a profound transformation of how political participation is conceived and exercised in the 21st century.

The increasing reliance on digital platforms for political information and organization underscores the transformative impact of technology on contemporary forms of civic engagement and protest participation. As digital literacy continues to grow globally, the potential for online mobilization to influence political outcomes and drive social change is likely to expand even further, profoundly reshaping the dynamics of political participation.

Previously published studies have demonstrated that protest participants increasingly use political information obtained online (Mosca, L., Quaranta, M. , 2016). This approach enhances the likelihood of individual participation in the democratic process, highlighting the essential role of digital platforms in shaping modern political landscapes. Online channels provide accessible, real-time information that can mobilize individuals by raising awareness of social and political issues, facilitating the organization of protests, and fostering a sense of community among activists. Moreover, the interactive nature of social networks and other digital platforms allows for the rapid dissemination of information and the formation of networks that transcend geographical boundaries. This interconnection enables protest movements to gain momentum quickly, involve different participants, and efficiently coordinate actions.

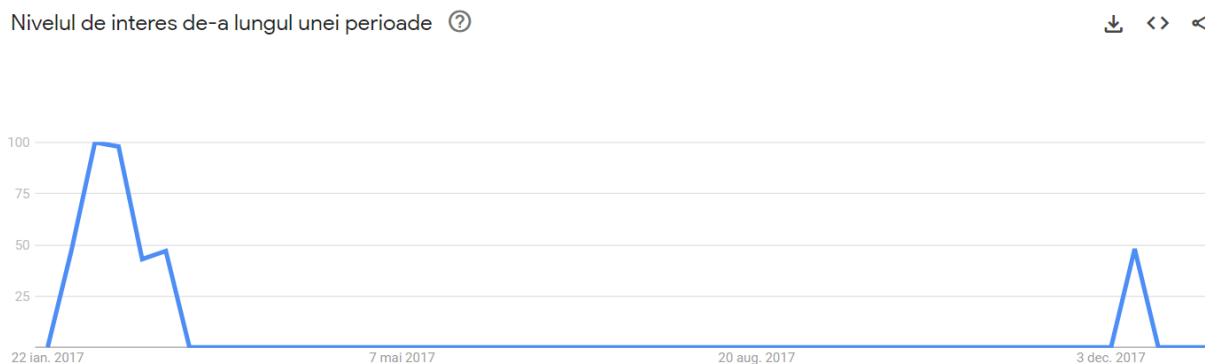


Social movements that emerge online require clear direction and prior mobilization efforts to be effective. Creating a strong collective identity is essential because messages become more powerful and meaningful when there is a sense of unity and unanimity among movement members. A well-defined collective identity helps consolidate group cohesion, clarify common objectives, and motivate participants to act in a concerted manner. Additionally, it can attract more supporters and enhance the movement's visibility and credibility in the eyes of the general public and potential allies (Bennett, W.L., Pfetsch, B., 2018). In the political context of early 2017, the hashtag #rezist became a symbol of civic resistance and solidarity against abuses of power. Through social media, the #rezist movement managed to draw international attention, increase pressure on political decision-makers, and maintain a high level of public participation. The analysis of this movement reveals how the digitalization of activism allows for rapid and efficient mobilization, facilitating citizen participation in ways that transcend traditional constraints of time and space.

An analysis conducted through the Google Trends platform highlights how searches using the keyword #rezist evolved during the period from January to December 2017. The numbers indicate the level of search interest corresponding to the highest point in the chart, for the specified region and period. A value of 100 reflects the maximum popularity of the term, while a value of 50 indicates that the popularity is half of the recorded maximum. A score of 0 signifies a lack of sufficient data for the analyzed period. Considering these aspects, it is noted that the period of maximum interest is associated with the week of February 5-11, 2017, when the most numerous protests occurred (see *Figure 1*). Similarly, another keyword associated with the analyzed period is *protest*, which had a similar evolution (see *Figure 2*).

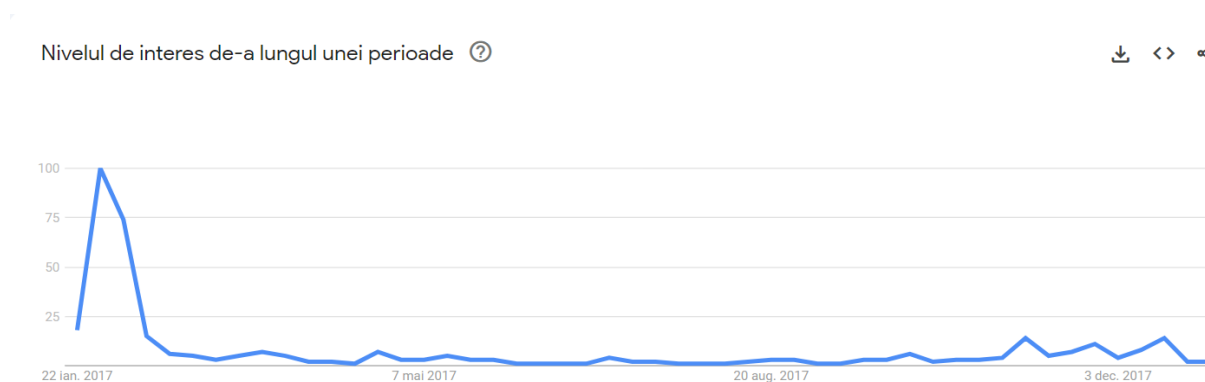


**Figure 1.** *Level of interest for #rezist during January – December 2017*



Source: Google Trends

**Figure 2.** *Level of interest for protest during January – December 2017*



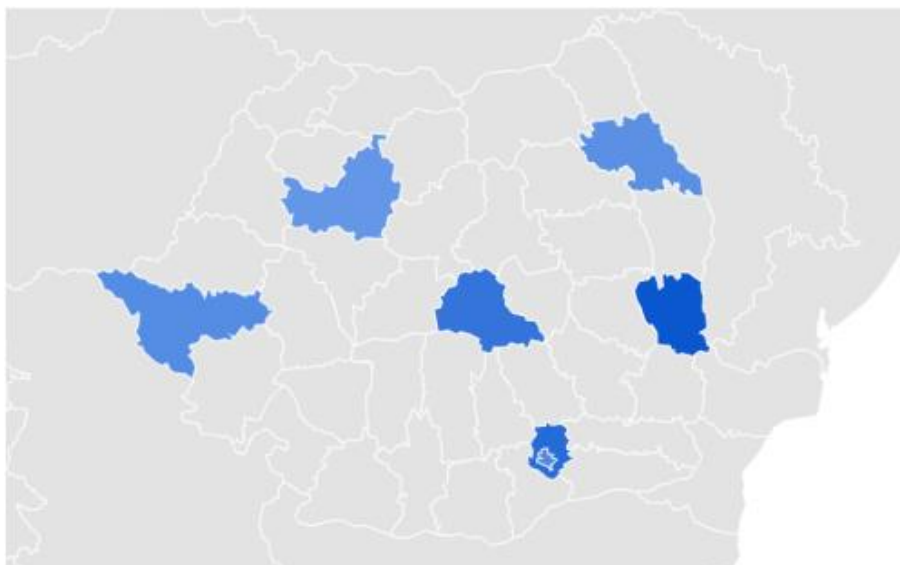
Source: Google Trends

Based on sub-regions, we can identify the areas where searches for the keyword #rezist were most popular (see Figure 3). According to the available data, the most searches for #rezist were recorded in the counties of Galați (100 points), Ilfov (82 points), Brașov (73 points), and Bucharest Municipality (57 points). Additionally, searches were significant in the counties of





Timiș (52 points), Iași (49 points), and Arad (43 points). Considering the same criteria, the most searches for the keyword protest were recorded in Bucharest Municipality (100 points), and the counties of Cluj (90 points), Ilfov (74 points), Sibiu (74 points), Timiș (65 points), and Iași (62 points).



**Figure 3.** Areas of interest for #resist during January-December 2017

*Source: Google Trends*

The #rezist movement mobilized hundreds of thousands of Romanians through various social media platforms such as Facebook, Twitter, and WhatsApp. These platforms played a crucial role in coordinating protest actions, disseminating relevant information, and garnering public support. The use of hashtags, live broadcasts, and online petitions can amplify the reach of a protest, attracting attention from both national and international audiences. The #rezist movement is a striking example of civic mobilization and engagement facilitated by digital technologies, highlighting the significant influence of social networks and other online platforms in organizing and conducting protests.

According to a report by ZeList Monitor (ZeListMonitor, 2024), a Romanian social media monitoring tool, between January and February 2017, the hashtag #rezist was used over 150,000



times on Twitter. On February 1, 2017, #rezist was among the most frequently used hashtags globally. Similarly, Facebook events related to the protests, such as „Nu vrem să fim o nație de hoți” (“We don't want to be a nation of thieves”), had over 50,000 people marked as “Participating” and another 150,000 marked as “Interested”. Facebook emerged as one of the most popular online tools used by users to share news from the media about the controversial decision made by the government in Bucharest. The subject #rezist had the most posts (38.5%) and the greatest impact (69%) on Facebook (Muresan, R., Salcudean, M. , 2019). These findings underscore the significant role of Facebook in mobilizing protesters (Dogaru-Tulică, 2019).

During the protests, live broadcasts from major media outlets and from individual protesters reached audiences of over 1 million viewers per broadcast. In terms of activity on Instagram, in February 2017 there were over 30,000 posts tagged with #resist, with a significant level of engagement in terms of both likes and comments. On YouTube, protest-related videos uploaded by media organizations and individuals have accumulated millions of views. For example, a collage of images from the protests made by ProTV garnered over 1 million views within weeks of the protests (Dogaru-Tulică, 2019). Taken together, this information provides an overview of digital engagement around the #resist protests.

Complementary to the previous aspects, it can be stated that digital platforms often serve as alternative sources of news, offering perspectives that might be underrepresented or censored in the mainstream media. This democratization of information empowers citizens to challenge dominant narratives and hold government authorities accountable, thereby increasing civic engagement and participation. The availability of online forums and discussion groups also provide spaces for deliberation and debate that can deepen political understanding and individuals' commitment to causes. In addition, integrating digital tools into protest activities can increase organizational effectiveness. For example, secure messaging applications or fundraising through online platforms have revolutionized the way movements plan and support their activities. These technologies not only streamline logistics, but also ensure the safety and security of participants, protecting their anonymity and enabling easy communication.

Another example that supports mobilization in the online environment is the creation of different groups, whose objective was the provision of relevant information and the coagulation of the



people involved. #REZISTENTA was the largest closed group associated with the protests since early 2017, with over 55,000 members. The group was founded by Andrei Roșu, with the intention of finding people to replace him, if necessary, in the situation where he could not manage the protest further and would have to be absent from the demonstrations. From the third day of the protests, Roșu moved his office to Piața Victoriei, managing his online business from there. Braving the cold, he worked from his laptop, answering questions and coordinating activities. Andrei Rosu hoped that the government would resign and new elections would be called. His continued presence in the square was intended to ensure a constant presence at the protests, not just in the evenings and weekends when most people were off work. On his fourteenth consecutive day of protest, he notified his friends and followers on Facebook, where he had more than 20,000 followers, and posted a link to the group on his blog. The response from members of the Facebook group was impressive: in the first hour, 2,000 people joined the group, and after the first 24 hours, the number increased to 20,000. This massive response highlighted that Andrei's outrage and dedication was widely shared by others, strengthening the movement's collective action and solidarity. In addition, the group strengthened civic responsibility by placing a number of responsibilities. Thus, 15 of the 55,000 members became administrators of the group, and about 200 of them joined specialized groups, where the PR and legal teams permanently supported the online activity (Adi, A., Lilleker, D. , 2017).

Overall, the #resist movement clearly demonstrates the potential and significant impact of digital technologies on contemporary democracy. The #resist movement has mobilized hundreds of thousands of Romanians through the use of social networks and other digital platforms, demonstrating the major influence of these technologies in organizing and conducting protests. Through hashtags, live broadcasts and dedicated groups, the movement managed to attract national and international attention, increase pressure on policy makers and maintain a high level of public participation, illustrating the ability of digital technologies to facilitate civic mobilization and engagement, transforming thus the modern political landscape.

The #resist movement is a relevant example of digital democracy, supported by the way it used digital technologies to promote citizen participation, transparency and government accountability, in the context of events that could negatively influence the democratic process. In the context of



the adoption of Emergency Ordinance no. 13, #resist managed to mobilize a large number of people in a very short time, through social networks and other online platforms. Facebook, Twitter and other social media channels have been essential for organizing protests, distributing information and coordinating actions. This rapid and massive mobilization is an eloquent example of digital democracy, where digital technology facilitates the active involvement of citizens in political life.

Providing real-time information about government actions, proposed legislative changes and their impact on society has been shared online on social media using #resist. By promoting transparency and facilitating access to information, the movement contributed to better informing citizens, another key principle of digital democracy. The protests organized by the #resist movement had as their main objective the accountability of the government. Through public pressure exerted through digital platforms, the movement was able to attract international attention and force the government to be more responsive to citizens' demands. This dynamic is essential in a digital democracy, where technology helps create a balance of power between citizens and government institutions.

#Rezist demonstrated the power of digital collaboration by successfully uniting diverse groups and organizations from across the country and even from the diaspora around common objectives. Digital platforms facilitated not only mobilization but also collaboration among various entities, thereby promoting a form of participatory and collaborative democracy. Thus, the use of digital technologies within the #rezist movement serves as a pragmatic example of how citizens can innovate and rapidly adapt new technologies to achieve their democratic goals. Whether through live-streaming protests, using hashtags to organize conversations, or developing online platforms for petitions, #rezist exemplified how technology can be used to support democracy.

#Rezist has revolutionized the way citizens interact with the government and exercise their democratic rights, highlighting how digital technologies can amplify citizens' voices and promote social change. This movement demonstrated that through the effective use of social networks and other digital platforms, citizens can organize massive protests, disseminate essential information, and pressure authorities to be more transparent and accountable. Additionally, through #Rezist,



citizens discovered the collective power they can wield when mobilizing in the digital space. Online platforms facilitated broader and more inclusive democratic participation, enabling people from various regions and the diaspora to actively engage in the country's political life. The coordination of civic actions online, through different platforms, exemplifies the adaptation of democratic processes to digital transformation.

## 5. Conclusions

The rise of digital technologies has fundamentally reconfigured the structure of today's society, offering both new opportunities and challenges across all levels. These changes are particularly evident in the socio-political sphere, notably in the transformation of the traditional democratic process. Through digital technologies, widespread internet access and the availability of new platforms are key aspects facilitating political communication, mobilization, and civic participation. Social networks and online platforms now enable citizens to organize quickly and efficiently, debate ideas, and bring critical issues to public attention, contributing to a more inclusive and participatory democracy. Additionally, digital technologies have democratized access to information, allowing citizens to monitor and evaluate governmental activities transparently, providing an alternative for immediate responses to any political missteps.

In the context of transformations driven by the development of technology and communications in contemporary society, the main objective of this research material was to identify the impact of digital technologies on the traditional democratic process. To address the research question derived from the main objective—namely, what is the impact of digital technologies on democracy—secondary research directions were established. These directions aimed to provide theoretical frameworks on the studied topic and identify concrete situations from everyday realities that support the existence of digital democracy. To ensure the theoretical and pragmatic framework necessary for understanding the topic at hand, each section of the paper aimed to highlight essential theoretical elements and to anchor the analysis in social and political reality by providing relevant examples to support theoretical arguments. This structure allowed for a detailed examination of how digital technologies influence democratic processes, highlighting both their potential to enhance citizen participation and engagement, as well as the significant challenges that must be addressed to ensure a robust and inclusive democracy in the digital age.



Firstly, the essential theoretical elements from the academic literature, providing an overview of the topic under study were illustrated. The most important perspectives on digital democracy and underscored both the opportunities arising from the use of digital technologies in the context of the democratic process, as well as the challenges and risks involved were highlighted. Thus, a solid theoretical foundation for understanding digital democracy, highlighting its potential to enhance democratic processes and the significant challenges that need to be addressed was provided. Secondly, concrete methods of exercising the democratic process in today's society were explored. The opinions from academic literature regarding how activities unfold in digital democracy were highlighted, with reference to aspects such as electronic voting and online civic participation. Furthermore, relevant examples were provided to support theoretical arguments, especially in the context of the international adoption of electronic voting. Overall, a detailed perspective on how digital technologies can transform democratic processes, demonstrating how they can be effectively used to enhance citizen participation and engagement in democratic governance was adopted. Finally, the context of events associated with the civic movement #rezist, an emblematic example of digital activism in Romania was landscaped. In January 2017, the government adopted Emergency Ordinance no. 13, which proposed controversial amendments to the Penal Code and the Code of Criminal Procedure, including partial decriminalization of abuse of office. These changes were perceived as an attempt to protect politicians involved in acts of corruption. The adoption of the ordinance triggered an immediate and vehement reaction from civil society. Tens of thousands of Romanians took to the streets to protest against corruption and to defend the rule of law. The movement was promoted and organized mainly through social networks and other online platforms, which facilitated the rapid and efficient mobilization of protesters. The hashtag #rezist became the symbol of these protests, reflecting the determination of citizens to fight against corruption and to protect the integrity of the judicial system.

Synthesizing the previous information, we can conclude that the present research on *the impact of digital transformation on democracy* brings to the forefront a contemporary topic and contributes to a better understanding of the democratic process within a society permanently connected to online. Each aspect discussed, from conceptual clarifications to the analysis of the #rezist



protests, provides an overview of digital democracy. Thus, the theoretical information identified in the literature is validated through real-life situations. Adopting a perspective that combines both theoretical and practical dimensions has contributed to achieving the main objective of the research, namely identifying the impact of digital technologies on the traditional democratic process.

## REFERENCES

1. Adi, A., Lilleker, D. . (2017). *#rezist–Romania's 2017 anti-corruption protests: causes, development and implications*. Berlin: Quadriga University of Applied Sciences.
2. Asenbaum, H. (2019). Rethinking Digital Democracy: From the Disembodied Discursive Self to New Materialist Corporealities. *Communication Theory*, 31(3), 350-379.
3. Bennett, W.L., Pfetsch, B. (2018). Rethinking political communication in a time of disrupted public spheres. *Journal of communication*, 68(2), 243-253.
4. Berg, S., Hofmann, J. (2021). Digital democracy. *Internet Policy Review*, 10(4), 1-23.
5. Chadwick, A. (2009). Web 2.0: New challenges for the study of e-democracy in an era of informational exuberance. *Journal of Law and Policy for the Information Society*, 5(1), 9-41.
6. Contucci, P., Omicini, A., Pianini, D., Sîrbu, A. (Eds.). (2019). *The Future of Digital Democracy. An Interdisciplinary Approach*. Springer Cham.
7. Dahl, R. (2008). *Democracy and its Critics*. New Haven, Connecticut: Yale University Press.
8. Dogaru-Tulică, A. (2019). A bridge between online and offline mobilization: # Rezist Movement. *Revista de Științe Politice. Revue des Sciences Politiques*, (61), 104-116.
9. Fuller, R. (2023). *Principles of Digital Democracy*. Berlin: De Gruyter.
10. Gastil, J., Richards, R.C. (2017). Embracing digital democracy: A call for building an online civic commons. *Political Science & Politics*, 50(3), 758-763.
11. Gauja, A. (2021). Digital democracy: big technology and the regulation of politics. *University of New South Wales Law Journal*, 44(3), 959-982.
12. Gil de Zúñiga, H., Veenstra, A., Vraga, E., Shah, D. . (2010). Digital democracy: Reimagining pathways to political participation. *Journal of information technology & politics*, 7(1), 36-51.
13. Grossi, D., Hahn, U. et. al. (2024). *Enabling the Digital Democratic Revival*. Amsterdam: The Netherlands Institute for Advanced Studies in the Humanities and Social Sciences (NIAS).
14. Guvernul României. (2017). ORDONANȚĂ DE URGENȚĂ nr. 13 din 31 ianuarie 2017 pentru modificarea și completarea Legii nr. 286/2009 privind Codul penal și a Legii nr. 135/2010 privind Codul de procedură penală. *Monitorul Oficial*, 92/1 februarie 2017.





15. Hacker, K.L., van Dijk, J. . (2000). What Is Digital Democracy? În K. v. Hacker, *Digital democracy: Issues of theory and practice*. (pg. 1-9). London: Sage Publications .
16. Hacker, K.L., van Dijk, J. (Eds.). (2000). *Digital democracy: Issues of theory and practice*. London: Sage Publications .
17. Hague, B.N., Loader, B.D. (1999). *Digital Democracy: Discourse and Decision Making in the Information Age*. London: Routledge.
18. Iftimoaei, C. (2015). Good governance: Normative vs. descriptive dimension. *SEA–Practical Application of Science*, 3(07), 309-315.
19. Maciel, C., Roque, L., Garcia, A.C. (2010). Interaction and communication resources in collaborative e-democratic environments: The democratic citizenship community. *Information Polity: The International Journal of Government & Democracy in the Information Age*, 15(1/2) , 73-88.
20. Medimorec, D., Parycek, P., Schossböck, J. (2011). Vitalizing democracy through e-participation and open government: An Austrian and Eastern European perspective. *Bertelsmann Stiftung*, 14.
21. Mosca, L. (2013). The Internet as a new channel for political participation? În D. K. (ed), *Democracy in Transition. Political participation in the European Union* (pg. 179-201). Verlag-Berlin-Heidelberg: Springer.
22. Mosca, L., Quaranta, M. . (2016). News diets, social media use and non-institutional participation in three communication ecologies: Comparing Germany, Italy and the UK. *Information Communication & Society*, 19(3), 325-345.
23. Muresan, R., Salcudean, M. . (2019). The involvement and the role of art in the# rezist civic actions in Romania. *Revista Trnasilvania*, 9.
24. Parycek, P., Rinnerbauer, B., Schossböck, J. (2017). Democracy in the digital age: digital agora or dystopia. *International Journal of Electronic Governance*, 9(3/4), 185-209.
25. Profiroi, C.M., Negoită, C.I., Costea, A.V. (2024). Digitalization of public administration in EU member states in times of crisis: the contributions of the national recovery and resilience plans. *International Review of Administrative Sciences*, 90(2), 336-352.
26. Raiu, C. (2012). *Ortodoxie, postcomunism și neoliberalism: o critică teologico-politică*, . București: Curtea Veche.
27. Raiu, C. (2015). An Ontology of Good Governance. A Political Theory Approach. *Revista Romana de Economie*, 40(1).
28. Raiu, C. (2023). *Public Governance and Religion. Key Historical Turn in Modern Romania*. București: CH Beck.
29. Raiu, C., Mina-Rai, L. (2023). Who Runs Public Administration? A Longitudinal Study of Technocratic Ministerial Appointments in Post-Communist Romania (1991–2021). *Transylvanian Review of Administrative Sciences*, 19(70), 109-127.
30. Robertson, S., Vatraru, R., Medina, R. . (2009). The Social Life of Social Networks: Facebook Linkage Patterns in the 2008 U.S. Presidential Election. *10th International Digital Government Research Conference*, 6-15.





31. Sæbø, O., Rose, J., Flak, L.S. (2008). The shape of eParticipation: Characterizing an emerging research area. *Government Information Quarterly*, 25(3), 400-428.
32. Simon, J., Bass, T., Boelman, V., Mulgan, G. (2017). *Digital democracy: the tools transforming political engagement*. England: Nesta.
33. Snell, I., Thaens, M., van de Donk, W. (eds.). (2012). *Public Administration in the Information Age: Revisited*. Amsterdam: IOS Press.
34. Tompea, R. (2018). Politics, media, and the Internet. A case study of Romania's 2017 anti-governmental protests and the rise of the# Rezist civic movement. *Techné: Research in Philosophy and Technology*, 8(3), 76-86.
35. Trif, D. (2017, martie 28). *România și debutul neașteptat al unei noi mișcări sociale*. Preluat de pe Centrul pentru Studiul Democrației: <https://www.democracycenter.ro/romana/publicatii/analize-si-opinii/romania-si-debutul-neasteptat-al-unei-noi-miscari-sociale>
36. Tullock, G. (1967). *Toward a mathematics of politics*. Ann Arbor: University of Michigan Press.
37. Vayenas, C. (2017). *Democracy in the Digital Age. How we'll vote and what we'll vote about*. Arena books.
38. Webb, M. (2020). *Coding democracy: How hackers are disrupting power, surveillance, and authoritarianism*. Cambridge, Massachusetts: MIT Press.
39. ZeListMonitor. (2024, Mai 2). *ZeList Monitor*. Preluat de pe <https://www.zelist.ro/monitor/>



## INDOOR POLLUTION AND EMPLOYEES' PERFORMANCE IN UNIFOAM NIGERIA LIMITED AND FORTUNATE BAKERY<sup>1</sup>

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**Abstract.** *Researchers have long been eager to uncover the causes of declining productivity. This study investigates the adverse impact of indoor pollution on worker performance, with a particular focus on businesses located in Ilorin, the capital city of Kwara State in Nigeria. The study involved 83 participants from different workplaces who completed surveys, and the chi-square statistical method was used to test four hypotheses. The results revealed a significant correlation between employee productivity and the work environment, particularly about pollution levels. The study revealed that businesses that maintained a welcoming and supportive atmosphere for their employees were more productive and in greater demand. The conducive workplace environment improved worker performance, leading to a reduction in negative behaviours such as laziness, low commitment, and absenteeism. In conclusion, the study advocates for initiatives aimed at enhancing work performance factors to foster positive productivity. Suggestions include implementing financial incentives, motivating employees, adopting more worker-friendly management policies, and improving employee wages. These measures are deemed crucial for fostering a more conducive work environment and enhancing overall productivity.*

**Keywords:** Pollution; Employees; Motivation; Efficiency; Productivity

**JEL CODE:** L25; O15.

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## 1. Introduction

Business owners are currently reevaluating their managerial systems to instigate change and foster growth within their firms, striving to maintain competitiveness in today's economy. Technological advancements and shifts in workplace structures have granted workers increased responsibilities and autonomy. However, pollution persists as a significant challenge impacting the performance of physically demanding workers, despite concerted efforts to mitigate environmental damage (Bari et al., 2022). This issue is particularly acute in developing countries like Nigeria, where industrial emissions, inadequate waste management, and indoor air pollution pose serious health hazards (Nchege & Okpalaoka, 2021). Even in developed nations, pollution disproportionately affects marginalized communities. Research indicates that air pollution hampers productivity in physically demanding roles (Zivin & Neidell, 2011; Chang et al., 2014).

Moreover, business owners are actively adjusting their managerial approaches to tackle modern economic challenges. Despite efforts to enhance productivity, workers continue to face health issues due to pollution, leading to decreased efficiency and absenteeism. The pervasive nature of pollution poses significant health risks, particularly in developing nations, where industrial emissions and indoor air pollution prevail. This phenomenon also impacts developed countries, exacerbating productivity challenges. Pollution-induced illnesses contribute to 'presenteeism', where employees attend work despite being unwell, resulting in increased societal costs and reduced productivity. Indoor air pollution, exceeding WHO guidelines in many developing countries, poses serious health risks. Unfortunately, monitoring of indoor environments remains inadequate.

Industries are experiencing a loss of experienced employees due to pollution-related health issues, aggravating productivity challenges. In Nigeria, industries lose seasoned workers just when their expertise is most needed, due to diseases like cancer, heart disease, and hypertension. Despite existing literature on pollution's impact on employee performance, there is a gap in studying its effects on specific industries like Unifoam Nigeria Limited and Fortunate Bakery, which this present study aims to address.

## 2. Literature review



### *Concept of pollution*

As stated by Alhyali (2009), pollution refers to alterations in the environment caused by human activities, leading to the introduction of substances that are unsuitable for that particular environment. This can lead to disturbances and harm to the natural surroundings. Pollution is evident in regions where waste is exposed or through the emission of black smoke from industrial facilities (Altoranji, 2008).

### *Indoor Pollution*

Air pollution encompasses hazardous substances, such as gases and particles, present in both indoor and outdoor air. Surprisingly, indoor air pollution often exceeds outdoor pollution in harmful effects. Many impoverished regions still rely on traditional cooking methods, elevating indoor air pollution levels and posing significant health risks. According to the World Health Organization (2019, 2021), household air pollution causes an estimated annual death toll of 4.3 million people. Exposure to various hazardous materials indoors, including asbestos, lead, formaldehyde, tobacco smoke, and chemicals in paints and cleaning products, as well as common pollutants like dust mites and animal dander, can lead to severe health complications such as lung cancer, mesothelioma, and asbestosis. Symptoms may include flu-like illnesses, asthma exacerbations, and throat irritations. Prolonged exposure can result in life-threatening conditions such as kidney failure, anaemia, neurological damage, and cardiovascular abnormalities. (World Health Organization, 2019, 2021)

### *Environmental Pollution*

Environmental contamination refers to the presence of dangerous materials and pollutants in the environment. This contamination can have adverse effects on the natural processes of the earth and atmosphere, which, in turn, can affect the health and well-being of living organisms. Pollutants, such as toxic chemicals, are typically released into the air, water, or soil, causing different types of pollution, including air pollution, soil pollution, water pollution, thermal pollution, land pollution, and noise pollution.

### *Types of environmental pollution*



1. Air pollution is a term used to describe the harmful effects of smoke and toxic gases such as nitrogen, sulfur, and carbon oxides on the atmosphere. Examples of air pollution include vehicle exhaust emissions, burning of fossil fuels like coal, oil, or gas, and toxic off-gassing from items like paint and plastic.

2. Land pollution refers to the degradation of the earth's surface due to the improper disposal of garbage and mismanagement of natural resources. This type of pollution can manifest in various ways, including roadside litter, illegal dumping in natural areas, land-based oil spills, and the use of pesticides and other chemicals in farming.

3. Noise pollution refers to loud sounds that can be uncomfortable or harmful to both humans and animals. Examples of noise pollution include the sounds produced by vehicles like cars, helicopters, and aeroplanes, as well as construction or demolition projects, concerts, and sporting events.

4. Thermal pollution is a term used to describe an increase in temperature caused by human activities. One example of thermal pollution is the warmer water in lakes resulting from manufacturing plants using cool water to cool down and then discharging it back into the lake. Thermal pollution can also occur in cities with a lot of concrete or traffic.

Water pollution occurs when harmful substances or pollutants are introduced into any body of water, such as lakes, rivers, seas or subterranean sources. This can happen through the dumping of raw sewage into streams or lakes, industrial waste spills that contaminate groundwater, radiation leaks or nuclear accidents, the illicit disposal of materials or objects into waterways, or the development of dangerous bacteria through biological contamination.

#### *The concept of work performance*

Employers often evaluate their employees' work performance on a quarterly or annual basis to identify areas that need improvement. An individual's attitude towards their job is a crucial factor that influences their performance. Attitudes are an individual's predispositions to respond positively or negatively to various things or items in their surroundings. By examining and understanding employee attitudes towards management, compensation, perks, promotions, and



other factors that could elicit favourable or unfavourable responses, employers can gain valuable insights into their staff's behaviour. Considering this, attitudes and employee happiness are essential indicators of organizational effectiveness.

#### *Assessment of workforce productivity*

Employers often neglect the comprehensive measurement of workforce productivity, which encompasses both presenteeism and absenteeism, constituting a significant portion of indirect costs. While absenteeism, a visible yet often overlooked expense, is relatively manageable, presenteeism tends to be underestimated. Quantifying absence due to reported illness is feasible, but accounting for personal sick days poses challenges, particularly with the rise of telecommuting. Discrepancies between reported absenteeism rates by employers and employees are notable. While various studies have explored aspects of absenteeism, recent attention has shifted towards presenteeism due to its wide-ranging effects and severity. Accurate measurement of lost productivity from illness episodes necessitates considering both actual days absent and presenteeism. Brouwer (2002) found a 16% increase in production losses when presenteeism charges were added to absenteeism costs, underscoring its impact despite a small sample size ( $n = 51$ ).

#### *Buildings factors*

Numerous studies, involving over 100,000 participants, have highlighted the adverse health effects of damp environments, including asthma, allergies, wheezing, and coughing (Sundell, 1999; Bornehag, 2001). Building ventilation systems are categorized into pollutant removal and air exchange, but conclusive data on their correlation with health effects remains limited, with only thirty scientifically conclusive studies identified (Wargocki, 2002). Ventilation rates below 25 litres per second per person in commercial and institutional buildings can heighten the risk of Sick Building Syndrome (SBS), leading to increased sick leave and reduced productivity (Sundell, 1993; Sundell, 1994; Wargocki, 2002b). In Western countries, energy-saving measures have reduced house ventilation rates, possibly contributing to increased allergies, while in Eastern European nations, rising energy costs have led to tighter construction and reduced ventilation (Sundell, 2004).



The chemistry of indoor air is complex, involving the interaction of various contaminants with ozone and other substances, producing highly reactive compounds posing health risks (Sundell, 1993; Weschler, 2000). Though challenging to measure, these compounds can be more harmful than their precursors, necessitating reassessment of factors like humidity, ventilation rate, building materials, and cleaning agents to ensure safe indoor environments. These findings emphasize the importance of proactive measures to maintain optimal indoor air quality (Sundell, 2004).

#### *Relationship between Health of Workers and Work Performance*

The health and well-being of a workforce can have a significant impact on a business's productivity. This impact is reflected in the number of worker absences for paid time off or sickness. Additionally, presenteeism, where employees come to work while sick or injured, can also decrease productivity. Poor employee health and well-being can also indirectly affect productivity by reducing staff engagement levels.

#### *Absenteeism*

Many Australian employees take unscheduled absences from work, with sick leave being a common reason reported to the Australian Psychological Society (APS). Besides sick leave, other types of absence include compensation leave, miscellaneous leave, and unapproved absences. Australian workplaces have long offered paid time off for personal reasons, with the National Employment Standards guaranteeing a minimum of 10 days of paid sick leave annually. Providing benefits like sick leave and career leave can position a company as a "family-friendly employer," enhancing its attractiveness to potential hires and bolstering its industry reputation. Public sector workers in Australia typically enjoy more extensive leave benefits compared to their private sector counterparts, with the number of personal/career leave days varying among APS agencies. While sick leave may impact workplace productivity, determining if illness-related absences incur organizational costs poses a challenge. Nevertheless, promoting a healthy workplace and minimizing work-related illnesses and injuries are managerial responsibilities.



Managers must also ensure that employees refrain from taking unjustified absences from work. (Australia National Employment Report)

### *Presenteeism*

Presenteeism is a circumstance where an employee shows up for work even when they are sick or injured. This lowers their productivity and studies have shown that sick workers are more likely to spread their illnesses to others and also suffer from injuries. Even though this concept is relatively new, research has indicated that presenteeism leads to more productivity losses than absenteeism. An ongoing study conducted by one of the biggest health insurance companies in Australia suggests that presenteeism can lead to productivity losses up to four times higher than absenteeism.

## **3. Theoretical framework**

### *Stakeholder Theory*

The term "stakeholders" was first introduced by the Stanford Research Institute in 1963. They defined stakeholders as groups whose support is vital for the organization's survival. In 1984, Freeman integrated the stakeholder concept into strategic management. This approach differentiates between stakeholders and shareholders in corporations and emphasizes the influence of various stakeholders on companies' decision-making processes. The theory is based on four fundamental premises. Firstly, companies have relationships with multiple stakeholder groups, all of which influence or are influenced by the company's decisions. Secondly, these relationships shape the processes and outcomes for both the company and its stakeholders. Thirdly, the interests of stakeholders hold inherent value, and no single stakeholder's interests should dominate over others. Lastly, the decision-making of the company is the central focus of stakeholder theory.

### *The Natural Resource-Based View (NRBV)*

The Natural Resource-Based View (NRBV) extends the Resource-Based View (RBV) by emphasizing the role of the natural environment in gaining a competitive edge. NRBV outlines three interconnected environmental strategies: pollution prevention, product stewardship, and





sustainable development. Pollution prevention focuses on eliminating unnecessary pollution within internal operations, serving as the initial step in proactive environmental management. To advance to product stewardship and sustainable development, a company requires resources to implement pollution prevention and follow a path-dependent progression. Product stewardship addresses environmental concerns externally, from sourcing to end-of-life disposal, while sustainable development involves stakeholder engagement in environmental problem-solving. This strategy has evolved into clean technology and the base of the pyramid approaches. Environmental strategies serve as overarching guidelines directing a company's response to environmental challenges, implemented through various practices, such as targeting key areas of pollution in internal operations. The connection between environmental strategies and competitive advantage is a central focus within the NRBV. (Andersén, Jim. 2021; Makhoulfi, Lahcene, et al 2021; McDougall, et al.,2019).

#### Research questions

1. Does pollution affect workplace productivity?
2. Is pollution-related health problems the only factor contributing to persistent absences from work?
3. Is there a relationship between work performance and pollution?

#### 4. Methods

The survey design was adopted in this study to assess and predict the views, and reactions of respondents on the effects of indoor pollution on employees' performance. Under survey design, the researcher develops a list of questions and presents them in a standard way to each participant typically using either the interview or questionnaire. The study was conducted in two renowned organisations in Ilorin and these are Unifoam Nig. Ltd. and Fortunate Bakery. The study relied on a sample size of 90 respondents i.e. 30% of the total population of each organization. Purposive sampling was used to select the respondents in the study. The instrument used for data collection was a questionnaire. Ninety (90) questionnaires were distributed among the selected samples in both organisations, but Eighty (83) forms of questionnaires were returned successfully



culminating in a response rate of 92%. In administering the questionnaires, direct delivery techniques [DDT] were adopted.

### *Results*

The survey primarily targeted respondents aged 20 to 30, comprising 85.5% of the total, with the remaining 14.5% aged 31 to 40, indicating the predominance of individuals in their economically active years. This age group, known for its peak physical strength, is particularly pertinent for roles demanding speed and physical prowess, such as factory work.

Regarding education levels, a significant majority of respondents are well-educated, with 86.7% holding degrees beyond the SSCE level. The breakdown shows 38.6% possessing Diplomas, 43.4% with HND/B.Sc. degrees, 4.8% with M.Sc. degrees, and 13.3% with SSCE qualifications, contributing to organizational advancement.

Ventilation within the factories appears conducive to enhancing productivity, with 75.9% of respondents rating it as good or excellent. Similarly, temperature conditions are generally satisfactory, as indicated by 79.5% rating them as good or excellent.

Regarding odour conditions, 77.1% of respondents rated it as good or excellent, with only 8.4% expressing dissatisfaction, which minimally affected their work performance.

Overall, the survey data suggests positive perceptions of workplace conditions among the respondents, potentially contributing to enhanced productivity.

Table 1. Distribution of Responses

| Age                       | Frequency | Per cent     |
|---------------------------|-----------|--------------|
| 20-30 years               | 71        | 85.5         |
| 31-40 years               | 12        | 14.5         |
| <b>Total</b>              | <b>83</b> | <b>100.0</b> |
| Educational Qualification | Frequency | Per cent     |



|              |           |           |              |
|--------------|-----------|-----------|--------------|
| OND/Diploma  |           | 32        | 38.6         |
| B.Sc./HND    |           | 36        | 43.4         |
| M.Sc.        |           | 4         | 4.8          |
| SSCE         |           | 11        | 13.3         |
| <b>Total</b> |           | <b>83</b> | <b>100.0</b> |
| Ventilation  |           | Frequency | Per cent     |
| Valid        | Excellent | 34        | 41.0         |
|              | Good      | 29        | 34.9         |
|              | Average   | 14        | 16.9         |
|              | Poor      | 6         | 5.1          |
|              | Total     | 83        | 100.0        |
| Temperature  |           | Frequency | Per cent     |
| Valid        | Excellent | 20        | 24.1         |
|              | Good      | 46        | 55.4         |
|              | Average   | 13        | 15.7         |
|              | Poor      | 4         | 4.8          |
|              | Total     | 83        | 100.0        |
| Odour        |           | Frequency | Per cent     |
| Valid        | Excellent | 24        | 28.9         |
|              | Good      | 40        | 48.2         |
|              | Average   | 12        | 14.5         |
|              | Poor      | 7         | 8.4          |
|              | Total     | 83        | 100.0        |

Source: Researcher's survey, 2023

Table 2. Space of the workplace

| Space of the workplace |           | Frequency | Per cent |
|------------------------|-----------|-----------|----------|
| Valid                  | Excellent | 41        | 49.4     |
|                        | Good      | 34        | 41.0     |
|                        | Average   | 8         | 9.6      |
|                        | Total     | 83        | 100.0    |
| Noise                  |           | Frequency | Per cent |



|                    |                   |           |          |
|--------------------|-------------------|-----------|----------|
| Valid              | Excellent         | 25        | 30.1     |
|                    | Good              | 34        | 41.0     |
|                    | Average           | 20        | 24.1     |
|                    | Poor              | 2         | 2.4      |
|                    | Very poor         | 2         | 2.4      |
|                    | Total             | 83        | 100.0    |
| Work performance   |                   | Frequency | Per cent |
| Valid              | Strongly Agree    | 30        | 36.1     |
|                    | Agree             | 42        | 50.6     |
|                    | Indifferent       | 5         | 6.0      |
|                    | Disagree          | 4         | 4.8      |
|                    | Strongly Disagree | 2         | 2.4      |
|                    | Total             | 83        | 100.0    |
| Smoke and emission |                   | Frequency | Per cent |
| Valid              | Strongly Agree    | 12        | 14.4     |
|                    | Agree             | 36        | 43.2     |
|                    | Indifferent       | 9         | 10.8     |
|                    | Disagree          | 12        | 14.4     |
|                    | Strongly Disagree | 14        | 16.8     |
|                    | Total             | 83        | 100.0    |

Source: Researcher's survey, 2023.

According to the survey findings, both Unifoam and Fortunate Bakery provide spacious and comfortable work environments that promote favourable working conditions. Respondents unanimously agreed on the high quality of facilities in both organizations, rating them above average. Unifoam's expansive production rooms accommodate more employees efficiently, while modern machinery minimizes the need for additional personnel. Similarly, Fortunate Bakery's utilization of electric ovens and a Mikano generator ensures minimal noise pollution within the factory.

The survey indicates that noise pollution did not significantly impact work performance in either organization. While some respondents noted slight dissatisfaction with noise levels, the majority



considered it tolerable or excellent, attributed to the strategic placement of generators and modern machinery.

Moreover, the survey underscores the significant influence of the physical work environment on productivity, with 86.7% of respondents agreeing that a positive work environment enhances productivity, aligning with Kohun's argument on the importance of conducive work environments for employee satisfaction and motivation.

Regarding concerns over excessive factory smoke and emissions potentially affecting productivity, opinions among respondents varied. While a joint majority agreed with the hypothesis, a notable portion disagreed, with some expressing indifference.

### **Table 3: Worker's Health and Organisational Productivity**

Table 3 highlights the significance of employee well-being in organizational productivity, shedding light on why some organizations hesitate to hire disabled employees. A substantial majority, comprising 96.3% of respondents, either strongly agreed or agreed with this notion, suggesting widespread concern. Furthermore, the table underscores the detrimental impact of unsafe working conditions, unclean environments, and inadequate resources on employee fatigue and motivation, subsequently diminishing job commitment. A majority of respondents, totalling 86.7%, strongly agreed or agreed with this observation, indicating a consensus on the negative consequences. However, a small percentage of respondents, 13.3%, expressed indifference or strong disagreement with this viewpoint, suggesting varying perceptions within the workforce.

Table 3. Worker's Health and Organisational Productivity

| Health and Productivity |                   | Frequency | Per cent |
|-------------------------|-------------------|-----------|----------|
| Valid                   | Strongly Agree    | 42        | 50.6     |
|                         | Agree             | 28        | 33.7     |
|                         | Indifferent       | 10        | 12.0     |
|                         | Disagree          | 2         | 2.4      |
|                         | Strongly Disagree | 1         | 1.2      |
|                         | Total             | 83        | 100.0    |



| Unsafe work and motivation |                   | Frequency | Per cent |
|----------------------------|-------------------|-----------|----------|
| Valid                      | Strongly Agree    | 43        | 51.8     |
|                            | Agree             | 29        | 34.9     |
|                            | Indifferent       | 6         | 7.2      |
|                            | Disagree          | 3         | 3.6      |
|                            | Strongly Disagree | 2         | 2.4      |
|                            | Total             | 83        | 100.0    |
| Ventilation                |                   | Frequency | Per cent |
| Valid                      | Strongly Agree    | 36        | 43.4     |
|                            | Agree             | 37        | 44.6     |
|                            | Indifferent       | 6         | 7.2      |
|                            | Disagree          | 2         | 2.4      |
|                            | Strongly Disagree | 2         | 2.4      |
|                            | Total             | 83        | 100.0    |
| Chemicals                  |                   | Frequency | Per cent |
| Valid                      | Strongly Agree    | 31        | 37.3     |
|                            | Agree             | 39        | 47.0     |
|                            | Indifferent       | 5         | 6.0      |
|                            | Disagree          | 6         | 7.2      |
|                            | Strongly Disagree | 2         | 2.4      |
|                            | Total             | 83        | 100.0    |

Source: Researcher's survey, 2023.

The survey findings underscore the detrimental effects of poor ventilation on employee productivity, with an overwhelming 88% of respondents strongly agreeing with this concern. However, a small proportion, comprising 7.2% of respondents, expressed indifference, while 4.8% disagreed, suggesting some variation in perception within the workforce.

Additionally, the table highlights the negative impact of production materials and internal furnishings, such as paint and chemicals, on work performance. Specifically, the congestion of these materials hampers ventilation and access to fresh air, a concern echoed by 84% of



respondents who either strongly agreed or agreed with this observation. Nonetheless, a small percentage of respondents, totalling 8.4%, expressed indifference or disagreement with this viewpoint, indicating differing perspectives among respondents.

Table 4. Production space and productivity

| Production space and productivity              |                | Frequency | Per cent |
|--|----------------|-----------|----------|
| Valid  | Strongly Agree | 49        | 59.0     |
|  | Agree          | 29        | 34.9     |
|  | Indifferent    | 3         | 3.6      |
|  | Disagree       | 2         | 2.4      |
|  | Total          | 83        | 100.0    |
| <b>Health incentive motivates productivity</b> |                |           |          |
| Health Incentives                              |                | Frequency | Per cent |
| Valid  | Strongly Agree | 40        | 48.2     |
|  | Agree          | 30        | 36.1     |
|  | Indifferent    | 7         | 8.4      |
|  | Disagree       | 4         | 4.8      |
|  | Total          | 83        | 100.0    |

**Source: Researcher's survey, 2023.**

The data presented in the table underscores the significant impact of the work environment, particularly regarding heat and congestion levels, on work productivity. An overwhelming majority of respondents, accounting for 93.9%, agreed with this assertion, indicating widespread acknowledgement of the importance of conducive working conditions. This finding aligns with Yesufu's (1984) argument that the physical conditions of the workplace profoundly influence employee output.

Moreover, the table indicates that nearly half of the respondents, 48.2%, strongly agreed that the work environment directly affects productivity, with an additional 36.1% agreeing. However, a notable percentage of respondents, 13.2%, either remained indifferent or disagreed with this viewpoint, suggesting some variance in perspectives among the workforce.



In addition to promoting productivity, providing paid sick leave can facilitate employee access to medical care, expedite recovery, prevent the development of serious illnesses, and mitigate the spread of diseases in the workplace. This underscores the importance of implementing supportive policies to enhance employee well-being and organizational performance.

Table 5. Production heat and job productivity

| Heat and Productivity                  |                | Frequency | Per cent |
|--|----------------|-----------|----------|
| Valid                                  | Strongly Agree | 30        | 36.1     |
|  | Agree          | 43        | 51.8     |
|  | Indifferent    | 7         | 8.4      |
|  | Disagree       | 3         | 3.6      |
|  | Total          | 83        | 100.0    |
| <b>Days of Absence</b>                 |                |           |          |
| Number of days                         |                | Frequency | Per cent |
| Valid                                  | Less than 5    | 9         | 10.8     |
|  | 6-10           | 15        | 18.1     |
|  | 11-14          | 35        | 42.2     |
|  | more than 14   | 5         | 6.0      |
|  | None           | 19        | 22.9     |
|  | Total          | 83        | 100.0    |
| <b>Sick leave and work performance</b> |                |           |          |
| Sick leave                             |                | Frequency | Per cent |
| Valid                                  | Once           | 31        | 37.3     |
|  | Twice          | 10        | 12.0     |
|  | Thrice         | 4         | 4.8      |
|  | None           | 38        | 45.8     |
|  | Total          | 83        | 100.0    |
| <b>Absenteeism and productivity</b>    |                |           |          |
|  |                | Frequency | Per cent |





|       |       |    |       |
|-------|-------|----|-------|
| Valid | Yes   | 56 | 67.5  |
|       | No    | 27 | 32.5  |
|       | Total | 83 | 100.0 |

Source: Researcher's survey, 2023.

Table 5 highlights the detrimental impact of excessive heat on workers' productivity, stemming from factors like machinery heat and inadequate ventilation. An overwhelming 87.9% of respondents strongly agreed or agreed with this assessment, indicating widespread recognition of the issue. This finding underscores the importance of addressing heat-related challenges to enhance workplace efficiency

Moreover, the table reveals concerning trends in absenteeism, with over 60.3% of respondents reporting being absent from work more than six times, and 10.8% missing duty between 1 and 5 times. Such high absenteeism rates pose significant obstacles to maintaining optimal work performance, potentially hindering organizational productivity.

Furthermore, the data indicates a substantial proportion of respondents, accounting for 54.1%, having applied for sick leave at least once in the past year. This prevalence of sick leave requests can further disrupt production processes and impede effective work performance, highlighting the need for strategies to address absenteeism-related challenges.

Lastly, while a majority of respondents, comprising 67.5%, acknowledge the adverse impact of absenteeism on work productivity, a notable proportion, representing 32.5%, believe otherwise, attributing it to the size of their organizations. This divergence in perspectives underscores the complexity of managing absenteeism and its effects on productivity within varying organizational contexts.

## Test of Hypotheses

### Hypothesis One

H<sub>01</sub>: There is no significant relationship between pollution and employee performance

H<sub>1</sub>: There is a significant association between pollution and employee performance



Table 6 Showing the association between pollution and employee performance

| Noise |           | Poor ventilation |       |             |          |                   | Total |
|-------|-----------|------------------|-------|-------------|----------|-------------------|-------|
|       |           | Strongly Agree   | Agree | Indifferent | Disagree | Strongly Disagree |       |
| noise | Excellent | 13               | 6     | 4           | 0        | 2                 | 25    |
|       | Good      | 13               | 17    | 2           | 2        | 0                 | 34    |
|       | Average   | 6                | 14    | 0           | 0        | 0                 | 20    |
|       | Poor      | 2                | 0     | 0           | 0        | 0                 | 2     |
|       | Very poor | 2                | 0     | 0           | 0        | 0                 | 2     |
| Total |           | 36               | 37    | 6           | 2        | 2                 | 83    |

$\chi^2_{23.703}$ : df 16  $\times$  2: 26.30

The chi-square test revealed a significant association between pollution and employee performance. With a calculated chi-square value of 23.703 surpassing the table value of 26.30 at an alpha level of 0.05, and with 16 degrees of freedom, the null hypothesis was rejected in favour of the alternative hypothesis. The study's findings underscore a robust correlation between pollution and factors such as employee satisfaction and stability, particularly concerning internal conditions. While slight variations were observed across worker categories, the impact on productivity was not notably pronounced.

Existing research has firmly established causal links between pollution and adverse health outcomes, highlighting the imperative of pollution reduction as an investment in human capital. Consequently, addressing pollution can be viewed as a strategic tool for fostering economic growth rather than impeding it.

**HYPOTHESIS TWO: There is no relationship between ventilation and worker's commitment to work/There is a relationship between ventilation and worker's commitment to work**

Table 7 Showing the association between ventilation and commitment to work

| Ventilation |           | health_issues_job_commitment |       |             |          |                   | Total |
|-------------|-----------|------------------------------|-------|-------------|----------|-------------------|-------|
|             |           | Strongly Agree               | Agree | Indifferent | Disagree | Strongly Disagree |       |
| Ventilatio  | Excellent | 12                           | 15    | 5           | 2        | 0                 | 34    |



|       |         |    |    |   |   |   |    |
|-------|---------|----|----|---|---|---|----|
| n     | Good    | 5  | 21 | 1 | 0 | 2 | 29 |
|       | Average | 7  | 2  | 0 | 2 | 3 | 14 |
|       | Poor    | 0  | 4  | 0 | 2 | 0 | 4  |
| Total |         | 24 | 42 | 6 | 6 | 5 | 83 |

$\chi^2_c$ : 39.378  $\chi^2_t$ : 26.30 df 16 Alpha Level 0.05

The rejection of the null hypothesis and acceptance of the alternative hypothesis are supported by the calculated chi-square value of 39.378, surpassing the table value of 26.30 at an alpha level of 0.05, with 16 degrees of freedom. This indicates a significant correlation between work commitment and adequate ventilation. Put simply, improved ventilation in the workplace corresponds to heightened levels of job commitment among employees. This outcome aligns with Seppanen's (1999) research, which demonstrated that enhanced ventilation rates enhance air quality and diminish indoor pollutants, while insufficient ventilation can lead to adverse health consequences such as symptoms of Sick Building Syndrome (SBS) and airborne illnesses.

### **HYPOTHESIS THREE: There is no significant relationship between the work environment and Health of the workers**

Table 8. Showing the association between work environment and health

| Work environment  |       | Health issues  |       |             |          |                   | Total |
|-------------------|-------|----------------|-------|-------------|----------|-------------------|-------|
|                   |       | Strongly Agree | Agree | Indifferent | Disagree | Strongly Disagree |       |
| Strongly Agree    |       | 9              | 9     | 10          | 0        | 2                 | 30    |
| Agree             |       | 9              | 23    | 8           | 2        | 0                 | 42    |
| Indifferent       |       | 2              | 0     | 0           | 0        | 0                 | 2     |
| Disagree          |       | 2              | 0     | 2           | 0        | 0                 | 4     |
| Strongly Disagree |       | 3              | 2     | 0           | 0        | 0                 | 5     |
| Total             | Total |                | 25    | 34          | 20       | 2                 | 83    |

$\chi^2_C$ : 21.387 df:16  $\chi^2_t$ : 26.30 alpha level: 0.05

The calculated chi-square value of 21.387 falls below the chi-square table value of 26.30, with 16 degrees of freedom at an alpha level of 0.05. Consequently, the null hypothesis is accepted while



the alternative hypothesis is rejected, indicating no significant relationship between the work environment and workers' health. This unexpected outcome might stem from recent upgrades in the study areas, transitioning from unclean to clean energy sources.

The concept of a conducive work environment is extensively discussed in environmental psychology literature, supported by scholars like Alexander (1970), Herring, Szigeti, and Vischer (1977), Preiser (1983), and Zeisel (2005). Such environments can empower employees to realize their potential and exhibit self-actualizing behaviours. Conversely, toxic work environments can foster negative experiences and hinder the realization of employees' ambitions, reinforcing low self-actualization tendencies. While these environments may impact behaviour, the study suggests they do not significantly affect health outcomes (Kyko, 2005).

## **5. Discussion of findings**

The impact of pollution on employee performance is significant, specifically in terms of employee satisfaction and stability, with internal conditions playing a crucial role. Although there were minor differences among worker categories, the effects on productivity were not pronounced. However, the cumulative effect of pollution weakens workers' immune systems, leading to stress and early fatigue, ultimately reducing productivity. Research suggests that upgrading factory machinery from outdated to newer models can help reduce heat, noise, and smoke pollution within organizations, as seen in the transition from mud ovens to electric ovens. Pollution impacts employee satisfaction and stability, weakens immune systems, and reduces productivity. Maintaining high cleanliness levels motivates workers. Pollution in Ilorin causes traffic and contributes to health issues. Waste management is the responsibility of KWEPA. Upgrading factory machinery can reduce heat, noise, and smoke pollution.

### *Summary*

The majority of respondents reported that the temperature within their organizations was satisfactory, rating it as good or excellent. However, a small percentage expressed dissatisfaction, mainly due to poor machine maintenance resulting in inadequate ventilation.



The survey found that the organizations provide spacious and conducive working environments that contribute to employee satisfaction and productivity. All respondents acknowledged the quality of the space within the organizations, with many indicating high levels of satisfaction. The use of modern machinery has also led to increased efficiency and reduced workforce sizes, which is particularly evident in organizations like Uniform.

Most respondents rated the noise levels within the organizations as favourable, with minimal impact on employee performance. However, a small percentage expressed dissatisfaction with the noise levels.

Health issues affecting some employees, especially in organizations with shift systems like Fortunate Bakery, could indirectly influence the job commitment of other employees. Absences due to health-related reasons can disrupt workflow and impact overall job commitment within the organization.

## **6. Conclusion**

The study found that the work environment, including cleanliness, quality of space, and pollution, has a significant impact on job performance and organizational goal achievement. Besides financial incentives, non-financial rewards and working conditions are equally important. Nigerian organizations should prioritize creating a conducive work environment, clear reward systems, and effective communication to enhance productivity. Improving factors such as ventilation, temperature, noise levels, and cleanliness can sustain employee commitment and dedication. However, an excessive focus on work environment policies without proper employee monitoring could hinder organizational goal achievement.

### *Recommendations*

Poor cleanliness standards in production rooms can lead to water pollution, stagnant water odours, and air pollution. Waste bins should be installed in different areas of organizational structures to mitigate this problem. The study recommends regular inspections by government agencies to ensure clean production environments.



The government has intervened in waste management through "Ola Kleen" due to inadequate financial support. Investing in modern methods and equipment to mitigate noise pollution can enhance productivity and employee performance. Management should enforce the usage of protective gear and conduct regular worker check-ups. To address the shortcomings identified in waste management, the study recommends enhancing KWMC's performance under the new arrangement with Ola Kleen.

### References

1. Ahmed, F., Hossain, S., Hossain, S. (2019), Impact of household air pollution on human health: source identification and systematic management approach. *SN Appl. Sci.* 1, 418 (2019). <https://doi.org/10.1007/s42452-019-0405-8>
2. Akinyele S. T. (2010). The influence of work environment on worker's productivity: A case study of selected oil and gas industry in Lagos, Nigeria. *African Journal on Business Management* 4(3), 299–307.
3. Akinyele, S. T. (2007). A critical assessment of environmental impact on workers' productivity in Nigeria. *Research Journal on Business Management*. 1(1), 50-61.
4. Andersén, Jim. (2021). "A Relational Natural-resource-based View on Product Innovation: The Influence of Green Product Innovation and Green Suppliers on Differentiation Advantage in Small Manufacturing Firms." *Technovation*, vol. 104, 2021, p. 102254, <https://doi.org/10.1016/j.technovation.2021.102254>. Accessed 3 Mar. 2024.
5. Archsmith, J., Heyes, A., & Saberian, S. (2018). Air quality and error quantity: Pollution and performance in a high-skilled, quality-focused occupation. *Journal Assoc. Environ. Resour Economic*, 5, 827–863. doi: 10.1086/698728
6. Bari MW., Saleem S., Bashir M., & Ahmad B. (2022). Impact of ambient air pollution on outdoor employees performance: Mediating role of anxiety. *Frontier Psychology*, 13:926534. doi: 10.3389/fpsyg.2022.926534
7. Black M, Worthan T., & Horner E. (1999). Effectiveness of carpet cleaning in biocontaminant removal. In: Raw G, Aizlewood C, Warren P, editors. Proceedings of 8th International Conference on Indoor Air Quality and Climate, Edinburgh, Scotland, 8–13 August 1999; vol 5. Sydney: University of Sydney; 1999. p 43–85.
8. Benneh, G., J. Songsore, J. Nabila, T. (1993): Environmental Problems and the Urban Households in the Greater Accra Area, Ghana. Stockholm; Stockholm Environment Institute. p126.
9. Bradley, D.J (1992). A Review of Environmental Health Impact in Developing Country Cities. London School of Hygiene and Tropical Medicine. UNCHS/UNDP/IBRD Committee on Environmental Health (1999). Handbook of Pediatric Environmental
10. Brenner, P. (2004). Workers' physical surroundings. Impact bottom line accounting: Smarts Pros.com



11. Chang, T., Zivin, G., Gross, G., & Neidell, M. (2014). Particulate Pollution and the Productivity of Pear Packers,” NBER Working Paper 19944.
12. Cherniss, C. & Kane, J. (2004). Public sector professionals: Job characteristics, satisfaction and aspiration for intrinsic fulfilment through work. *Human Relations*, 40, 125-136.
13. Christensen, P. (2002). Motivational strategies for public managers: The budgetary belt- tightening precipitated by the recession has placed renewed emphasis on the importance of employee motivation. *Government Finance Revision*. 18, 30- 35.
14. Crowe, D., & Brennan, L. (2007). Brennan Environmental considerations within manufacturing strategy: an international study. *Business Strategy and The Environment*, 16(4), 266-289. <http://dx.doi.org/10.1002/bse.482>
15. Daily, B., & Huang, S. (2001). Achieving sustainability through attention to human resource factors in environmental management. *International Journal of Operations & Production Management*, 21(12),1539-1552. <http://dx.doi.org/10.1108/01443570110410892> p. 204-210
16. Garrett, M.H., & Hooper, M.A (1999). Increased Risk of Allergy in Children due to Formaldehyde Exposure in Homes. *Journal Allergy*, 54(4), 330-337
17. Gilles Grolleau, H., Naoufel Mzoughi, Y., & Sanja Pekovic, I. (2012). Green not (only) for profit: An empirical examination of the effect of environmental-related standards on employees’ recruitment. *Resource and Energy Economics*, 34(1), 74-92. <http://dx.doi.org/10.1016/j.reseneeco.2011.10.002>
18. González-Benito, J. (2006). Environmental pro-activity and business performance: an empirical analysis Omega. *The International Journal of Management Science*, 33, 1-15. <http://dx.doi.org/10.1016/j.omega.2004.03.002>
19. Handy R.G., & Lafreniere, M.D. (1999). An Automated Monitoring System for Indoor Air Quality”, In Proceedings of 1st National Safety Forum (NSF) International Conference on IAQ, Ann Arbor: NSF International.
20. Handy, R.G., & Lafreniere, M.D. (2006). The Effects of Coupling Repetitive Motion Tasks with a Thermally-Stressed Work Environment. *The International Journal of Modern Engineering*, 7(1), pp. 1-10
21. Hofstede, G. (1980). Culture’s consequences: International differences in work-related values. Newbury Park, CA: Sage.
22. House, R. J., Shane, S. A., & Herold, D. M. (1996). Rumours of the death of dispositional research are vastly exaggerated. *Academy of Management Review*, 21, 203–224.
23. Judge, T. A. and Bono, J. E. (1998). Dispositional effects on job and life satisfaction: The role of core evaluations. *Journal of Applied Psychology*, 83, 17–34
24. Judge, T. A., & Church, A. H. (2000). Job satisfaction: Research and practice. In C. L. Cooper & E. A. Locke (Eds.), *Industrial and Organisational psychology: Linking theory with practice*, 166–198. Oxford, UK: Blackwell.
25. Jurgensen, C. E. (1978). Job preferences (What makes a job good or bad?). *Journal of Applied Psychology*, 63, 267–276.
26. Kohun, S. (1992). *Business environment*. Ibadan: University Press
27. Kyko O.C. (2005). *Instrumentation: Know Yourself and Others*. New York: Longman



28. Lambert S (2005). Added benefits: The link between work-life benefits and organisational citizenship. *Academy Management Journal*.43: 5.
29. Lynn, M. (1990). Job and organisational attitudes in relation to employee behavioural intentions. *Journal of Organisational Behaviour*, 11(1), 57 – 67.
30. Manikandan, K. (2002). Mental health as a moderator of job attitudes and performance. Unpublished Doctoral Dissertation, University of Calicut, Kerala.
31. Nchege, J., & Okpalaoka, C. (2021). Air pollution and economic growth nexus in Nigeria: the case for environmental sustainability. IOP Conf. Series: Earth and Environmental Science 993 (2022) 012007 IOP Publishing. doi:10.1088/1755-1315/993/1/012007
32. Schwarz N. (1999) Self-reports: how the questions shape the answers. *American Psychology*, 54, 93–105
33. Spector, B., & Beer, M., (1994). Beyond TQM programs. *Journal of Organisational Change Management*, 7(2), 63–70.
34. Spector, P. E. (1997). Job satisfaction: Application, assessment, causes, and consequences. Thousand Oaks, CA: Sage.
35. Staw, B. M. (1986). The dispositional approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly*, 31, 437–453.
36. Staw, B. M., & Ross, J. (1985). Stability in the midst of change: A dispositional approach to job attitudes. *Journal of Applied Psychology*, 70, 469–480.
37. Steers J., & Porter L (2000). Factors affecting the context for motivation in public organisations. *Academic Management Revised*. 7, 89-98.
38. Wargocki P., Wyon DP., Baik YK., Clausen G., & Fanger PO. (2005) Perceived air quality, sick building syndrome, (SBS) symptoms and productivity in an office with two different pollution loads. *Indoor Air*, 9(3), 165–179.
39. Weiner, S. P. (2000). Worldwide technical recruiting in IBM: Research and action. In P. D. Bachiochi (Chair), Attracting and keeping top talent in the high-tech industry. Practitioner Forum at the Fifteenth Annual Conference of the Society for Industrial and Organisational Psychology, New Orleans, LA.
40. Weiss, H. M. (2002). Destructing job satisfaction: Separating evaluations, beliefs and affective experiences. *Human Resource Management Review*, 12, 173 – 194.
41. Weiss, H. M., & Cropanzano, R. (1996). Affective events theory: A theoretical discussion of the structure, causes, and consequences of affective experiences at work. *Research in Organisational Behaviour*, 18, 1–74.
42. Whetzel DL, Wheaton GR. (1997). *Applied Measurement Methods in Industrial Psychology*. Cleveland: Davis-Black; 1997. 30. Neal A, Griffen MA, Paterson J, et al. Development of measures of situational awareness, task performance, and contextual performance in air traffic control. In: Lowe AR, Hayward BJ, eds. *Aviation Resource Management*. Aldershot, UK: Ashgate; 2000:241–267.
43. World Health Organisation (WHO) (1999). Indoor pollutants; exposure and health effects. Copenhagen: WHO, Regional Office for Europe; 1999. EURO reports and studies, no 78





44. World Health Organisation. (2001) International Classification of Functioning, Disability and Health. Geneva: World Health Organisation; 2001.
45. World Health Organization (WHO) (2019). Health consequences of air pollution on population. Available from: <https://www.who.int/news/item/> (Accessed on 04.07.2021).
46. World Health Organization (WHO) (2021). Air Pollution. Available from: <https://www.who.int/health-topics/airpollution> (Access 04.07.2021)
47. Yesufu T. M. (1984). The dynamics of industrial relations: The Nigeria experience, Ibadan: University Press Limited.
48. Yesufu T. M. (2000). The human factor in national development. Ibadan: Spectrum Books Limited.
49. Zivin, J., & Neidell, M. (2012). The Impact of Pollution on Worker Productivity, *Journal of Work*, 102(7), 45-56. DOI: 10.1257/aer.102.7.3652.



## INFRASTRUCTURE DEVELOPMENT AND ITS ECONOMIC IMPACT. COMPARATIVE ANALYSIS BETWEEN GERMANY, ROMANIA AND BULGARIA<sup>1</sup>

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**Abstract.** *This article analyzes the economic impact of infrastructure development, with a comparison between three European Union member states: Germany, Romania, and Bulgaria. Infrastructure, including transportation, energy, telecommunications, and water and sewage systems, is essential for economic growth and quality of life. The study highlights that Germany, with its developed infrastructure, supports a robust economy and a high standard of living, while Romania and Bulgaria would benefit from additional investments to reduce economic and infrastructure gaps. The data used in the comparative analysis are sourced from EuroStat, divided into four major infrastructure categories. The conclusions emphasize that efficient investments in infrastructure are critical for economic development, but their success significantly depends on the quality of governance. The article provides insight into the need for modernization and expansion of infrastructure in Romania and Bulgaria to achieve an economic level comparable to that of Germany.*

**Keywords:** *comparative analysis, infrastructure, economic development, quality of life, governance*

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## 1. INTRODUCTION

Infrastructure development is one of the essential elements for economic growth and improving the quality of life. The term infrastructure encompasses all the physical and organizational structures necessary for the functioning of a society or state, including roads, bridges, water and sewage systems, energy, transportation, and telecommunications.

Infrastructure is considered crucial for a country's development, which is why significant funds have always been allocated to this sector. The development of various types of infrastructure, such as transportation, information and communication technologies, energy, and water and sewage systems, contributes to economic growth and allows for the assessment of the influence of governance quality on these outcomes. Investments directed towards infrastructure development are a means of translating sustainable development goals from strategy into practice (Tagliapietra, 2024).

Basic infrastructure, which includes telecommunications, transportation, energy, and water and sewage systems, creates the conditions necessary to achieve economic development goals. It has a positive effect on the population of a state, resulting in a higher standard of living, and consequently, a more skilled, healthier, and educated population. These aspects create lower pressure on the healthcare system, higher levels of professionalism and expertise among workers, and an educated population that can contribute to building a safe and stable society.

Adequate infrastructure ensures efficient production of goods and services, reduces production costs, and leads to lower product prices. The effects of infrastructure development on the economy manifest in various sectors and over different timeframes, with short-term, medium-term, and long-term impacts (Azhgaliyeva, 2021). Additionally, infrastructure facilitates access to underdeveloped regions and improves communication, thereby ensuring the transfer of knowledge from developed areas.

Studies analyzing the economic results of infrastructure development in energy, water, and sewage are scarce. It should also be noted that investments in infrastructure networks



typically occur over several years, meaning that the effects of implementing projects may emerge with a delay.

Although all types of infrastructure influence the economy through the previously mentioned channels, the impact of each type of infrastructure on economic growth also manifests through specific channels. Furthermore, developed infrastructure attracts new flows of foreign direct investment to both developed and developing countries (Rehman et al., 2024). The lack of such infrastructure represents a disadvantage and has a negative impact, with investment flows and capital being directed to other countries with more developed infrastructure that offers lower costs and higher accessibility.

Most often, the results of infrastructure development largely depend on the quality of governance, and this relationship applies to all types of infrastructure. The real positive effect of infrastructure development on economic growth may be less than its potential due to poor governance quality. A high level of corruption can lead governments to direct infrastructure investments towards less productive projects.

Effective and high-quality governance is directly correlated with the prosperity of states, regions, cities (Stead, 2015), and rural communities, especially when prosperity is defined not only in terms of monetary wealth but also as a form of social wealth.

## **1.1. ECONOMIC IMPACT OF INFRASTRUCTURE**

Studies show that infrastructure investments are a key element influencing national and economic competitiveness. Due to its public good nature, the provision of essential infrastructure—such as transportation networks, electricity supply, and telecommunications—is deeply integrated into the public sector, assigning the government the responsibility of ensuring robust and efficient infrastructure. Therefore, infrastructure investments are largely governed by government decisions and regulatory constraints. Government policy thus plays a decisive role in shaping infrastructure through decisions related to public investments and the regulatory framework.



The impact of infrastructure investments on the economy can be measured at two levels: micro (project or sector) and macro (national level). Economic infrastructure investments consist of two components: government investments in general economic infrastructure and infrastructure investments made by public corporations, together forming the total public investments in economic infrastructure within the country. As reported by Farkas (2019), the concept that institutions influence economic development is quite old; governance quality shapes the capacity for innovation, which represents a channel of influence on economic performance. In this context, government effectiveness, the rule of law, impartiality, and professionalism are fundamental characteristics of governance quality.

Infrastructure investments are one of the main prerequisites for enabling developing countries to accelerate or maintain their development pace. There is clear evidence of positive relationships between infrastructure investments, poverty reduction, job creation, and sustainable growth. Labor-intensive infrastructure construction programs, particularly in rural areas of developing economies, often generate short- and medium-term employment opportunities, thereby reducing rural poverty. Improved access to infrastructure in previously inaccessible areas, in turn, stimulates private sector investment, leading to additional job creation and economic growth (Kumo, 2012; Arif et al., 2021).

## **1.2. MAJOR TYPES OF INFRASTRUCTURE**

### **1.2.1. TRANSPORTATION INFRASTRUCTURE**

The role of expanding transportation infrastructure in stimulating economic growth in developed countries is complex and controversial. It can provoke debates regarding public investment in transportation infrastructure, especially when public funds are limited and there is high demand for investment in social sectors such as education, health, and social services. However, the importance of transportation infrastructure as a critical component of sustainable development is well-known (Khadaroo & Seetanah, 2007).



The transportation and logistics sector generates a considerable number of jobs. However, large traffic flows produce negative externalities for people, the environment, and consequently, profitability (Simionescu et al., 2021). Opponents of expanding infrastructure, particularly ports, airports, and roads, often highlight these negative effects and question the economic and profit benefits (Meersman & Nazemzadeh, 2017).

The impact of a transportation system on the national and regional economy depends on the level of economic development and varies between rural and urban areas (Hong et al., 2011). Due to specific characteristics of investments in transportation infrastructure, such as sustainable economic development and environmental issues, there are uncertainties related to their long-term effects under different economic and regional conditions.

Nevertheless, the general consensus is that transportation infrastructure contributes to economic growth and productivity, but not in a consistent manner over time. Transportation infrastructure facilitates business development, reduces product costs, provides access to suppliers and global consumer markets, and creates a more efficient global production process by lowering transportation costs and increasing accessibility.

An advanced transportation network provides faster, cheaper, more reliable, and more flexible transport services, which can lead to higher productivity in the manufacturing and production sectors. Public investments in infrastructure have some of the largest multiplier effects on GDP in the short term, particularly in developing and low-income countries.

Moreover, lower transportation costs facilitate access to supply and demand markets, expand markets for firms, provide access to a diverse and skilled workforce, and offer cheaper and higher-quality business services (Azhgaliyeva, 2021; Vickerman et al., 1999).

In the long term, sustainability in transportation technology and infrastructure will drive structural changes in national and regional economies, facilitating sustainable production systems, dynamic institutions, and integration into the globalization process (Farhadi, 2015; Pradhan & Bagchi, 2013).



### **1.2.2. ENERGY INFRASTRUCTURE**

An effective investment strategy in energy infrastructure can bring multiple benefits by optimizing the allocation of energy resources and promoting coordinated development across regions. This can significantly reduce regional development inequalities. Facilities for telecommunications, potable water, and electricity play an essential role in boosting income in rural areas, thereby bridging the gap between rural and urban environments. In this context, we can conclude that investments in infrastructure are crucial for diminishing the differences between urban and rural areas.

Energy is a fundamental sector of the national economy, and energy infrastructure has the capacity to influence inclusive growth from various perspectives. Improving energy infrastructure not only reduces the costs of transferring energy resources but also promotes the accumulation and dissemination of productive factors across regions. This has a direct impact on social welfare by meeting basic demands for essential energy resources such as gas and electricity (European Commission, 2021).

Investments in energy infrastructure not only support economic development but also contribute to improving the quality of life for the population, particularly in disadvantaged areas. Thus, a well-founded strategy in this field can play a crucial role in creating a balanced and sustainable economic environment, reducing inequalities, and ensuring harmonious development across the entire national territory (Yang et al., 2020).

It is important to note that with the advancement of technologies and changes in energy consumption profiles, the challenges evolve. In addition to the current trend of transitioning to green energy in developed countries, developing countries face the issue of insufficient investments in modernizing and expanding their existing infrastructure (Klimek et al., 2024).

### **1.2.3. TELECOMMUNICATIONS INFRASTRUCTURE**



Investments in telecommunications are increasingly recognized for their significant potential to boost economic productivity and growth. The expansion of the telecommunications sector generates positive effects on the economy, such as increased job creation. Thanks to telecommunications, companies can adopt flexible structures and locations, which contributes to the development and evolution of large, complex organizations (Rehman et al., 2024).

The convergence of Information and Communication Technologies (ICT), especially the Internet and its applications, has facilitated the low-cost spread of information technology products and numerous telecommunications services in developing economies. It is noteworthy that through increasing urban concentration on telecommunications, global telecommunications markets have enabled the development and implementation of new, competitive infrastructures (Rutherford, n.d.). This phenomenon has provided access to information and technology for a broad range of users and opened new opportunities for business and innovation.

As the telecommunications sector continues to expand, its impact on the economy becomes increasingly evident. It not only stimulates economic growth by creating new jobs but also facilitates the development of essential technological infrastructures for global competitiveness. Thus, investments in telecommunications are a crucial element in promoting sustainable economic development and reducing technological gaps between different regions of the world (Datta & Agarwal, 2004; Sridhar & Sridhar, 2009; Untari et al., 2019).

#### **1.2.4. UTILITY INFRASTRUCTURE**

Utility infrastructure plays a crucial role in economic development, being essential for creating a favorable business environment and improving the quality of life for the population. Investments in utility infrastructure, such as residential roads, water and sewage systems, electricity, and telecommunications, have a direct impact on economic competitiveness and sustainable growth.

Utility infrastructure forms the foundation upon which economic development is built. Strategic investments in this area not only support short-term economic growth but also create the





conditions necessary for long-term sustainable development. Countries that recognize and act on this critical link will be well-positioned to thrive in today's competitive global economy.

Access to reliable electricity and modern telecommunications allows businesses to operate efficiently, adopt advanced technologies, and improve labor productivity. Water and sewage networks contribute to public health and overall well-being, which can attract skilled labor and stimulate urban development.

Regions with well-developed utility infrastructure are more attractive to investors. Foreign direct investments are essential for economic growth, bringing capital, new technologies, and managerial know-how. Investments in utility infrastructure in rural and underserved areas can reduce regional disparities, stimulate economic development in these areas, and prevent excessive migration to cities.

Thus, effective governance can ensure efficiency in the provision of public services and, similarly, the optimal exploitation of public infrastructure capacity (Mallick, 2021), particularly concerning the broad accessibility of modern technology, provision of optimal living conditions, and creating an optimal environment for the development of a healthy society.

### **1.3. CONTEXT OF INFRASTRUCTURE AT THE EUROPEAN UNION LEVEL**

Energy, utility, and transport infrastructure play a vital role in the integration and efficiency of the European Union (EU) internal market. These sectors are essential not only for the optimal functioning of the European economy but also for ensuring the mobility of citizens and goods. Furthermore, they are central to the strategic transformation of the EU towards a low-carbon economy in the medium and long term. The development of road infrastructure has significantly increased, sometimes outpacing the growth in road traffic for goods and passengers, while the expansion of electricity infrastructure has been aligned with electricity consumption, indicating an adaptation to current energy demands.



However, the availability and quality of infrastructure vary considerably across the EU. Although differences between older and newer member states have narrowed, reflecting the latter's recovery efforts, significant inequalities still persist. In some older member states, the quality of infrastructure has deteriorated due to insufficient maintenance spending and aging networks. This underscores the need for more efficient management and funding to maintain and improve existing infrastructure, thereby preventing its functional decline (Maciulyte-Sniukiene & Butkus, 2022).

Recent analysis of investment patterns in infrastructure among member states indicates signs of underinvestment in certain countries. In central Eurozone countries, there are clear signs of insufficient investment in both road and rail infrastructure, justifying the need for additional investments to ensure the optimal functioning of these networks. In the periphery of the Eurozone, there is an adjustment following a period of intense investment in roads, while in newer member states, investments in road and rail infrastructure have been higher than anticipated. This reflects the need for these countries to catch up with the rest of the EU, although their infrastructure stock remains below the EU average.

Investments in the energy sector have been dynamic in most member states, reflecting the transition to renewable and low-carbon energy sources, as promoted by the EU's climate and energy strategy. This transition is crucial for achieving the EU's sustainability goals and reducing dependence on fossil fuels (European Commission, 2022a). Ongoing investments in energy and transport infrastructure not only support economic growth and competitiveness but also contribute to creating a cleaner and more sustainable environment for future generations. In this context, European-level coordination and efficient resource allocation are essential to ensure balanced and sustainable infrastructure development across all member states (European Commission, 2014).

Like other regions of the world, the European Union (EU) has placed significant importance on infrastructure investments, particularly focusing on transport infrastructure. These investments are crucial for achieving territorial cohesion, reducing economic disparities, and promoting economic development within the EU (Crescenzi & Rodríguez-Pose, 2012).



In recent decades, transport infrastructure across the 28 EU countries (EU-28) has experienced the fastest growth. The impact of this development on sustainability and economic growth has become a major concern for policymakers, economists, and entrepreneurs. Studies aimed at identifying the multiple impacts of transport infrastructure rely on both statistical results and fundamental economic theories (Cigu et al., 2019).

Transport infrastructure is essential for economic development and can act as a driver for promoting economic growth. However, transport infrastructure alone is not sufficient to guarantee economic growth. Transport capacities play a crucial role in small and open economies, where an efficient transport system facilitates international trade, thereby stimulating economic growth (Vlahinić Lenz et al., 2018).

Currently, the European Commission has presented a plan to ensure Europe's independence from fossil fuels from Russia by 2030, initially focusing on gas, in light of Russia's invasion of Ukraine (Yang et al., 2020). Accelerating and significantly expanding the use of renewable energy in electricity generation, industry, buildings, and transport will contribute to the rapid phasing out of fossil fuels from Russia. In the long term, this will reduce electricity prices and diminish imports of fossil fuels.

To meet the goal of producing, importing, and transporting 20 million tons of hydrogen by 2030, accelerated efforts in hydrogen infrastructure development are necessary. Although cross-border hydrogen infrastructure is still in its early stages, the foundation for planning and development has already been established through its inclusion in the revised Trans-European Networks for Energy. Total investment needs for key categories of hydrogen infrastructure are estimated to be between 28 and 38 billion euros for internal EU pipelines and between 6 and 11 billion euros for storage capacities (European Commission, 2022b).

Information and Communication Technology (ICT) encompasses "hardware, software, networks, and media for collecting, storing, processing, transmitting, and presenting information (voice, data, text, images)." According to Pradhan et al., ICT infrastructure includes "digital telephone networks, mobile phones, internet capacities, internet servers, fixed broadband, and other technologies."



At the EU level, various strategies have been adopted to enhance the use of cloud computing. While the benefits of this technology are widely recognized by researchers and decision-makers, Eurostat data indicate that only 21% of EU companies use cloud computing services (Vekeman, 2008). Additionally, there are significant differences between countries: in Finland, Sweden, and Denmark, over 40% of businesses use cloud computing, whereas in Greece, Latvia, Poland, Romania, and Bulgaria, the percentage is below 10%. This situation highlights the need for European and national policymakers to support the faster adoption of cloud computing across all sectors of the economy (Toader et al., 2018).

Water services are essential services. They support the sustainable development of our societies and are fundamental to achieving the EU Green Deal's ambition and the UN Sustainable Development Goals. However, little is known about them. This is because infrastructure is mainly underground, accessible only to a small number of service engineers, and sometimes located far from urban areas and protected for obvious security reasons. Additionally, the organization of water services varies from country to country due to history, cultural heritage, and national or local traditions, leading to specific regulatory frameworks.

Wastewater (and its by-product, sludge) contains valuable resources such as energy, phosphorus, nitrogen, other nutrients, and cellulose that can be recovered and reused in a circular economy to conserve rare or depleted resources (while minimizing associated negative impacts) and to stimulate economic growth and job creation. Treated wastewater can be reused under certain conditions. European legislation should stimulate innovation and allow the development of good practices for resource recovery. Incentives should be instituted to channel recovered resources to the market in a sustainable manner. At the same time, source control measures are essential to prevent hazardous substances from entering wastewater and threatening potential resource recovery (EurEau, 2020).

## **2. CASE STUDY: ROMANIA, GERMANY, AND BULGARIA**



For a comparative analysis of infrastructure elements impacting economic outcomes, three EU member states have been selected based on their development levels: Germany, Romania, and Bulgaria.

## **2.1. GERMANY**

Germany's infrastructure is distinguished by its efficiency and reliability, reflecting both the country's strong commitment to development and the results of a well-developed economy. With one of the most extensive and modern transport systems in the world, including highways, national roads, and a well-connected railway network, Germany facilitates both internal and international mobility. The country is also a global leader in renewable energy, boasting a diverse energy infrastructure and a commitment to becoming carbon-neutral by 2050. Its water and sanitation infrastructure is modern and efficient, ensuring access to clean drinking water and effective wastewater management nationwide. The construction and housing sector is marked by high standards of quality and energy efficiency, offering a range of housing options from urban apartments to rural homes.

Overall, German infrastructure reflects a deep commitment to quality, sustainability, and innovation, contributing to the country's economic success and the well-being of its population. By providing an extensive communication network and modern, well-connected infrastructure across all key areas, Germany continues to be a global example of infrastructural excellence.

## **2.2. ROMANIA**

Romania has an evolving infrastructure with a focus on modernizing and expanding transport, energy, water, and communication networks. Efforts are being made to improve the highway and national road network, modernize railways and airports, and enhance both internal and international connectivity. In the energy sector, investments are directed toward expanding



production capacities and modernizing infrastructure to ensure energy security and promote the transition to more sustainable energy sources.

Projects in water and sanitation aim to improve access to clean drinking water and efficient wastewater management. Concurrently, investments in digital infrastructure are underway to support economic growth and innovation in information and communication technology. However, continued investments and modernization efforts remain essential to ensure a robust and sustainable infrastructure for the country's future.

### **2.3. BULGARIA**

Bulgaria's infrastructure reflects a mix of progress and challenges, with a focus on modernization and ongoing development. The transport sector is a priority, with significant efforts to expand and improve highway, national road, and railway networks to enhance connectivity and transportation efficiency. At the same time, Bulgaria faces the need to modernize its energy and water infrastructure to support the transition to cleaner energy sources and ensure access to potable water and effective wastewater management. Investments in digital infrastructure are also underway to boost economic growth and innovation in information and communication technology.

Despite these efforts, Bulgaria continues to face challenges related to infrastructure quality and accessibility in some regions. Investments and modernization efforts remain crucial to ensuring a robust and sustainable infrastructure for the country's future.

### **3. PRACTICAL APPLICATION**

To define the practical application, the three countries mentioned in the previous chapter (Germany, Romania, and Bulgaria) were analyzed. A total of 27 indicators were established to observe and analyze the situation regarding the infrastructure of these countries. In addition to the constructed physical infrastructure elements, comparative indicators were analyzed to provide



insight into the economic factors influenced by the existing infrastructure at the time of the analysis.

### 3.1. ESTABLISHING COMPARISON INDICATORS

The identified data were extracted from the existing database on the European Union website, under the name "EuroStat." For a more accurate and correct analysis, an effort was made to extract data from the same chronological periods. The extracted indicators are divided into four major categories: transport infrastructure, energy infrastructure, telecommunications Infrastructure (TIC) and utility infrastructure. The indicators are listed in the following table:

*Table 1. Comparison Indicators for Infrastructure Elements*

| No. | Category                 | Indicator   | Germany   | Romania | Bulgaria  |
|-----|--------------------------|---|-----------|---------|-----------|
| 1   | TRANSPORT INFRASTRUCTURE | Length of high-speed roads in 2022 (km)   | 13 172    | 949     | 825       |
| 2   |                          | Length of national roads in 2022 (km)   | 37 810    | 16 663  | 19 117    |
| 3   |                          | The length of county roads in 2022 (km)   | 178 542   | 35 132  | Under 100 |
| 4   |                          | The length of municipal roads in 2022 (km)                                      | 70 985    | 33 622  | Under 100 |
| 5   |                          | The amount of freight transported on the road infrastructure in 2022 (t)        | 3 060 964 | 324 554 | 160 488   |
| 6   |                          | Total length of the railway network in 2022 (km)                                | 70 108    | 19 629  | 6 446     |
| 7   |                          | The total length of the electrified railway network in 2022 (km)                | 43 336    | 8,500   | Under 100 |
| 8   |                          | Number of passengers transported by rail in 2022 (1000 people)                  | 2 505 856 | 70 464  | 23 065    |
| 9   |                          | The amount of freight transported on the railway infrastructure in 2022 (1000t) | 368 876   | 55 188  | 19 291    |
| 10  |                          | Number of major commercial airports in 2021 (no.)                               | 26        | 7       | 3         |



|    |                                      |   |             |                                |                                |
|----|--------------------------------------|---|-------------|--------------------------------|--------------------------------|
| 11 |                                      | Number of passengers carried by air in 2022 (no.)   | 155 302 643 | 19 535 951                     | 8 807 502                      |
| 12 |                                      | The amount of cargo carried on the air infrastructure in 2022 (t)   | 4 938 859.1 | 47 636                         | 26 457                         |
| 13 |                                      | Length of inland waterways in 2022 (km)   | 7 675       | 2 763                          | 470                            |
| 14 |                                      | The amount of cargo transported on maritime infrastructure in 2022 (t)  | 279 177     | 60 260                         | 30 731                         |
| 15 | ENERGY<br>INFRASTRUCTURE             | Gross energy available per capita (Gigajoules/pers.)  | 149.68      | 74.86                          | 117.32                         |
| 16 |                                      | Energy consumption per capita in 2021 (Gigajoules/pers.)  | 149.7       | 90.3                           | 117.3                          |
| 17 |                                      | Energy intensity of the economy in 2021 (Gigajoules/1000 euros)   | 3 837.9     | 3 125.7                        | 6 329.9                        |
| 18 |                                      | Length of oil pipelines (km)  | 3 112       | 2 370                          | 571                            |
| 19 | TELECOMMUNICATIONS<br>INFRASTRUCTURE | Index of companies that have a high degree of digitization (percentage %)                                       | 24.5%       | 17%                            | 11.8%                          |
| 20 |                                      | Index of households with internet connection (percentage %)   | 91.41%      | 89.41%                         | 87.31%                         |
| 21 |                                      | Index of people who used the internet at least once in the last 3 months, according to 2022 data (percentage %) | 91.63%      | 85.5%                          | 79.13%                         |
| 22 |                                      | Index of people who used at least one e-government service in 2022 (percentage %)                               | 48.93%      | 4.3%                           | 20.9%                          |
| 23 | UTILITY<br>INFRASTRUCTURE            | Investments in wastewater treatment (% of investments in water infrastructure)                                  | 0%          | 47%<br>(795,006 million euros) | 58%<br>(377,988 million euros) |
| 24 |                                      | Investments in drinking water infrastructure (% of investments in   | 0%          | 0%                             | 38%<br>(247,753 million        |





|    |  |  |                               |                                |                              |
|----|--|--|-------------------------------|--------------------------------|------------------------------|
|    |  | water infrastructure)  |                               |                                | euros)                       |
| 25 |  | Investments in water management and drinking water conservation (% of investments in water infrastructure) | 100%<br>(8,774 million euros) | 53%<br>(889,268 million euros) | 5%<br>(29,851 million euros) |
| 26 |  | The new population that benefited from drinking water in the period 2014-2020 (no. of people)              | 0                             | 493 167 people                 | 232 157 people               |
| 27 |  | The new population that benefited from sewerage services in the period 2014-2020 (no. of people)           | 0                             | 543 788 people                 | 292 542 people               |

*Data Source: EuroStat*

### 3.2. ANALYSIS OF INDICATORS FOR EACH TYPE OF INFRASTRUCTURE IN CORRELATION WITH ECONOMIC DEVELOPMENT OF THE STATES

#### 3.2.1. TRANSPORT INFRASTRUCTURE

Transport infrastructure is a critical factor for economic development. Germany, with its extensive and efficient infrastructure, supports a strong economy and high quality of life. Romania and Bulgaria, although growing, would benefit from additional investments in infrastructure to stimulate economic development and improve quality of life.

Germany clearly leads in all analyzed categories, possessing much more developed transport infrastructure and greater transport capacities than Romania and Bulgaria. Well-developed infrastructure facilitates job creation by attracting investment and promoting industrial and commercial development. Germany's extensive transport networks make it more attractive for businesses, resulting in a lower unemployment rate. Additionally, the advanced transport network significantly impacts the Human Development Index (HDI), indicating a higher quality of life supported by advanced infrastructure. Romania and Bulgaria, with high HDI but still



below Germany's, reflect differences in infrastructure and transport capacities that indirectly affect education, health, and income levels.

Romania has relatively well-developed infrastructure compared to Bulgaria but still significantly lags behind Germany in most categories. This highlights an acute need for investments in transport infrastructure to reduce the existing gap, both in terms of built physical infrastructure and to improve economic levels, ensuring a higher standard of living for each individual in the country.

### **3.2.2. ENERGY INFRASTRUCTURE**

Germany is the most advanced in terms of energy and economic development, followed by Romania, with Bulgaria facing the most significant challenges regarding energy efficiency and infrastructure. Germany has the highest available gross energy and the highest per capita energy consumption, correlating with its high economic level and developed energy infrastructure. Bulgaria and Romania have lower values, reflecting less developed economies with lower energy demand.

Germany and Romania have lower energy intensities than Bulgaria, indicating more efficient energy use in economic production. Bulgaria, with high energy intensity, suggests a need for improvements in energy efficiency.

The length of oil pipelines is an indicator of energy infrastructure. Germany, with the most extensive network, can efficiently transport and distribute oil resources, supporting its industrialized economy. Romania has a considerable network, indicating a well-developed energy infrastructure compared to Bulgaria, which has the smallest pipeline network.

### **3.2.3. TELECOMMUNICATIONS INFRASTRUCTURE**



Internet access is very high in all three countries, with Germany having the highest internet penetration rate in households. Romania and Bulgaria have very similar values, indicating good availability of internet connections nationwide. Germany has the highest percentage of companies with a high degree of digitalization, reflecting an advanced technological business environment. Germany leads in both company digitalization and public digital service usage, supporting its strong economy and high standard of living. Romania shows extremely low use of e-government services, indicating issues with the adoption and accessibility of public digital services.

Romania and Bulgaria have moderate digital performance, with evident needs for improvement in e-government service adoption and increasing company digitalization. Investments in digital infrastructure and digital education could contribute to economic growth and improved quality of life.

### **3.2.4. UTILITY INFRASTRUCTURE**

The first observation from the perspective of edilitarian networks is that Germany has not invested in wastewater treatment and drinking water infrastructure, indicating that these systems are already well-developed and do not require additional investment. Romania has invested significantly in wastewater treatment and water management but not in drinking water infrastructure. This indicates a need for modernization and expansion of existing infrastructure to improve sewerage services and water conservation. Bulgaria has made major investments in wastewater treatment and drinking water infrastructure but very little in water management and conservation, indicating a need for development of basic infrastructure.

Since Germany already has universal coverage of these services, no new populations have been reported benefiting from water and sewerage services. In contrast, access to these services has increased in Romania and Bulgaria. These countries have significantly expanded access to drinking water and sewerage, reflecting major progress in water and sewerage infrastructure development, with a positive impact on public health and quality of life.



Germany has a well-developed water and sewerage infrastructure with a focus on sustainability and water resource conservation. On the other hand, Romania and Bulgaria are making significant progress in expanding and modernizing water and sewerage infrastructure, with a positive impact on health and quality of life.

#### 4. CONCLUSIONS

Infrastructure is the backbone of economic and social development, having a profound impact on quality of life and economic competitiveness. Developing and modernizing infrastructure are essential for sustainable economic growth and reducing regional disparities. Infrastructure covers a wide range of areas, including transportation, energy, telecommunications, and civic infrastructure, each playing a crucial role in the efficient functioning of the economy and in enhancing quality of life.

Germany represents an example of excellence in infrastructure development, reflecting its strong commitment to quality, sustainability, and innovation. Germany's transportation infrastructure is among the most extensive and modern in the world, facilitating both internal and international mobility through advanced networks of highways and railways. Its energy sector is distinguished by diversification and a strong focus on renewable energy, with Germany aiming to achieve carbon neutrality by 2050. The water and wastewater infrastructure is equally modern and efficient, ensuring universal access to potable water and proper wastewater management. The construction and housing sector maintains high standards of quality and energy efficiency, contributing to the overall well-being of its population. Thus, Germany's infrastructure not only supports the country's economic success but also ensures a high standard of living for its citizens.

Romania is in a continuous process of developing and modernizing its infrastructure, yet faces significant challenges related to financing and efficient management. The transportation infrastructure, although expanding, requires additional investment to meet European standards of connectivity and efficiency. The energy sector is in a transition phase, with efforts to integrate renewable sources and modernize existing networks for more efficient energy distribution. The



water and wastewater infrastructure has benefited from significant European Union-funded projects, but significant disparities remain between urban and rural areas regarding service access and quality. Investments in housing and construction are focusing on improving energy efficiency and living conditions, although the pace of change is influenced by economic and political factors. In conclusion, Romania continues to make significant progress, but to reach an infrastructure level comparable to that of Western European countries, strategic management and effective mobilization of available resources are required.

Bulgaria is in a phase of infrastructure development, needing significant improvements to stimulate economic growth and reduce regional disparities. The transportation infrastructure, although developing, suffers from lack of connectivity and insufficient quality of roads and railways. The energy sector is marked by the need for modernization and diversification of energy sources, with an increasing focus on integrating renewable energy. The water and wastewater infrastructure has benefited from European investments, yet uneven distribution of resources and limited access in certain regions remain persistent issues. The construction and housing sector requires investment to improve energy efficiency and construction quality, particularly in rural and disadvantaged areas. In conclusion, Bulgaria must continue its efforts to modernize and expand infrastructure to ensure sustainable economic development and improve the quality of life for its citizens. The success of these initiatives largely depends on effective fund management and the implementation of coherent and sustainable policies.

In summary, infrastructure development is crucial for economic growth and improving quality of life. Strategic investments in transportation, energy, telecommunications, and civic infrastructure are fundamental for the efficient functioning of the economy and reducing regional disparities. Effective and responsible governance is critical to maximizing the benefits of these investments and ensuring sustainable and balanced development.

#### a. REFERENCES

2. Arif, U., Javid, M., & Khan, F. N. (2021). Productivity impacts of infrastructure development in Asia. *Economic Systems*, 45(1). <https://doi.org/10.1016/j.ecosys.2020.100851>



3. Azhgaliyeva, D. (2021). Economic impacts of transport and energy infrastructure connecting Asia and Europe: an introductory article for the special issue. In *Asia Europe Journal* (Vol. 19). <https://doi.org/10.1007/s10308-021-00629-z>
4. Cigu, E., Agheorghiesei, D. T., Gavriluță, A. F., & Toader, E. (2019). Transport infrastructure development, public performance and long-run economic growth: A case study for the Eu-28 Countries. *Sustainability* (Switzerland), 11(1). <https://doi.org/10.3390/su11010067>
5. Crescenzi, R., & Rodríguez-Pose, A. (2012). Infrastructure and regional growth in the european union. *Papers in Regional Science*, 91(3). <https://doi.org/10.1111/j.1435-5957.2012.00439.x>
6. Datta, A., & Agarwal, S. (2004). Telecommunications and economic growth: A panel data approach. *Applied Economics*, 36(15). <https://doi.org/10.1080/0003684042000218552>
7. EurEau. (2020). The governance of water services in Europe 2020 edition.
8. European Commission. (2021). EU energy in figures. <https://doi.org/10.2833/975418>
9. European Commission. (2022a). European Commission-Press release REPowerEU: Joint European action for more affordable, secure and sustainable energy.
10. European Commission. (2022b). REPowerEU Plan.
11. European Commission - Occasional Papers. (2014). Infrastructure in the UE: Developments and Impact on Growth.
12. Farhadi, M. (2015). Transport infrastructure and long-run economic growth in OECD countries. *Transportation Research Part A: Policy and Practice*, 74. <https://doi.org/10.1016/j.tra.2015.02.006>
13. Farkas, B. (2019). Quality of governance and varieties of capitalism in the European Union: core and periphery division? *Post-Communist Economies*, 31(5), 563–578. <https://doi.org/10.1080/14631377.2018.1537740>
14. Hong, J., Chu, Z., & Wang, Q. (2011). Transport infrastructure and regional economic growth: Evidence from China. *Transportation*, 38(5). <https://doi.org/10.1007/s11116-011-9349-6>
15. Khadaroo, J., & Seetanah, B. (2007). Transport infrastructure and tourism development. *Annals of Tourism Research*, 34(4), 1021–1032. <https://doi.org/10.1016/j.annals.2007.05.010>
16. Klimek, J. A., Klimek, J., Barej-Kaczmarek, E., Gębski, B., Kołodziejczak, S., & Terelak, A. (2024). Infrastructure fund as an alternative driver in the implementation of green energy policy in European countries. *Energy Reports*, 11, 1766–1773. <https://doi.org/10.1016/j.egyr.2024.01.041>
17. Kumo, W. L. (2012). Working Paper 160 - Infrastructure Investment and Economic Growth in South Africa: A Granger Causality Analysis. [www.afdb.org/](http://www.afdb.org/)
18. Maciulyte-Sniukiene, A., & Butkus, M. (2022). Does Infrastructure Development Contribute to EU Countries' Economic Growth? *Sustainability* (Switzerland), 14(9). <https://doi.org/10.3390/su14095610>
19. Mallick, H. (2021). Do governance quality and ICT infrastructure influence the tax revenue mobilisation? An empirical analysis for India. *Economic Change and Restructuring*, 54(2), 371–415. <https://doi.org/10.1007/s10644-020-09282-9>



20. Meersman, H., & Nazemzadeh, M. (2017). The contribution of transport infrastructure to economic activity: The case of Belgium. *Case Studies on Transport Policy*, 5(2). <https://doi.org/10.1016/j.cstp.2017.03.009>
21. Pradhan, R. P., & Bagchi, T. P. (2013). Effect of transportation infrastructure on economic growth in India: The VECM approach. *Research in Transportation Economics*, 38(1). <https://doi.org/10.1016/j.retrec.2012.05.008>
22. Rehman, F. U., Islam, M. M., & Sohag, K. (2024). Does infrastructural development allure foreign direct investment? The role of Belt and Road Initiatives. *International Journal of Emerging Markets*, 19(4), 1026–1050. <https://doi.org/10.1108/IJOEM-03-2022-0395>
23. Rutherford, J. (n.d.). *Networks in Cities, Cities in Networks: Territory and Globalisation Intertwined in Telecommunications Infrastructure Development in Europe*.
24. Simionescu, M., Szeles, M. R., Gavurova, B., & Mentel, U. (2021). The Impact of Quality of Governance, Renewable Energy and Foreign Direct Investment on Sustainable Development in CEE Countries. *Frontiers in Environmental Science*, 9. <https://doi.org/10.3389/fenvs.2021.765927>
25. Sridhar, K. S., & Sridhar, V. (2009). Telecommunications infrastructure and economic growth: evidence from developing countries. *Applied Econometrics and International Development*, 2.
26. Stead, D. (2015). What does the quality of governance imply for urban prosperity? *Habitat International*, 45(P1), 64–69. <https://doi.org/10.1016/j.habitatint.2014.06.014>
27. Tagliapietra, S. (2024). The European Union's Global Gateway: An institutional and economic overview. *World Economy*, 47(4), 1326–1335. <https://doi.org/10.1111/twec.13551>
28. Toader, E., Firtescu, B. N., Roman, A., & Anton, S. G. (2018). Impact of information and communication technology infrastructure on economic growth: An empirical assessment for the EU countries. *Sustainability (Switzerland)*, 10(10). <https://doi.org/10.3390/su10103750>
29. Untari, R., Priyarsono, D. S., & Novianti, T. (2019). Impact of Information and Communication Technology (ICT) Infrastructure on Economic Growth and Income Inequality in Indonesia. *International Journal of Scientific Research in Science, Engineering and Technology*. <https://doi.org/10.32628/ijrsrset196130>
30. Vekeman, G. (2008). The telecom sector in the EU.
31. Vickerman, R., Spiekermann, K., & Wegener, M. (1999). Accessibility and economic development in Europe. *Regional Studies*, 33(1), 1–15. <https://doi.org/10.1080/00343409950118878>
32. Vlahinić Lenz, N., Pavlić Skender, H., & Mirković, P. A. (2018). The macroeconomic effects of transport infrastructure on economic growth: the case of Central and Eastern E.U. member states. *Economic Research-Ekonomska Istrazivanja*, 31(1). <https://doi.org/10.1080/1331677X.2018.1523740>
33. Yang, F., Zhang, S., & Sun, C. (2020). Energy infrastructure investment and regional inequality: Evidence from China's power grid. *Science of the Total Environment*, 749. <https://doi.org/10.1016/j.scitotenv.2020.142384>