



TECHNICAL UNIVERSITY OF MOLDOVA

JOURNAL OF SOCIAL SCIENCES

Scientific publication founded on June 1, 2018

2025
Vol. VIII (2)

ISSN 2587-3490
eISSN 2587-3504

TECHNICAL UNIVERSITY OF MOLDOVA (PUBLISHING HOUSE)
„TEHNICA UTM” (PRINTING HOUSE)

Editor-in-Chief

Prof. univ. Larisa Bugaian

Technical University of Moldova

larisa.bugaian@adm.utm.md

Editorial Board

Ala Cotelnic, Dr. hab., Professor, Academy of Economic Studies of Moldova

Alexandru-Mircea Nedelea, PhD, Associate Professor, „Stefan cel Mare” University of Suceava, Romania

Alexandru Stratan, Dr. hab., Professor, Corr. Member of the Academy of Sciences of Moldova

Anca Păunescu, PhD, Professor, University of Craiova, Romania

Carmen Nastase, PhD, Professor, „Stefan cel Mare” University of Suceava, Romania

Gabriela Prelipcean, PhD, Professor, „Stefan cel Mare” University of Suceava, Romania

Georgeta Stepanov, Dr. hab., Professor, Moldova State University

Inga Stoianova, PhD, Associate Professor, Free International University of Moldova

Iuliu Turcan, PhD, Associate Professor, Technical University of Moldova

Larisa Bugaian, Dr. hab., Professor, Technical University of Moldova

Lilia Chiriac, PhD, Associate Professor, Technical University of Moldova

Ludmila Ungureanu, PhD, Associate Professor, Technical University of Moldova

Margareta Florescu, PhD, Professor, Institute of Advanced Research of the Academy of Economic Studies of Bucharest, Romania

Maria Gheorghita, Dr. hab., Professor, Technical University of Moldova

Nelly Turcan, Dr. hab., Professor, Moldova State University, Information Society Development Institute

Nicolae Samson, PhD, Associate Professor, “Gheorghe Asachi” Technical University of Iasi, Romania

Olivia-Cristina Rusu, PhD, Professor, Academy of Economic Studies of Bucharest, Romania

Rafael Ciloci, PhD, Associate Professor, Technical University of Moldova

Rodica Cujba, PhD, Technical University of Moldova

Rodica Sturza, Dr. hab., Professor, Technical University of Moldova

Romeo V. Turcan, PhD, Professor, Aalborg University, Denmark

Svetlana Albu, Dr.hab., Professor, Technical University of Moldova

Svetlana Mira, PhD, Cardiff University, UK

Svetlana Caterenciuc, PhD, Associate Professor, Technical University of Moldova

Viorica Răileanu, PhD, Associate Professor, Institute of Philology, Republic of Moldova

Responsible Editor

Dr. hab. Rodica STURZA

Technical University of Moldova

rodica.sturza@chim.utm.md

Editorial Production:

Dr. hab. Aliona GHENDOV-MOȘANU

Dr. Nicolae Trifan

Dr. Svetlana Caterinciuc

Dr. Rodica Cujba

The Journal of Social Sciences is indexed in:

1. DOAJ (Directory of Open Access Journals)
2. ROAD (Directory of Open Access scholarly Resources)
3. CEEOL (Central and Eastern European Online Library GmbH)
4. INDEX COPERNICUS (IC)
5. ZENODO
6. ERIH PLUS (European Reference Index for the Humanities and the Social Sciences)
7. IBN (National Bibliometric Instrument)
8. Institutional Repository of the TUM (IRTUM)

Main subjects areas of the Journal:

- Economics Policy and Economic Policies
- Economics and Management
- Finance and Accounting
- Marketing and Logistics
- Arts and Design
- Pedagogy and Psychology
- Sociology
- Philosophy
- History
- Philology and linguistics
- Law

How to publish a paper:

1. Send the manuscript and information about the author to the **Editorial Board address:** jes@meridian.utm.md, rodica.sturza@chim.utm.md
2. Manuscripts are accepted only by e-mail, in template file (<https://jss.utm.md/>)
3. Articles are accepted in original language, with name, abstract and keywords in English.
4. After a review, you will be notified of the editorial board's decision.
5. After the Journal has been published, we will send it to you immediately by mail.

CONTENT

Lucia Adascalita, Viorica Cazac, Nicoleta Vasiliev	<i>Implementation of plastic recycling strategies in the Republic of Moldova. Case study.....</i>	7
Corina Taşca	<i>Complex valorization of waste from the alcohol production industry.....</i>	17
Aurica Chirsanova , Rodica Siminiuc, Vladislav Reşitca, Alexandru Nistiriuc, Ana Chioru	<i>Front-of-pack labeling of food products: evolution, characteristics, challenges and prospects.....</i>	28
Maria Gheorghita, Natalia Sestenco-Diacek	<i>Development trends in road freight transport in the Republic of Moldova.....</i>	46
Silviu Gîncu, Elena Movileanu	<i>The impact of accelerating the implementation of dual education</i>	57
Musediq Olufemi Lawal, Ridwan Olabisi Yusuff, Obasanjo Solomon Balogun, Habib Abdulrauf Salihu, Monsurat Isiaka	<i>Security factors and housing needs management in developing communities in Oyo State, Nigeria.....</i>	70
Salihu Zakariya Abdulbaqi	<i>The role of social workers in promoting positive psychological outcomes among women involved in caesarean birth.....</i>	81
Viorica Ursu, Daniela Pojar, Iurie Ivanov, Maria Pozdîrca	<i>Economic violence – a silent threat to social sustainability: approaches, international comparisons, and public perceptions.....</i>	91
Natalia Doten	<i>Exploring cognitive impairments in drug-resistant epilepsy: insights from a comparative analysis</i>	107
Sergiu Mîrza, Lilia Chiriac	<i>The particularities of the behavior and motivation of the consumer of ecological products in the Republic of Moldova.</i>	118
Xiaofei Yang, Zuojun Wang, Zile Zhang	<i>Analysis of the mechanism of ethical governance of science and technology on scientific and technological innovation</i>	137
Shikha Vyas- Doorgapersad	<i>Good governance challenges in the south african public service.....</i>	155
Olawale lufemi Akinrinde, Farai J. Chidhume, Abiodun Samuel Isayomi, Anthony Dotun Oladipo	<i>A study of the politics of regional integration dynamics: the case of Zimbabwe's role in the southern African development community.....</i>	171
Thomas Adino, Dechasa Abebe	<i>State-building: an overlooked approach for regional integration in the horn of Africa</i>	183

Dawit Mezgebe	<i>Post-independence state formation in Africa: a theoretical review.....</i>	203
Mohammad Ali, Afifah Kusumadara, Shinta Hadiyantina, Amelia Sri Kusuma Dewi	<i>Property rights to a motor vehicle from the theory of legitimacy perspective.....</i>	217

CONȚINUT

Lucia Adascalita, Viorica Cazac, Nicoleta Vasiliev	<i>Implementarea strategiilor de reciclare a plasticului în Republica Moldova. Studiu de caz.....</i>	7
Corina Tașca	<i>Valorificarea complexă a deșeurilor din industria de producere a alcoolului.....</i>	17
Aurica Chirsanova, Rodica Siminiuc, Vladislav Reșitca, Alexandru Nistiriuc, Ana Chioru	<i>Etichetarea frontală a produselor alimentare: evoluție, caracteristici, provocări și perspective.....</i>	28
Maria Gheorghita, Natalia Sestenco-Diacek	<i>Tendințe de dezvoltare a transportului rutier de mărfuri din Republica Moldova.....</i>	46
Silviu Gîncu, Elena Movileanu	<i>Impactul accelerării implementării învățământului dual</i>	57
Musediq Olufemi Lawal, Ridwan Olabisi Yusuff, Obasanjo Solomon Balogun, Habib Abdulrauf Salihu, Monsurat Isiaka	<i>Factori de securitate și gestionarea nevoilor de locuințe în comunitățile în dezvoltare din statul Oyo, Nigeria.....</i>	70
Salihu Zakariya Abdulbaqi	<i>Rolul asistenților sociali în promovarea rezultatelor psihologice pozitive în rândul femeii implicate în nașterea prin cezariană.....</i>	81
Viorica Ursu, Daniela Pojar, Iurie Ivanov, Maria Pozdîrca	<i>Violența economică – o amenințare tăcută la adresa sustenabilității sociale: abordări, comparații internaționale și percepții publice.....</i>	91
Natalia Doten	<i>Explorarea tulburărilor cognitive în epilepsia farmacorezistentă: perspective dintr-o analiză comparativă...</i>	107
Sergiu Mîrza, Lilia Chiriac	<i>Particularitățile comportamentului și motivației consumatorului de produse ecologice din Republica Moldova</i>	118
Xiaofei Yang, Zuojun Wang, Zile Zhang	<i>Analiza mecanismului de guvernare etică a științei și tehnologiei asupra inovației științifice și tehnologice</i>	137

<i>Shikha Vyas- Doorgapersad</i>	<i>Provocările bunei guvernări în serviciile publice din Africa de Sud.....</i>	<i>155</i>
<i>Olawale Iufemi Akinrinde, Farai J. Chidhume, Abiodun Samuel Isayomi, Anthony Dotun Oladipo</i>	<i>Studiu asupra politicii dinamicii de integrare regională: cazul rolului Zimbabwe în comunitatea de dezvoltare a Africii de Sud.....</i>	<i>171</i>
<i>Thomas Adino, Dechasa Abebe</i>	<i>Construcția statului: o abordare trecută cu vederea la integrarea regională în partea estică a continentului African</i>	<i>183</i>
<i>Dawit Mezgebe</i>	<i>Formarea statului post-independent în Africa: o revizuire teoretică</i>	<i>203</i>
<i>Mohammad Ali, Afifah Kusumadara, Shinta Hadiyantina, Amelia Sri Kusuma Dewi</i>	<i>Drepturi de proprietate asupra unui vehicul din perspectiva teoriei legitimității.....</i>	<i>217</i>

[https://doi.org/10.52326/jss.utm.2025.8\(2\).01](https://doi.org/10.52326/jss.utm.2025.8(2).01)
UDC 628.47:504.05:691.17(478)



IMPLEMENTATION OF PLASTIC RECYCLING STRATEGIES IN THE REPUBLIC OF MOLDOVA. CASE STUDY

Lucia Adascalita *, ORCID: 0000-0003-1010-3380,
Viorica Cazac, ORCID: 0000-0003-0745-1931,
Nicoleta Vasiliev, ORCID: 0009-0009-3491-6408

Technical University of Moldova, 168, Ștefan cel Mare Blvd., Chisinau, Republic of Moldova

* Corresponding author: Lucia Adascalita, lucia.adascalita@dip.utm.md

Received: 03.29.2025

Accepted: 05.12.2025

Abstract. The present study examines the implementation of national sustainability strategies derived from European policies and global environmental concerns, focusing on ensuring a sustainable future for future generations. Given the environmental impact of plastic, as well as its non-biodegradability, the research analyzes the national and European legal framework that recommends a series of strategies and measures aimed at mitigating environmental impact while fostering a culture of sustainability from an early age at the national level. To conduct the study, multiple research methods were employed, including direct observation, systemic analysis, case studies, circular document analysis, data collection methods, and comparative analysis. The study's findings indicate that, at the national level, the first companies dedicated to recycling specific types of plastic and reintegrating them into the economic cycle as equally necessary and widely used products have been established. Additionally, various awareness and promotional campaigns highlight the importance of recycling used plastic packaging, a culture of environmental responsibility is gradually emerging among users of all age groups. The novelty of this study lies in its exploration of the interconnection between the legal, academic, and economic spheres in addressing sustainability and environmental protection. This integration positions the national approach within the broader framework of global sustainability strategies.

Keywords: *plastic, waste, recycling, recovery, sustainability, strategies.*

Rezumat. Lucrarea prezintă rezultatele studiului cu referință la implementarea strategiilor naționale de sustenabilitate derivate din strategiile europene și preocupările globale pentru protecția mediului și un viitor asigurat noilor generații. Considerând impactul plasticului asupra mediului ambiant, dar și nebiodegradabilitatea acestuia, s-a analizat cadrul legal național și european ce recomandă o serie de strategii și măsuri implementarea cărora ar face posibilă diminuarea impactului asupra mediului, dar și formarea culturii pentru sustenabilitate la nivel național încă de la cele mai fragede vârste. În vederea desfășurării studiului au fost aplicate mai multe metode de cercetare: metoda observației directe, abordarea sistemică, metoda studiului de caz, analiză documentelor circulare, metoda culegerii datelor, metoda comparativă. Rezultatele studiului au denotat, că la nivel național sunt atestate primele companii axate pe reciclarea unor anumitor tipuri de plastic și

repunerea lor în circuitul uzual sub formă de produse la fel de necesare și uzuale societății, sunt întreprinse diverse campanii de informare și promovare a necesității de reciclare a ambalajelor din plastic deja folosite, este în formare cultura de sensibilitate pentru recuperarea ambalajelor la utilizatorii de toate vârstele. Noutatea studiului reflectă conexiunea societății la nivel legal-academic-economic în preocupările comune pentru sustenabilitate și protecție a mediului, înscriind-o în parcursul implementării strategiile globale pentru o viață sigură și inofensivă.

Cuvinte cheie: *plastic, deșeuri, reciclare, valorificare, sustenabilitate, strategii.*

1. Introduction

The widespread use and frequency of plastic as a material with excellent mechanical properties, high resistance to various stresses, low weight, and reduced costs have made it one of the most popular materials globally. However, its non-degradability and the environmental pollution it currently generates necessitate the identification of measures that could contribute to restoring global climate balance. The pressure exerted by waste on the environment, along with the unequivocal awareness of the need to use environmentally friendly resources within the limits of necessity, has led to the adoption of the circular economy strategy. This strategy is based on the principles outlined in the international standard ISO 59004, which can be summarized as follows: Systemic approach to sustainability, Value creation, Value promotion, Resource Management, Resource monitoring, and Ecosystem resilience [1].

Accordingly, the present study outlines the findings of an analysis regarding the implementation of plastic waste recycling strategies as part of the European strategies transposed into national legislation. These strategies are reflected in the following directives: EU Directive 94/62/EC on packaging and packaging waste, Directive 2008/98/EC on waste, EU Directive 2019/904, which, since 2021, has banned several types of single-use plastic products, Directive 2018/851, which sets targets for the use of recycled materials in packaging production and establishes minimum recycling standards, Regulation (EU) No. 1169/2011 on consumer information, and the REACH and CLP Regulations, which regulate the chemical substances used in packaging to ensure they are not harmful to human health and the environment. Additionally, Regulation (EU) 2020/852 (EU Taxonomy) provides a classification system for sustainable economic activities [2].

National-level concerns for a healthy and sustainable environment have been specifically regulated through: Government Decision No. 323 of 30.04.2024 (MO 202-204/10.05.24, Article 410, in force from 27.07.24), Government Decision No. 561 of 31.07.2020 approving the Regulation on packaging and packaging waste, Law No. 247 of 31.07.2023, amending Law No. 1540/1998 on environmental pollution charges, Law No. 231 of 23.09.2010 on domestic trade (amended by LP373 of 30.11.23, published in MO 492-494/22.12.23, Article 871, in force from 22.02.24), and Law No. 209 of 29.07.2016 on waste management, with modifications published on 20.06.2024 in Official Gazette No. 260-263, Article 373.

2. Materials and Methods

The documentary study focused on analyzing national and European laws, regulations, and standards concerning the circular economy, packaging waste, and recycling. Within the framework of this research, the review of specialized literature, including academic research papers, was also undertaken.

Several methodological approaches were employed: the cross-sectional method-observation-to identify the relationship between theoretical and practical research competencies, and the longitudinal method—case study—to achieve research objectives by analyzing a specific case and presenting concrete findings relevant to the research theme.

A qualitative and quantitative analysis was conducted on Type 2 (HDPE) and Type 5 (PP) plastic packaging, facilitating direct observation of the recycling process and its integration into industrial product manufacturing through experimental methods.

All collected and analyzed data underwent a structured processing methodology, while data interpretation methods were applied to identify best practices in plastic recycling in the Republic of Moldova. The study ultimately generated conclusions regarding this topic, contributing to the ongoing discourse on sustainable waste management.

3. National Recycling Strategies: Results

Plastic recycling represents one of the core objectives of the European Union's circular economy policy. Several directives and strategies addressing plastic waste have been implemented to facilitate the transition toward a circular economy. In this context, as part of efforts to combat plastic pollution, the European Commission proposed a Plastics Strategy in January 2018, aiming to ensure that by 2030, all plastic packaging can be either reused or recycled while simultaneously reducing the consumption of single-use plastics and microplastics. The Republic of Moldova has aligned with these objectives by integrating them into its National Sustainable Development Strategy "Moldova 2030" [3].

Waste management, including plastic waste, remains a significant environmental challenge for the Republic of Moldova. The issue of waste is becoming increasingly acute due to the rising volume and diversity of waste, as well as its growing negative impact on the environment [4].

There is no single ideal solution for addressing plastic waste management challenges. Instead, a wide range of measures can be implemented. One such measure entails the recycling and reprocessing of existing packaging materials to generate new packaging or alternative products. According to the United States Environmental Protection Agency (EPA), recycling is defined as *"the process of collecting and processing materials that would otherwise be discarded as waste and transforming them into new products"* [5]. Furthermore, Law No. 209 of 29.07.2016 (amended on 20.06.2024), in Article 2 "Definitions", defines recycling as *"any recovery operation through which waste materials are transformed into products, materials, or substances to fulfill their initial function or for other purposes. This includes the reprocessing of organic materials but excludes energy recovery and conversion for fuel use or backfilling operations"* [6].

Certain materials are highly suitable for recycling, while others, despite being theoretically recyclable, require costly procedures. In this regard, Table 1 presents an overview of different types of plastics and their recyclability within the Republic of Moldova. The conclusions are from a review of many bibliographic sources, collaboration with local recycling firms, and independent research investigations.

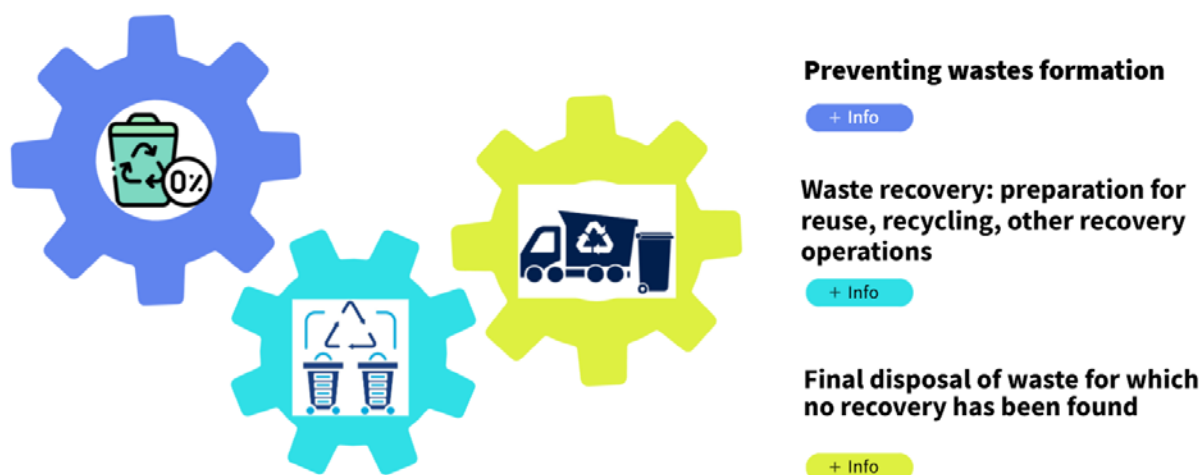
The recycling strategy aims at the following main objectives specific to the national waste management hierarchy (Law No 209/2016, Article 3, Paragraph 1) (Figure 1):

1. Preventing waste formation by promoting clean technologies and organic products.
2. Waste recovery through optimization of selective collection and sorting systems: preparation for reuse, recycling, and other recovery operations – including energy.
3. Final disposal of waste that has not found a recovery solution.

Table 1

Types of plastic and their possibility of recycling in the Republic of Moldova [7-10]

Polymer type	Abbreviation and code	Example of packaging, containers	Recyclable or not
Polyethylene terephthalate	PET, 1	Containers for liquids; food packaging.	Yes
High density polyethylene	HDPE, 2	Cosmetic containers; pipes; toys; in agriculture.	Yes
Polyvinyl chloride	PVC, 3	Blister packaging; shrinkable packaging for food and industrial products; pipes; cable insulation.	Difficult
Low density polyethylene	LDPE, 4	Simple packages; barrier layer in multistate packaging; food packaging.	Difficult, Yes
Polypropylene	PP, 5	Flexible packaging for food and non-food products; chemical, cosmetic, food and industrial containers.	Yes
Polystyrene	PS, 6	Floating for meat, fruit, vegetables; Compact Discs; homes for food and industrial.	No
Elastomer, polymethyl methacrylate, composite.	Others, 7		Not most of the time

**Figure 1.** Main objectives of waste recovery.

The National Sustainable Development Strategy "Moldova 2030" supports the Republic of Moldova's involvement in the global fight against plastic pollution by advocating for a global treaty, the key aspects of which were negotiated during the roundtable discussions organized by the United Nations Environment Programme (UNEP) from November 23 to December 2, 2024, in Busan, South Korea [3,11].

3.1. National actions aimed at forming a culture of sustainability and preventing waste formation

The Republic of Moldova is among the countries committed to sustainability, initiating a series of measures aimed at this goal. Consequently, as a result of direct observation and analysis of the strategies developed and implemented at the national level, the launch and operation of the following actions were identified [12-15]:

- The concept of *"Zero Waste Communities"* for three beneficiary localities: the municipality of Strășeni/ Mănăstirea Căpriană, Orhei (Trebujeni village)/Orheiul Vechi, and the municipality of Soroca/Soroca Fortress. Each of these localities, in addition to expanding the infrastructure for separate plastic waste collection, will actively participate in identifying and implementing efficient solutions to prevent plastic pollution, regarded as the most effective, healthy, and economic tool in the fight against such waste.

- *"Criuleni without Waste"* aims to carry out a media and advocacy campaign in the city of Criuleni, seeking to improve waste management by informing the population about the need for selective collection and enhancing local policies in this regard.

- The *"Solid Waste Awareness and Collection Campaign"* in six beneficiary localities of the project *"Solid Waste Management with Community Involvement"* in Strășeni district – Strășeni municipality, Lozova commune, Negrești village, Scoreni village, Sireți village, and Vorniceni village.

- The project *"Say No to PLASTIC: Informed Communities with Fewer Waste Generated"* aims to inform the population of various ages about the impact of plastic on the environment and health, and consequently reduce the quantity of plastic waste generated nationwide, including the costs related to the management of these wastes. This is a priority project for Waste Management Region 5 (Nisporeni, Călărași, and Ungheni districts).

- The *"July without Plastic"* campaign (an international campaign initiated in 2011 in Australia) in the Republic of Moldova is implemented by the Public Association E-Circular and supported by several state institutions (Ministry of Environment, Ministry of Health, National Public Health Agency, "Autosalubritate" Enterprise (Figure 2), Environmental Agency), non-governmental organizations, and private companies. This campaign took place from July 1-31, 2023.

- The national campaign *"Support Moldova, Refuse Plastic, I Am Europe"* was conducted from July 1-31, 2023.

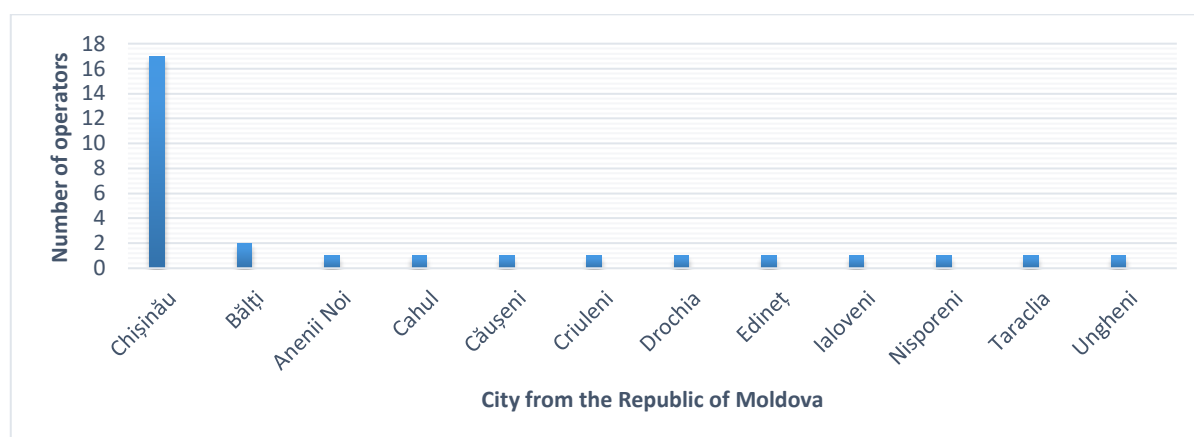


Figure 2. Number of authorised operators for the collection, transport and recycling of plastic waste [16].

- The project *"Run from PLASTIC"* was designed by the NGO "EcoDigital" in partnership with the NGO Training and Consulting Center "E-CIRCULAR", NGO Run Moldova, and the Association of Manufacturers and Importers of Packaging in Moldova (APIAM), with financial support from the GEF SGP Moldova Small Grants Program, implemented by UNDP.

- The awareness and information campaign *"Without PLASTIC I Feel FANTASTIC"* is an information and awareness project launched by the NGO Association for Waste Valorization, with financial support from the European Union under the "Development of Civil Society Organizations' Capacities" project, which is a regional project implemented by ERIM (formerly IREX Europe).

- The campaign for collecting bottle caps in schools in Chişinău, implemented by Recycline in 2024.

- The national campaign *"Plastic Collected, Clean Environment,"* initiated by the Environmental Protection Inspectorate and the National Environmental Center, on the eve of World Cleanup Day, held in the city of Bălţi on September 14, 2023.

In the context of enhancing and aligning the institutional academic environment, the team of faculty members and researchers from the Department of Industrial and Product Design, the Design and Printing Technologies program, in collaboration with several companies focused on packaging recycling, launched a campaign to raise awareness among younger generations represented by students of the "Design and Printing Technologies" and "Industrial Design" study programs within the Faculty of Design at the Technical University of Moldova. The campaign, titled "Let's Recycle Together," included a series of actions aimed at:

- Providing information about the need for environmental protection and its long-term impact.
- Promoting the concept of sustainability through: Rethink, Refuse single-use products, Reduce consumption, Reuse the products you already have, Recycle, Recover, and Reintroduce into circulation.

- Promoting the concept of collecting plastic packaging waste types 2 and 5 within the environment, society, family, academic group, building, etc., through the development of posters and verbal dissemination of the established objectives, including on the DTP program's page (<https://www.facebook.com/share/p/1X3bssGZ4B/>).

- Accumulating waste with student participation (collecting 5 kg of type 2 plastic (HDPE) and 3 kg of type 5 plastic (PP)).

- Transmitting the collected waste to companies specialized in packaging recycling (Recycline SRL in Chisinau).

- Involving students in the redesign of new products.

- Translating the concepts created by students and approved into manufacturing and new concept products.

This campaign facilitated the involvement of most students from all four years of the Bachelor's program from the mentioned study programs and made it possible to raise their awareness by engaging them in the creation of social posters (Figure 3) focused on the theme of plastic waste collection, which was later recycled by the company Recycline in Chisinau.



Figure 3. Company promotion poster „Let's recycle together” (author: student gr. DTP-223, Pavlina Burlakova).

3.2. Making use of plastic waste. Case study

The waste from hard, recyclable plastic is collected through the yellow containers installed by the Municipal Enterprise „Regia Autosalubritate” (for the inhabitants of mun. Chisinau), as well as in the yellow nets installed by ABS Recycling Moldova, 12% of the total plastic waste (mainly plastic containers) are transported to the recycling station in Peresecina, where they are transformed by crushing into granules, and then from them are produced sewer pipes or containers for cosmetic products.

Another option for plastic recycling is the startup generically called Recycline. This small company has as its main objective the collection and recovery of type 2 plastic (HDPE) and type 5 (PP) (Figure 4), being the most widespread material from which the caps for various containers for cosmetics are made and not only.



Figure 4. Types of containers and packages made of type 2 and type 5 plastic [17].

The company Recycline has its own equipment for the mechanical shredding of plastic into plastic flakes of different colors, subsequently transformed by a string of technological steps into „precious plastic” – decorative objects, household items, as well as jewelry and accessories (Figure 5).

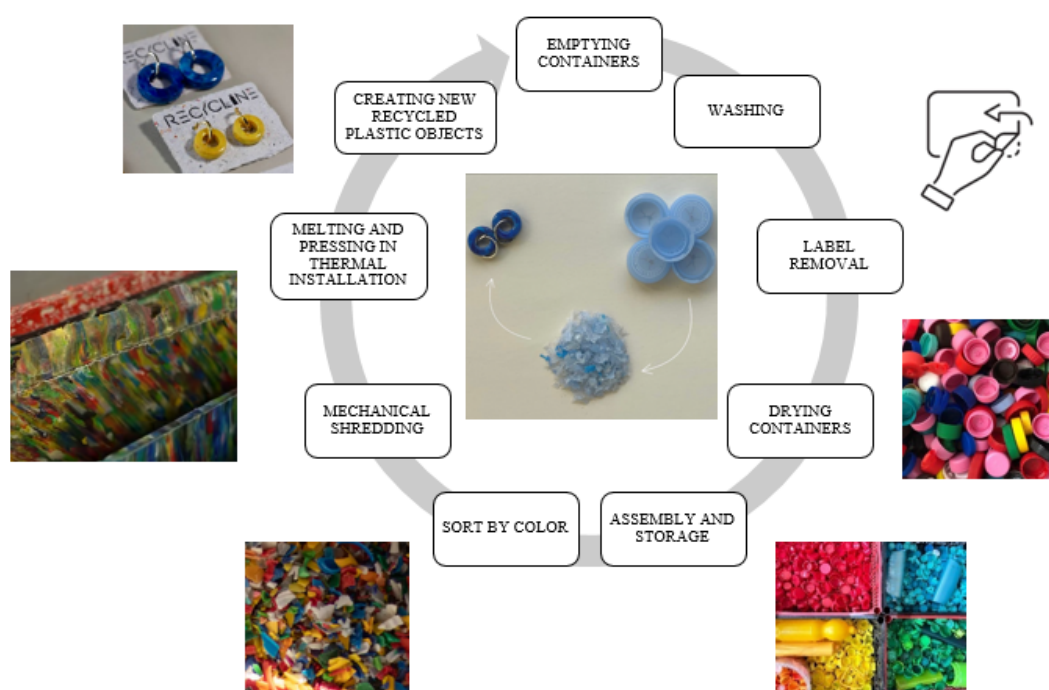


Figure 5. Stages of recycling and recovery of plastic type 2 and type 5 within Recycline.

The process of collecting plastic as a primary source for obtaining materials can be ensured from physical sources, representing personal or industrial use products, as well as from sources with different legal statuses that use containers of various volumes made of different materials in their activities.

Thus, from individuals, through personal visits to the company's collection point, the following plastic waste is collected:

- Single-use containers, packaging from dairy products (plastic type 5).
- Caps from water, juices, dairy products, carbonated beverages (plastic type 2).
- Packaging from hygiene products (plastic type 2).
- Packaging from detergents (plastic type 2 and type 5).
- Household products marked with labels (toys, vitamin packaging, cosmetic product packaging).
- From legal entities, by requesting a company representative to collect the plastic, the following plastic waste is collected:
 - Caps from milk and carbonated drinks (from cafes).
 - Packaging from care products (from beauty salons).
 - Caps from beverage containers (from educational institutions).
 - Containers of cheeses (from restaurants).
 - The collected plastic is sorted by color (Figure 6).



Figure 6. Chromatic diversity of plastic collected and recycled by Recycline.

In order to increase the efficiency of plastic waste recovery, the research team has been involved in ensuring the connection between Recycline and small printing companies (up to 49 employees), where various supplies supplied in type 2 plastic containers (HDPE) are involved, which can serve a permanent source for recycling activity recovery and disposal of waste from companies in this industrial field (Table 2).

Table 2

Recyclable plastic that can be collected from a small printing company		
Packaged product	Volume of container, L	Quantities used
Cleaning Solutions	20	2 pieces/month
Alcoholic Solutions	20	2 pieces/month
Varnish	25	1 piece/half a year
Moistening Solution	10	2 pieces/month
Gumming Solution	10	1 piece/half a year
Developing Solution	10	1 piece/half a year

Recycline is open for active collaboration on the implementation of its own design, recycled plastic packaging projects. Students have developed their own projects (Figure 7) to be implemented in the manufacturing.

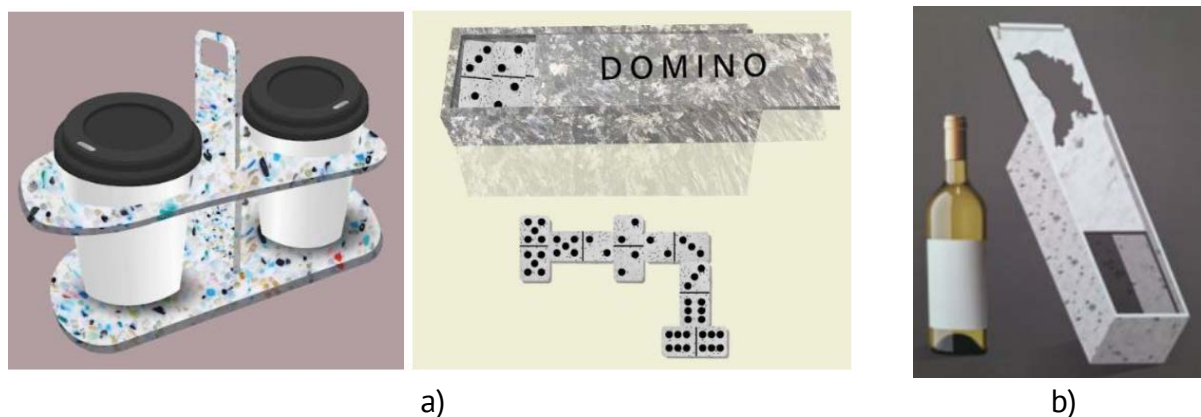


Figure 7. Concepts of redesign of the products to be made from recycled plastic by students of the Design and Polygraphic Technologies program: a) Cosonea Iulia; b) Rudaia Irina.

4. Conclusions

The case study conducted allowed for the following findings to be made:

- Strategies related to the circular economy should be focused on: Systemic approach to sustainability, Value Creation, Value promotion, Resource Management, Resource monitoring, and Ecosystem resilience.
- Encouraging young people to start up businesses focused on recycling all types of plastic used in daily life.
- Continuous motivation and promotion of the sustainability concept at all levels of children's education, simulating through various methods of care for the environment, protection of natural resources, recycling, and reintroducing existing resources into circulation through: Rethink, Refuse single-use products, Reducing consumption, Reuse the products you already have, Recycle, Recover, and Reintroduce into circulation.
- Intergenerational connection between young people and adults in the joint implementation of promotion actions, tree planting, waste collection, etc.
- Involvement and stimulation of companies in the economic environment focused on waste recycling to visualize the results of their work and engage the entire society in recycling activities and reintroducing waste into circulation, including organizing work visits within companies for children to understand the process well.
- Designing new products and packaging based on sustainability principles.

Acknowledgments: The study was carried out within the national project, 020408 Research on Ensuring Sustainable Development and Increasing Competitiveness of the Republic of Moldova in a European Context. The authors of this research study would like to thank to the „BAȘTINA RADOĞ” and „Tipografia Centrală” printing houses, and „Recycline” company for the support provided in carrying out this this research work.

Conflicts of Interest: The authors declare no conflict of interest.

Bibliografie

1. Acaroglu, L. The 6 Principles of the Circular Economy Available online: <https://www.linkedin.com/pulse/6-principles-circular-economy-leyla-acaroglu-hxnxe/> (accessed on 15.01.2025).
2. Cazac, V.; Vasiliev, N.; Adascalita, L. Regulations on sustainability in the packaging sector. In: *Competitiveness and sustainable development: proceedings of the 6th Economic International Conference "Competitiveness and sustainable development"*, 7-8 November, 2024. Tehnica-UTM, Chișinău, Republica Moldova, 2024, pp. 56-63. ISBN 978-9975-64-483-9 (PDF). <http://repository.utm.md/handle/5014/29079>

3. Strategia națională de dezvoltare „Moldova Europeană 2030”. Available online: <https://gov.md/ro/moldova2030> (accessed on 15.01.2025).
4. Plastic waste and recycling in the EU: facts and figures. Available online: <https://www.europarl.europa.eu/topics/en/article/20181212STO21610/plastic-waste-and-recycling-in-the-eu-facts-and-figures> (accessed on 17.01.2025).
5. Recycling Basics and Benefits. Available online: <https://www.epa.gov/recycle/recycling-basics-and-benefits>. (accessed on 17.01.2025).
6. Legea nr. 209 din 29-07-2016 privind deșeurile. În: Monitorul Oficial Nr. 459-471 art. 916 din 23.12.2016. Available online: https://www.legis.md/cautare/getResults?doc_id=147038&lang=ro# (accessed on 18.01.2025).
7. Munteanu, N. Deșeurile din plastic și reciclarea lor în Moldova. Cum ne salvăm de gunoaie? Available online: <https://gazetadechisinau.md/2020/02/14/deseurile-din-plastic-si-reciclarea-lor-in-moldova-cum-ne-salvam-de-gunoaie/> (accessed on 18.01.2025).
8. Morari, D. Doar 3% din deșeurile din plastic, reciclate în R. Moldova. Recomandările primului studiu național privind deșeurile din plastic. Available online: <https://ecopresa.md/doar-3-din-deseurile-din-plastic-reciclate-in-r-moldova-recomandarile-primului-studiu-national-privind-deseurile-din-plastic/> (accessed on 18.01.2025).
9. Ionică, M.-E. Noi abordări privind ambalarea și etichetarea produselor alimentare. Universitaria, Craiova, România, 2018. pp. 30-59. ISBN 978-606-14-1421-5.
10. Marchenko, I.; Starchenko, O. Tekhnologiya tary i upakovki. BGTU, Minsk, Belarus, 2014, pp. 55-59. ISBN 978-985-530-363-4.
11. Republica Moldova se alătură luptei internaționale împotriva poluării cu plastic prin promovarea unui tratat global. Available online: <https://mediu.gov.md/ro/content/5213> (accessed on 17.01.2025).
12. Proiecte implementate de către A.O. „E-Circular”. Available online: <https://e-circular.org/proiecte/> (accessed on 20.01.2025).
13. Raileanu, A. Campania „Iulie fără plastic” te provoacă! Renunță la ambalajele de unică folosință și protejează mediul! Available online: <https://ecopresa.md/e-circular-iulie-fara-plastic/> (accessed on 20.01.2025).
14. Campania națională ”Susțin Moldova, refuz plastic, sunt Europa”. Available online: <https://ipm.gov.md/ro/gallery/-campania-nationala-sustin-moldova-refuz-plastic-sunt-europa> (accessed on 20.01.2025).
15. În municipiul Bălți a avut loc Campania națională „Plastic colectat, mediu curat”. Available online: <https://balti.md/in-municipiul-balti-a-avut-loc-campania-nationala-plastic-colectat-mediu-curat/?date=2023-8-7&t=mini> (accessed on 22.01.2025).
16. Studiul privind deșeurile din Plastic în Republica Moldova. Available online: <https://www.undp.org/sites/g/files/zskgke326/files/2023-02/STUDIUL%20PRIVIND%20DE%C8%98EURILE%20DIN%20PLASTIC%20%C3%8EN%20REPUBLICA%20MOLDOVA.pdf> (accessed on 22.01.2025).
17. Recycline: Available online www.recycline.md (accessed on 20.01.2025).

Citation: Adascalita, L.; Cazac, V.; Vasiliev, N. Implementation of plastic recycling strategies in the Republic of Moldova. Case study. Journal of Social Sciences, 8 (2), pp. 7-17. [https://doi.org/10.52326/jss.utm.2025.8\(2\).01](https://doi.org/10.52326/jss.utm.2025.8(2).01).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).02](https://doi.org/10.52326/jss.utm.2025.8(2).02)

UDC [631.86+663.5]:662.767.2



COMPLEX VALORIZATION OF WASTE FROM THE ALCOHOL PRODUCTION INDUSTRY

Corina Tașca *, ORCID: 0000-0003-3359-3490

State University of Moldova, Institute of Chemistry, 3 Academiei Str., Chisinau, Republic of Moldova

* Corresponding author: Corina Tașca, zubic.corina@gmail.com

Received: 04.26.2025

Accepted: 06.12.2025

Abstract. The study addresses the technological valorization of agro-industrial residues generated as a result of the integrated activity of a cattle farm and an ethyl alcohol distillery, in the context of the transition to a circular bioeconomy. The experiment was implemented within the enterprise SRL "Garma Grup", which uses a continuous anaerobic digestion system for the conversion of a homogeneous mixture of cereal bran and cattle manure into biogas. The objective was to evaluate the influence of dihydroxyfumaric acid (DHFA) on the efficiency of the anaerobic digestion process under industrial conditions. The results confirmed the hypothesis regarding the stimulating effect of DHFA on the microbiological activity in the acidogenesis and methanogenesis stages. The enterprise implemented an integrated biogas purification system, which allowed the reduction of the level of impurities to safe thresholds from an operational point of view. The study confirmed the feasibility of circular bioeconomy strategies, the need to deepen the biochemical mechanisms involved, as well as economic assessments.

Keywords: *circular bioeconomy, grain mash, cattle manure, biogas, dihydroxyfumaric acid, methanogenesis*

Rezumat. Articolul abordează problema valorificării reziduurilor agroindustriale generate în urma activității integrate a unei ferme de bovine și a unei distilerii pentru alcool etilic, în contextul tranziției către bioeconomia circulară. Experimentul a fost implementat în cadrul întreprinderii SRL „Garma Grup”, care utilizează un sistem continuu de digestie anaerobă pentru conversia unui amestec omogen de borhot de cereale și dejecții bovine în biogaz. Obiectivul a constat în evaluarea influenței acidului dihidroxifumaric (DHFA) asupra eficienței procesului de digestie anaerobă în condiții industriale. Rezultatele au confirmat ipoteza privind efectul stimulator al DHFA asupra activității microbiologice din etapele de acidogeneză și metanogeneză. Întreprinderea a implementat un sistem integrat de purificare a biogazului, care a permis reducerea nivelului de impurități la praguri sigure din punct de vedere operațional. Studiul a confirmat fezabilitatea strategiilor de bioeconomie circulară, necesitatea aprofundării mecanismelor biochimice implicate, precum și a evaluărilor de ordin economic.

Cuvinte cheie: *bioeconomie circulară, borhot de cereale, dejecții bovine, biogaz, acid dihidroxifumaric, metanogeneză.*

1. Introducere

Pentru a descompune biomasa reziduală în zaharuri care pot fi transformate în continuare în biocombustibili gazoși sau lichizi sau în alte produse utile, este adesea folosită conversia biochimică de către microorganisme și enzime [1,2] deși alte abordări precum coagularea și oxidarea au fost de asemenea propuse. În general, digestia biochimică este un proces relativ lent care necesită un anumit timp pentru transformarea biomasei în produse. Dintre aceste tehnologii, digestia anaerobă și fermentația sunt procesele cele mai populare, având ca rezultat producerea de biogaz care conține în principal biometan, dioxid de carbon și, în cantități mai mici de biohidrogen, hidrogen sulfurat [3]. În timpul digestiei anaerobe, bacteriile sunt aplicate pentru a hidroliza carbohidrații în zaharuri care sunt digerabile de alte bacterii metanogene care, la rândul lor, produc biogaz din componentele digerabile ale biomasei.

În funcție de condițiile biochimice de digestie, biogazul cu conținut ridicat de metan [4] sau hidrogen [5] poate fi produs în condiții fără oxigen, sau sub presiune ridicată [6] sau folosind alte abordări, cum ar fi adăugarea de compuși bioactivi, care accelerează digestia biochimică și fac posibilă obținerea de cantități mult mai mari de biometan și biohidrogen pe timp mai scurt [7,8].

Industria producătoare de alcool generează, pe lângă produsul principal, cantități considerabile de reziduuri lichide și solide, precum borhotul de cereale.

În cazul întreprinderii SRL „Garma Grup”, aceste reziduuri sunt completate de dejecții animale provenite din ferma de bovine proprie, constituind împreună un substrat valoros pentru digestia anaerobă. În actualul context al tranziției către o economie circulară și al intensificării eforturilor globale privind protecția mediului, gestionarea eficientă și durabilă a acestor fluxuri secundare reprezintă o prioritate strategică pentru dezvoltarea agroindustrială [9].

Integrarea principiilor bioeconomiei circulare în procesele tehnologice oferă oportunități valoroase pentru transformarea deșeurilor organice în resurse utile, în special prin obținerea de biogaz. Digestia anaerobă a biomasei organice, ca proces biotehnologic complex, permite conversia eficientă a substraturilor în metan și alte gaze energetice, fiind totodată o soluție pentru reducerea emisiilor de gaze cu efect de seră și pentru producerea energiei regenerabile [10,11].

Cu toate acestea, eficiența digestiei anaerobe poate fi afectată de factori biochimici și microbiologici, inclusiv de prezența compușilor toxici sau de dezechilibrele în compoziția substratului.

Recent, studiile au demonstrat că utilizarea unor substanțe biologice active (SBA) cu proprietăți antioxidante poate contribui la stabilizarea procesului de fermentație și la creșterea producției de metan [12-14]. În acest sens, DHFA identificat anterior pentru potențialul său redox, a fost selectat pentru testare în condiții industriale [9,14].

Lucrarea de față prezintă un studiu de validare tehnologică desfășurat la întreprinderea SRL „Garma Grup” (Hîncești, R. Moldova), infrastructura experimentală disponibilă în cadrul SRL „Garma Grup” care a permis evaluarea aplicării DHFA asupra unui amestec compus din borhot lichid și dejecții bovine, în condiții industriale controlate, cu monitorizarea continuă a parametrilor de generare și calitate a biogazului [15].

Rezultatele obținute susțin ipoteza conform căreia optimizarea microbiologică prin utilizarea aditivilor naturali poate constitui o soluție eficientă pentru valorificarea energetică a deșeurilor agroindustriale [16].

2. Materiale și Metode

Studiul aplicativ a fost realizat în cadrul întreprinderii SRL „Garma Grup”, situată în satul Fîrlădeni, municipiul Hîncești, Republica Moldova. Această unitate agroindustrială integrează funcțional o fermă de bovine și o instalație de distilare a alcoolului etilic, facilitând valorificarea fluxurilor reziduale într-un sistem tehnologic închis, specific bioeconomiei circulare.

Substratul utilizat pentru procesul de digestie anaerobă a fost compus din borhot lichid de cereale, rezultat în urma distilării, și dejecții proaspete provenite de la ferma de bovine. Frația lichidă a borhotului a fost separată mecanic de partea solidă și ulterior amestecată într-un bazin deschis cu dejecțiile animaliere, în vederea obținerii unui substrat omogen și stabil din punct de vedere fizico-chimic.

Procesul de digestie anaerobă s-a desfășurat într-o instalație de tip continuu, echipată cu digestoare cilindrice cu diametrul de 24 m, înălțimea de 10 m și un volum util de aproximativ 3200 m³ fiecare (Figura 1). Acestea sunt dotate cu un sistem automatizat de amestecare în trei trepte – Mixer Jos, GasMix (prin injecție de gaz) și Mixer Sus – comandat electronic, cu frecvențe reglabile între 45–46 Hz și cicluri de funcționare de 10–15 min, alternate cu pauze de 5 min [17]. Acest sistem a asigurat omogenizarea eficientă a încărcăturii organice și a substanței biologic active, prevenind formarea zonelor stagnante și optimizând transferul de masă și căldură în masa fermentabilă



Figura 1. Imaginea foto a digestoarelor cu funcționare continuă a întreprinderii SRL “Garma Grup”.

Prin utilizarea acestor instalații, întreprinderea asigură un nivel ridicat de eficiență în conversia biomasei în biogaz, contribuind la valorificarea energetică sustenabilă a reziduurilor proprii și la reducerea impactului asupra mediului înconjurător.

În prima etapă a procesului tehnologic are loc separarea borhotului de cereale rezultat din distilarea alcoolului în două fracții – solidă și lichidă (Figura 2a). În vederea valorificării anaerobe, este utilizată exclusiv fracția lichidă, aceasta fiind caracterizată printr-un conținut ridicat de materie organică solubilă, ușor degradabilă în condiții anaerobe.

Fracția lichidă este direcționată într-un bazin deschis de amestec, unde este combinată cu dejecțiile proaspete colectate de la ferma de bovine (Figura 2b). Această etapă are ca scop obținerea unui substrat omogen, cu proprietăți fizico-chimice adecvate pentru procesul de digestie. Omogenizarea substratului este esențială pentru prevenirea blocajelor tehnologice,

asigurarea unei distribuții uniforme a microorganismelor și crearea unor condiții optime pentru desfășurarea fermentației [18].



Figura 2. Zona tehnologică de pregătire a substratului (a) și colectarea borhotului de cereale și realizarea amestecului de fermentare (b).

După finalizarea etapei de pregătire a substratului, amestecul omogen format din faza lichidă a borhotului de cereale și dejecțiile de la ferma de bovine a fost utilizat în cadrul experimentului pentru evaluarea impactului unei substanțe biologice active asupra procesului de digestie anaerobă. Pentru lotul experimental, s-au utilizat 2324,67 m³ borhot lichid și 988,33 m³ dejecții bovine. Pentru testarea influenței substanțelor biologice active, a fost selectat acidul dihidroxifumaric., substratul a fost tratat cu acid dihidroxifumaric în cantitatea de 113,28 g per lot experimental [9]. Substanța a fost introdusă direct în amestecul omogenizat, anterior alimentării fermentatorului, și dispersată uniform pentru a garanta o distribuție echilibrată în întreg volumul reactiv.

Obiectivul principal al acestui experiment a fost investigarea efectului SBA - DHFA, cu proprietăți antioxidante, asupra eficienței procesului de digestie anaerobă, în condiții controlate [19], la scară industrială. În mod specific, s-a urmărit evaluarea volumului total de biogaz generat, precum și determinarea variațiilor în conținutul de metan în prezența acestui compus.

Un aspect tehnologic esențial al implementării a fost prezența unui sistem automat de amestecare cu pompă, implementat pe toate digestoarele instalației, configurat să funcționeze în regim secvențial, pe trei nivele verticale: inferior (Mixer Jos), mediu (prin injecție de gaz – GasMix) și superior (Mixer Sus) (Figura 3).

Comanda electronică a acestui sistem asigură alternanța ciclică între fazele de agitare și repaus, cu frecvențe reglabile între 45 - 46 Hz și durate programate de până la 15 min. Aceste funcții sunt operate prin intermediul unei pompe de recirculare cu turație variabilă, comandată electronic, ceea ce permite adaptarea frecvenței de amestec la dinamica procesului biologic.

Fiecare ciclu de amestecare este programat cu durate fixe (ex. 15 min, 10 min, 8 min), urmate de o pauză de 5 min, asigurând astfel un echilibru între consumul energetic și eficiența hidrodinamică. Funcționarea secvențială în regim automat permite o omogenizare completă a masei fermentabile, prevenind formarea de zone moarte, stratificări sau acumulări de spumă.

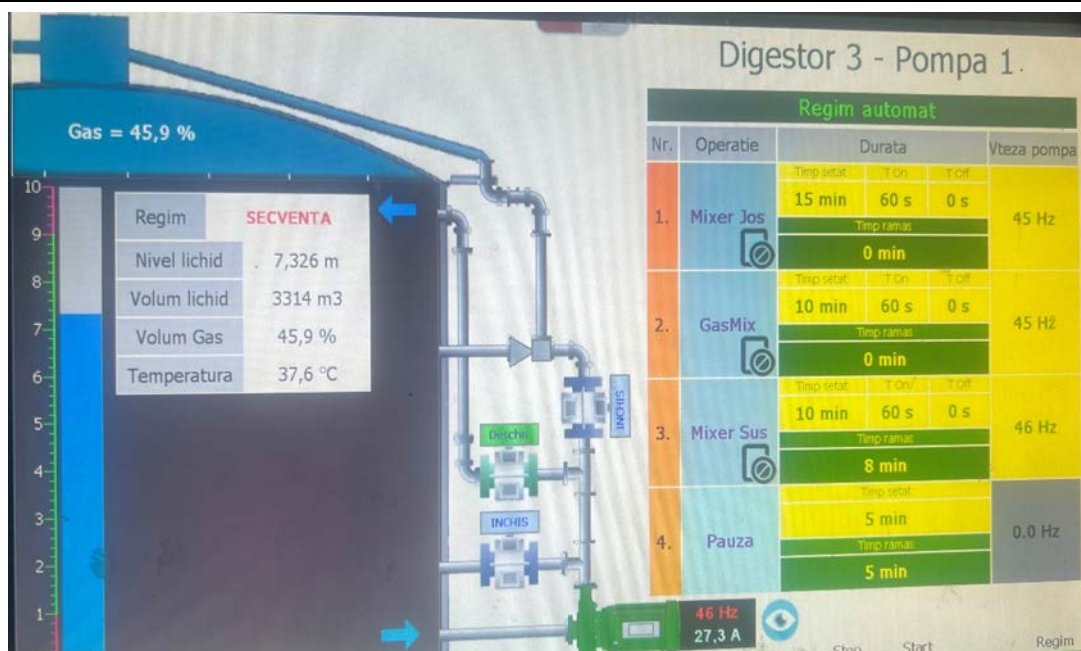


Figura 3. Interfața de control digital al sistemului de amestecare automat pe nivele, utilizat în toate digestoarele instalației de biogaz de la SRL „Garma Grup”.

Prin această configurare, se realizează o distribuție uniformă a încărcăturii organice, a microorganismelor și a temperaturii, aspecte esențiale pentru desfășurarea optimă a etapelor de acidogeneză și metanogeneză. În contextul experimentului de aplicare a DHFA, sistemul automat de amestecare a asigurat dispersia eficientă și uniformă a substanței biologic active în întregul volum de reacție, contribuind la validitatea experimentală a rezultatelor obținute.

Această soluție tehnologică avansată a garantat o distribuție uniformă a încărcăturii organice, a microorganismelor și a SBA în volumul total de substrat, prevenind formarea zonelor stagnante și optimizând transferul de masă și căldură în reactor. În contextul aplicării acidului dihidroxifumaric, sistemul de amestecare automatizat a jucat un rol crucial în asigurarea unei dispersii omogene a SBA, ceea ce a permis ca efectele sale biologice să fie evaluate obiectiv, fără variații locale sau incertitudini experimentale [20].

Astfel, infrastructura tehnologică disponibilă la nivelul întreprinderii SRL „Garma Grup” nu doar că a permis desfășurarea experimentului în condiții comparabile cu cele din laborator, ci a oferit un cadru operațional controlabil, reproductibil și industrial validat, necesar pentru extrapolarea rezultatelor către aplicații practice de scară largă.

Aplicarea DHFA a avut drept fundament ipoteza că proprietățile sale antioxidante pot modula activitatea microbiologică implicată în etapele cheie ale fermentației – în special în metanogeneză – contribuind astfel la o creștere a randamentului energetic al procesului.

Pentru a evalua influența DHFA – o substanță biologic activă cu potențial antioxidant – asupra procesului de digestie anaerobă, au fost monitorizați parametrii tehnologici în timp real în cadrul instalației de biogaz a întreprinderii SRL „Garma Grup”.

3. Rezultate

Experimentul desfășurat la scară industrială în cadrul întreprinderii SRL „Garma Grup” a urmărit evaluarea efectului acidului dihidroxifumaric (SBA) asupra eficienței digestiei anaerobe a unui substrat compus din borhot lichid de cereale și dejecții bovine. Substratul a fost procesat în două digestoare funcționale, configurate tehnologic identic, diferența

constând în aplicarea SBA în digestorul experimental (D3), în timp ce digestorul martor (D4) a funcţionat în regim obişnuit.

Volumul de substrat introdus a fost de 3313 m³ în digestorul tratat, respectiv 2907 m³ în cel martor (Figura 4).

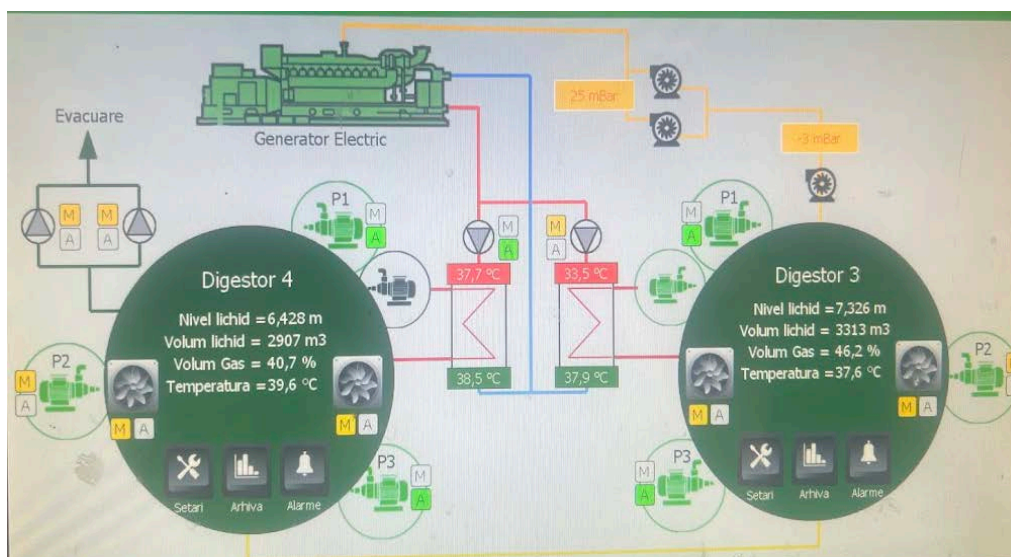


Figura 4. Interfața digitală de monitorizare a funcționării în timp real a stației de digestie anaerobă din cadrul SRL „Garma Grup” (rezultate comparative a celor de studiu cu cel martor).

Temperatura de operare s-a menținut în regim mezofil (37,6 °C în D3 și 39,6 °C în D4). Volumul total de biogaz generat în digestorul tratat a fost semnificativ mai mare (46,2%) față de cel obținut în lotul martor (40,7%), indicând o creștere cu 5,8%, considerată semnificativă statistic ($p < 0,05$).

Aceste rezultate preliminare susțin ipoteza conform căreia DHFA poate stimula activitatea microbiologică implicată în digestia anaerobă, în special în etapele de acidogeneză și metanogeneză. Monitorizarea digitală în timp real a permis nu doar observarea evoluției procesului, ci și validarea aplicabilității acestei substanțe în condiții reale, la scară industrială [21].

Determinarea compoziției gazelor a fost realizată cu ajutorul unui analizor portabil de biogaz de tip Madur GA-21 plus, care permite măsurători directe în conductele de gaz sau în rezervoarele de acumulare, cu afișare digitală a concentrațiilor exprimate în procente volumice (Tabelul 1).

Tabelul 1

Compoziția chimică a biogazului rezultat în urma digestiei anaerobe

Componente	Unitate	Digestor martor (D4)	Digestor tratat cu SBA (D3)
Metan (CH ₄)	% vol	60,2	65,8
Dioxid de carbon (CO ₂)	% vol	37,5	32,1
Oxygen rezidual (O ₂)	% vol	1,1	0,8
Hidrogen sulfurat (H ₂ S)	% vol	0,25	0,18

Notă: * $p < 0,05$.

Rezultatele obținute evidențiază o diferență semnificativă în compoziția biogazului între proba martor și cea tratată cu DHFA. În lotul experimental (digestor 3), s-a remarcat o creștere a conținutului de metan până la 65,8%, comparativ cu doar 60,2% în lotul martor,

care a crescut cu 5,8% față de lotul martor, ceea ce indică o eficiență superioară a conversiei materiei organice în energie utilă.

Totodată, s-a observat o scădere a concentrației de dioxid de carbon (CO_2) și a oxigenului rezidual (O_2), sugerând un echilibru fermentativ favorabil formării CH_4 . Deosebit de relevant este și faptul că nivelul de hidrogen sulfurat (H_2S) a fost mai redus în lotul tratat, deși în ambele cazuri valorile brute sunt ridicate și necesită tratare ulterioară. (0,18 % vol față de 0,25 % vol), ceea ce poate fi corelat cu efectul antioxidant al acidului dihidroxifumaric, care limitează oxidarea anaerobă a sulfaților și formarea excesivă de H_2S [22]. Scăderea H_2S în prezența substanței biologice active ar putea indica o inhibare selectivă a bacteriilor sulfat-reducătoare, probabil datorită acțiunii antioxidante a acidului dihidroxifumaric [14,16,23].

Biogazul obținut în urma digestiei anaerobe prezintă, în forma sa brută, concentrații ridicate de hidrogen sulfurat (H_2S), care pot ajunge până la 0,25 % vol, în funcție de compoziția substratului utilizat. Acest compus este deosebit de coroziv, toxic și poate afecta semnificativ atât echipamentele tehnologice (cazane, motoare cu ardere internă), cât și eficiența generală a valorificării energetice a gazului. Pentru a face biogazul compatibil cu utilizarea industrială, în cadrul întreprinderii SRL „Garma Grup” este implementat un sistem integrat de purificare și condiționare, care permite reducerea conținutului de H_2S până la valori de 0,0030–0,0040 % vol, considerate sigure din punct de vedere operational (Figura 5).



Figura 5. Instalația de purificare a biogazului din cadrul întreprinderii SRL „Garma Grup”.

Instalația este alcătuită dintr-o coloană verticală de epurare, conectată la un sistem de conducte etanșe din inox, care transportă biogazul brut de la digestoare spre unitatea de tratament. Sistemul este completat de o unitate de răcire și deshidratare, ce are rolul de a condensa vaporii de apă prezenți în biogaz, reducând astfel riscul de formare a acizilor sulfurici în conducte. În cadrul procesului de epurare, gazul este supus unei adsorbții chimice pe suport de oxid de fier.

Prin acest tratament, biogazul își păstrează valoarea calorică, dar devine mai stabil din punct de vedere chimic, reducând riscul de coroziune, blocaje și uzură prematură a echipamentelor energetice. Totodată, diminuarea concentrației de H_2S contribuie la creșterea duratei de viață a instalației și la eficiența economică a întregului proces de valorificare.

Aplicarea acidului dihidroxifumaric, o substanță biologic activă cu proprietăți antioxidante, a condus la o intensificare a activității microbiologice implicate în digestia anaerobă, fapt demonstrat de volumul sporit de biogaz și conținutul mai ridicat de metan. Creșterea proporției de CH_4 cu 5,6% sugerează un randament superior al etapei de metanogeneză, probabil favorizat de stabilizarea redox indusă de SBA, conform ipotezei formulate [24].

Reducerea nivelului de CO_2 și O_2 indică un regim fermentativ mai eficient, cu conversie avansată a substratului. Scăderea semnificativă a H_2S (cu 28%) poate fi explicată prin inhibarea selectivă a bacteriilor sulfat-reducătoare, ca urmare a influenței antioxidante exercitate de acidul dihidroxifumaric [25]. Astfel de rezultate confirmă contribuția pozitivă a SBA asupra calității biogazului, reducând necesarul de epurare și potențialele daune asupra infrastructurii tehnologice [26].

Valorificarea practică la scară industrială a permis validarea funcțională a acestei abordări, susținând premisele teoretice ale integrării bioeconomiei circulare în sistemele agroindustriale complexe [26].

4. Concluzii

Studiul aplicativ desfășurat în cadrul întreprinderii SRL „Garma Grup” a demonstrat viabilitatea utilizării acidului dihidroxifumaric ca substanță biologic activă în optimizarea procesului de digestie anaerobă a reziduurilor agroindustriale. Aplicarea acestui compus a condus la o creștere semnificativă a randamentului procesului fermentativ, reflectată printr-o majorare cu 5,8% a volumului de biogaz produs și o creștere a conținutului de metan de la 60,2% la 65,8%.

Efectele benefice ale acidului dihidroxifumaric s-au manifestat și prin reducerea concentrațiilor de dioxid de carbon și hidrogen sulfurat, contribuind la îmbunătățirea valorii energetice și a stabilității chimice a biogazului generat. Această evoluție poate fi explicată prin acțiunea antioxidantă a compusului, care influențează favorabil echilibrul redox al ecosistemului microbial implicat în metanogeneză.

Integrarea tratamentului cu SBA într-o instalație industrială complet automatizată a validat transferabilitatea acestei soluții tehnologice la scară mare, susținând aplicarea conceptelor de bioeconomie circulară în sectorul de valorificare a deșeurilor agroindustriale.

Rezultatele obținute justifică necesitatea extinderii cercetărilor asupra mecanismelor de acțiune ale compușilor biologic activi în bioconversia deșeurilor și oferă un model funcțional pentru creșterea eficienței energetice în sistemele de digestie anaerobă din industrie.

Rezultatele obținute în cadrul studiului aplicativ desfășurat la întreprinderea SRL „Garma Grup” evidențiază potențialul remarcabil al DHFA ca aditiv biologic activ în optimizarea procesului de digestie anaerobă a substraturilor agroindustriale. Utilizarea DHFA a avut un impact pozitiv notabil asupra performanței tehnologice și calității bioenergetice a biogazului produs, în condiții reale, specifice unei instalații industriale funcționale.

În primul rând, aplicarea DHFA în substratul compus din borhot lichid de cereale și dejecții de bovine a determinat o creștere semnificativă a volumului de biogaz generat, atingând 46,2% din substratul procesat în digestorul tratat, comparativ cu 40,7% în digestorul martor. Această diferență de 5,8% reflectă o îmbunătățire evidentă a randamentului fermentativ, susținută de o conversie mai eficientă a materiei organice în gaz metan, cel mai valoros component energetic al biogazului.

În al doilea rând, compoziția chimică a biogazului a fost influențată favorabil de prezența DHFA. Conținutul de metan a crescut de la 60,2% la 65,8% vol., ceea ce corespunde unei majorări cu 5,6% față de proba martor, iar concentrațiile de dioxid de carbon și oxigen rezidual au scăzut, indicând un echilibru redox mai stabil și mai eficient din punct de vedere microbiologic. De asemenea, s-a constatat o reducere cu aproximativ 28% a concentrației de hidrogen sulfurat (H_2S), compus coroziv și toxic, fapt ce confirmă ipoteza unei posibile inhibări selective a bacteriilor sulfat-reducătoare de către DHFA. Acest efect poate fi atribuit capacității antioxidante a compusului, care contribuie la menținerea unui mediu anaerob propice proceselor de metanogeneză.

În plus, infrastructura tehnologică a permis implementarea tratamentului cu DHFA în condiții industriale controlate, cu omogenizarea eficientă a substratului și monitorizarea digitală în timp real a parametrilor esențiali, asigurând reproductibilitatea și validitatea rezultatelor. Acest aspect este esențial pentru extrapolarea concluziilor către aplicații la scară largă, în cadrul instalațiilor moderne de producere a biogazului.

Studiul confirmă, totodată, fezabilitatea integrării unei substanțe biologice active cu rol antioxidant în lanțul valoric al bioenergiei, în concordanță cu principiile bioeconomiei circulare. Prin valorificarea unor deșeuri agroindustriale locale, cum sunt borhotul și dejecțiile animale, și prin aplicarea unui aditiv eficient, s-a obținut nu doar o ameliorare a randamentului și calității biogazului, ci și o reducere a impactului negativ asupra mediului.

Prin urmare, se poate concluziona că DHFA reprezintă o soluție tehnologică promițătoare pentru optimizarea digestiei anaerobe, cu beneficii energetice, economice și ecologice. Sunt recomandate cercetări suplimentare privind mecanismele de interacțiune microbiologică, stabilirea dozelor optime și evaluarea sustenabilității economice a acestui tratament, în vederea integrării sale în strategiile moderne de gestionare a deșeurilor și producere a energiei regenerabile.

Conflicts of Interest: The author declares no conflict of interest.

Bibliografie

1. Zhe, Z.; Xian, M.; Liu, M.; Zhao, G. Biochemical routes for uptake. *Biotechnology for Biofuels* 2020, 13, 140. <https://doi.org/10.1186/s13068-020-1662-x>.
2. Merlin Christy, P.; Gopinath, L.R.; Divya, D. A review on anaerobic decomposition and enhancement of biogas production through enzymes and microorganisms. *Renewable and Sustainable Energy Reviews* 2014, 34, pp. 167–173.
3. De Bere, L. Anaerobic digestion of solid waste: State of the art. *Water Science and Technology* 2000, 41, pp. 283–290. <https://doi.org/10.2166/wst.2000.0082>.
4. Rafique, R.; Poulsen, T.G.; Nizami, A.S.; Asam, Z.U.Z.; Murphy, J.D.; Kiely, G. Effect of thermal, chemical and thermo-chemical pre-treatments to enhance methane production. *Energy* 2010, 35(12), pp. 4556–4561.
5. Chandra, R.; Takeuchi, H.; Hasegawa, T. Methane production from lignocellulosic agricultural crop wastes: A review in context to second generation of biofuel production. *Renewable and Sustainable Energy Reviews* 2012, 16(2), pp. 1462–1476. <https://doi.org/10.1016/j.rser.2011.11.035>.
6. Almoustapha, O.; Millogo-Rasolodimby, J.; Kenfack, S. Production de biogaz et de compost à partir de la jacinthe d'eau pour un développement durable en Afrique sahélienne. *Vertigo* 2008, 8(1), pp. 1–13. <https://doi.org/10.4000/vertigo.1227>.
7. Yadvika; Sreekrishnan, T.R.; Santosh, S.; Kohli, S. Effect of HRT and slurry concentration on biogas production in cattle dung based anaerobic bioreactors. *Environmental Technology* 2007, 28(4), pp. 433–442.
8. Lu, J.; Gavala, H.N.; Skiadas, I.V.; Mladenovska, Z.; Ahring, B.K. Improving anaerobic sewage sludge digestion by implementation of a hyper-thermophilic prehydrolysis step. *Journal of Environmental Management* 2008, 88(4), pp. 881–889. <https://doi.org/10.1016/j.jenvman.2007.04.020>.

9. Taşca, C. Characteristics of biomass resulting from agro-industrial processes and possibilities of its evaluation in the context of the circular bioeconomy. *Journal of Engineering Science* 2024, 31(3), pp. 156–178. [https://doi.org/10.52326/jes.utm.2024.31\(3\).12](https://doi.org/10.52326/jes.utm.2024.31(3).12).
10. Venkata Mohan, S.; Goud, R.K.; Chiranjeevi, P.; Reddy, C.N.; Rohit, M.V.; Kumar, A.N.; Sarkar, O. Waste biorefinery models towards sustainable circular bioeconomy: Critical review and future perspectives. *Bioresource Technology* 2016, 215, pp. 2–12. <https://doi.org/10.1016/j.biortech.2016.03.130>.
11. Yan, L.; Liu, Y.; Wen, Y.; Ren, Y.; Hao, G.; Zhang, Y. Role and significance of extracellular polymeric substances from granular sludge for simultaneous removal of organic matter and ammonia nitrogen. *Bioresource Technology* 2015, 179, pp. 460–466. <https://doi.org/10.1016/j.biortech.2014.12.042>.
12. Tuli, H.S.; Sak, K.; Gupta, D.S.; Kaur, G.; Aggarwal, D.; Chaturvedi Parashar, N.; Choudhary, R.; Yerer, M.B.; Kaur, J.; Kumar, M.; Garg, V. K.; Sethi, G. Anti-inflammatory and anticancer properties of birch bark-derived betulin: Recent developments. *Plants* 2021, 10(12), 2663. <https://doi.org/10.3390/plants10122663>.
13. Taofiq, O.; González-Paramás, A.M.; Barreiro, M.F.; Ferreira, I.C.F.R. Hydroxycinnamic acids and their derivatives: Cosmeceutical significance, challenges and future perspectives – A review. *Molecules* 2017, 22, 281 <https://doi.org/10.3390/molecules22020281>.
14. Duca, G.; Covaliov, V.; Covaliova, O.; Romanciuc, L.; Taşca, C. Studiul proceselor redox în sisteme biochimice în prezența antioxidanților. In: *Procese redox cu transfer de electroni și proton*, USM, Chișinău, Republica Moldova, 2023, pp. 211–237. ISBN 978-9975-62-658-3.
15. Siqueira, J.G.; Rodrigues, C.; de Souza Vandenberghe, L.P.; Woiciechowski, A.L.; Soccol, C.R. Current advances in on-site cellulase production and application on lignocellulosic biomass conversion to biofuels: A review. *Biomass and Bioenergy* 2020, 132, 105419. <https://doi.org/10.1016/j.biombioe.2019.105419>.
16. Duca, G.; Covaliova, O.; Covaci, E.; Romanciuc, L.; Taşca, C. Effect of bioactive additives on biomass fermentation from agro-industrial sector. *Journal of Engineering Science* 2022, 29(3), pp. 176–188. [https://doi.org/10.52326/jes.utm.2022.29\(3\).15](https://doi.org/10.52326/jes.utm.2022.29(3).15).
17. Singha, P.; Muthukumarappan, K.; Krishnan, P. Influence of processing conditions on apparent viscosity and system parameters during extrusion of distiller's dried grains-based snacks. *Food Science & Nutrition* 2018, 6(1), pp. 101–110. <https://doi.org/10.1002/fsn3.534>.
18. Plămădeală, V.; Siuris, A.; Rusu, A.; Bulat, L. Cercetări privind valorificarea ca îngrășământ a deșeurilor din industria vinicolă și cea de producere a alcoolului etilic. *Știința Agricolă* 2016, 1, pp. 3–8. ISSN 1857-0003.
19. Duca, G.; Sturza, R.; Covaliova, O.; Covaci, E.; Romanciuc, L.; Taşca, C. Modification of waste biomass digestion in the presence of additives of bioactive substances. In: *Redox Processes within Environmental and Technological Contexts*, IGI Global, USA, 2023, pp. 149–165. <https://doi.org/10.4018/979-8-3693-0512-6.ch009>.
20. Bolocan, N.; Duca, Gh. Dihydroxyfumaric acid. Transformations, importance and applications, new derivatives: Review of experimental and theoretical research. In: *Fundamental and Biomedical Aspects of Redox Processes*; Duca, Gh.; Vaseashta, A. (Eds.). IGI Global, USA, 2023, pp. 198–223.
21. Chowdhary, P.; Raj, A.; Bharagava, R.N. Environmental pollution and health hazards from distillery wastewater and treatment approaches to combat the environmental. *Chemosphere* 2018, 194, pp. 229–246. <https://doi.org/10.1016/j.chemosphere.2017.11.163>.
22. Rasheed, F.; Kayani, W. K.; Asghar, M. U.; Farrukh, A.; Gul, S.; Khan, I.; Nazli, N. Unlocking the potential of biowaste: Sustainable strategies to produce valuable industrial products. *Journal of Environmental Quality* 2025, 54, pp. 319–334. <https://doi.org/10.1002/jeq2.20671>.
23. Vicol, C.; Sârghi, A.; Fîfere, A.; Duca, G. Antioxidant co-actions of ascorbic and dihydroxyfumaric acids investigated by EPR spectroscopy. *Chemistry Journal of Moldova* 2024, 19(1), pp. 29–36. <https://doi.org/10.19261/cjm.2024.1190>.
24. Yang, G.; Zhang, G.; Zhuan, R.; Yang, A.; Wang, Y. Transformations, inhibition and inhibition control methods of sulfur in sludge anaerobic digestion: a review. *Current Organic Chemistry* 2016, 20(26), pp. 2780–2789.
25. Zhang, T. T.; Zhao, Q. B.; Wu, X. Q.; Xu, C.; Zheng, Y. M.; Yu, S. S. Enhancing sulfate reduction and hydrogen sulfide removal through gas stripping in the acidogenesis phase of a two-phase anaerobic process. *Bioresource Technology* 2023, 385, 129381. <https://doi.org/10.1016/j.biortech.2023.129381>.
26. Omran, B.A.; Baek, K.-H. Valorization of agro-industrial biowaste to green nanomaterials for wastewater treatment: Approaching green chemistry and circular economy principles. *Journal of Environmental Management* 2022, 311, 114806. <https://doi.org/10.1016/j.jenvman.2022.114806>.

Citation: Taşca, C. Complex valorization of waste from the alcohol production industry. *Journal of Social Sciences*, 8 (2), pp. 17-27. [https://doi.org/10.52326/jss.utm.2025.8\(2\).02](https://doi.org/10.52326/jss.utm.2025.8(2).02).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).03](https://doi.org/10.52326/jss.utm.2025.8(2).03)
UDC 346.544.44:664



FRONT-OF-PACK LABELING OF FOOD PRODUCTS: EVOLUTION, CHARACTERISTICS, CHALLENGES AND PROSPECTS

Aurica Chirsanova*, ORCID: 0000-0002-1172-9900,
Rodica Siminiuc, ORCID: 0000-0003-4257-1840,
Vladislav Reșitca, ORCID: 0000-0002-6063-1731,
Alexandru Nistiriuc, ORCID: 0000-0003-0709-2393,
Ana Chioru, ORCID: 0009-0001-1363-5887

Technical University of Moldova, 168 Stefan cel Mare Blvd., Chisinau, Republic of Moldova

* Corresponding author: Aurica Chirsanova, aurica.chirsanova@toap.utm.md

Received: 04.20.2025

Accepted: 05.28.2025

Abstract. In the dynamic landscape of the food industry, front-of-pack labeling serves as a crucial tool for "dialogue" between producers and consumers. This mechanism helps to quickly and efficiently identify nutritional characteristics and serves as an effective tool for promoting healthy eating practices through an accessible and universal language. In this context, an exploratory study was conducted by analyzing scientific works on food labeling systems, including their evolution, the characteristics of different labeling typologies, the evaluation methods as well as the challenges and prospects for the development of food labels in the future. Each labeling typology had different attributes that represent an essential tool for supporting consumers in making food choices and in promoting a healthy lifestyle, both at the individual level and in terms of public health. To establish an integrated labeling system for food products, future research should focus on improving the universal applicability of labeled items and environmental sustainability, to make labels more digital and modern in the context of ongoing social and climate change.

Keywords: *front-of-pack labeling, nutritional labeling, nutritional quality, sustainability, sustainable agri-food systems.*

Rezumat. În peisajul dinamic al industriei alimentare, etichetarea frontală a ambalajului servește drept un instrument crucial de "dialog" între producători și consumatori. Acest mecanism ajută la identificarea rapidă și eficientă a caracteristicilor nutriționale și servește ca un instrument eficient pentru promovarea unor practici alimentare sănătoase printr-un limbaj accesibil și universal. În acest context, a fost realizat un studiu exploratoriu prin analizarea lucrărilor științifice privind sistemele de etichetare a produselor alimentare, inclusiv a evoluției acestora, a caracteristicilor diferitor tipologii de etichetare, a metodelor de evaluare cât și a provocărilor și perspectivelor de dezvoltare a etichetelor pentru produsele alimentare în viitor. Fiecare tipologie de etichetare a avut atribute diferite ce reprezintă un instrument esențial pentru sprijinirea consumatorilor în a face alegeri alimentare și în

promovarea unui stil de viață sănătos, atât la nivel individual, cât și în ceea ce privește sănătatea publică. Pentru a stabili un sistem integrat de etichetare pentru produsele alimentare, cercetările viitoare ar trebui să se orienteze pe îmbunătățirea aplicabilității universale a articolelor etichetate și a durabilității mediului, pentru a face etichetele mai digitale și mai moderne în contextul schimbărilor sociale și climatice continue.

Cuvinte cheie: *etichetare frontală, etichetare nutrițională, calitate nutrițională, durabilitate, sisteme agroalimentare durabile.*

1. Introduction

In recent decades, nutritional labeling has emerged as a crucial tool in promoting public health and combating the global epidemic of diet-related chronic diseases, such as type 2 diabetes, obesity, and cardiovascular diseases [1].

This increasing significance is reflected not only in public health policies but also in consumer preferences and behaviors, as individuals demand transparency and access to clear and concise nutritional information to make well-informed and evidence-based dietary choices [2]. In the dynamic landscape of the food industry, front-of-package labeling serves as a crucial communication tool between producers and consumers [3]. This mechanism helps in the quick and efficient identification of nutritional characteristics and other relevant attributes of food and serves as an effective tool for promoting healthy eating practices through an accessible and universal language [4]. The variety of labels reflects a wide range of objectives, from providing essential product information, such as organic status, ingredients, nutritional values and potential allergens, to effectively communicating health benefits [5,6].

Within the European Union, correct and detailed food labeling is a fundamental pillar in ensuring consumers' rights to be well-informed about the foods they consume [7]. By establishing strict and harmonized standards at the European level, Regulation (EU) No. 1169/2011 on food labeling aims to facilitate healthy and informed choices for consumers [8]. This regulation sets out consumer protection standards regarding information on food products, taking into account that these products will be marketed to different categories of consumers with diverse perceptions [9].

Consumers often face challenges in decision-making due to the overwhelming variety of food products available, each promoting different nutritional or health benefits. Front-of-package nutritional labels provide a summary of the nutritional profile, facilitating the quick identification of healthier food options [10]. Alongside the frameworks established by government bodies, associations in the food and beverage sector in Europe developed their own initiative, initially known as the "Recommended Daily Amount," which was later renamed the "Reference Intake Label." It is considered a good solution, offering an enhanced perception of the effect of diet on consumers' daily routines [11]. This innovation was implemented in 2006 and marked a pivotal moment in the evolution of nutritional information presentation on packaging.

A food product wishing to fall under this label must meet a set of specific nutritional standards, aligned with current public health directives. These rules focus on minimizing saturated fats, sugars, and salt, thereby encouraging producers to offer healthier nutritional alternatives [12]. Recent research highlights the significant influence of the "Reference Intake Label" on consumers' final decisions, enabling them to more clearly distinguish food products that promote a balanced diet [13,15,16].

1.1 Nutritional Labeling – History and Evolution

The evolution of labeling has been profoundly influenced by socio-economic, technological, political, and public health changes that have occurred globally. The earliest labeling practices began in the Roman Empire and were limited to marking wine amphorae to indicate their origin [17]. In the modern era, nutritional labeling serves not only as a guide for consumers but also as a public health policy to address nutritional issues on a global scale [18].

Early food labeling practices can be traced back to the Roman Empire, where the origin and quality of food products, such as wine and olive oil, were often indicated through markings on containers. These early labels, engraved on ceramic amphorae, signaled the geographic origin and suggested a level of quality or prestige associated with the region from which the products came. Although these practices did not directly focus on nutritional information as we understand it today, they represent the roots of the concept of traceability and authenticity of food [19].

Throughout the medieval period, concerns about food safety and authenticity continued to evolve. In medieval European cities, regulations concerning the quality of foods, such as bread and meat, were implemented to protect public health. These rules, often set by craft guilds, established production standards and could include inspection and marking of products to ensure compliance. In this context, labeling served more as a quality control mechanism than as an informational tool for consumers [20].

The transition to modernity marked a significant shift in labeling practices and food regulation [21]. In the 17th and 18th centuries, as the food trade became more complex and food products began traveling greater distances, the need for stricter and clearer regulations became evident and necessary [22].

In England, the "Assize of Bread" law of 1266 was one of the first attempts to standardize the quality of a food product by regulating the size and price of bread based on the cost of flour. This law represents an early example of governmental efforts to ensure the quality and accessibility of food for the population [23].

In the 19th century, the first legislations directly addressing labeling began to be adopted in various European countries. In 1860, the United Kingdom passed the Food Purity Act, which focused on combating food adulteration. Later, in 1924, the Food Labeling Act was introduced, establishing clearer and stricter requirements for food labeling. These laws played a crucial role in consumer protection, setting a precedent for the further development of food regulations worldwide [24].

In 1906, the United States passed the "Pure Food and Drug Act." This food regulation marked a crucial moment by prohibiting the sale of adulterated or falsely labeled food and beverages [25].

Another significant moment in the evolution of labeling was the introduction of food labeling laws in Germany during the early decades of the 20th century. These laws aimed to ensure transparency, prevent, and punish food fraud [26]. The approval of these laws imposed specific requirements regarding the listing of ingredients and nutritional values, marking an important step in the evolution of nutritional labeling [6].

The creation of the European Single Market marked a significant step in the economic and commercial integration of the European Union member states, removing trade barriers and facilitating the free movement of goods, including food products [27]. This integration had a profound positive impact on food labeling, requiring the harmonization of regulations to ensure transparency and consumer protection across all member states. The EU Directive

on nutritional labeling established common standards for presenting nutritional information on food products. A key milestone in this process was the adoption of Regulation (EU) No. 1169/2011 on the provision of food information to consumers [28]. This regulation required food labels to include essential details such as energy value, fat content, saturated fatty acids, carbohydrates, sugars, proteins, and salt. This contributed to a better understanding of the nutritional profile of food products by consumers. The EU's nutritional labeling policy significantly influenced national labeling practices, encouraging member states to adopt and implement EU standards into national legislation. As a result, nutritional information on food labels across the Union became clearer and more effective, facilitating consumer choices and promoting healthy and balanced eating.

As a former Soviet republic, the Republic of Moldova began the process of transition and reform in many sectors, including the food sector, after gaining independence in 1991. This transition involved adapting and modernizing legislation and regulations to address new economic and public health challenges. At the same time, it became necessary for Moldova to align with European standards and practices. Integration with the European market and the desire to move closer to the European Union motivated Moldova to adopt and implement European standards in food safety and nutritional labeling [29].

1.2 Front-of-package labeling systems for food products globally

Unhealthy eating is one of the leading causes of death and disability worldwide. On the other hand, humanity is facing a nutritional crisis: approximately three billion people in each of the 193 countries around the world, including the Republic of Moldova, consume foods that threaten their health due to high levels of potassium (salt), trans fats, and sugars [29-31]. The unprecedented availability and accessibility of processed and pre-packaged foods are key factors in obesity, non-communicable diseases, high blood pressure, cardiovascular diseases, type 2 diabetes, and even certain types of cancer, all of which are directly or indirectly linked to eating habits and behaviors. At the same time, governments are implementing and periodically revising front-of-package nutritional labels.

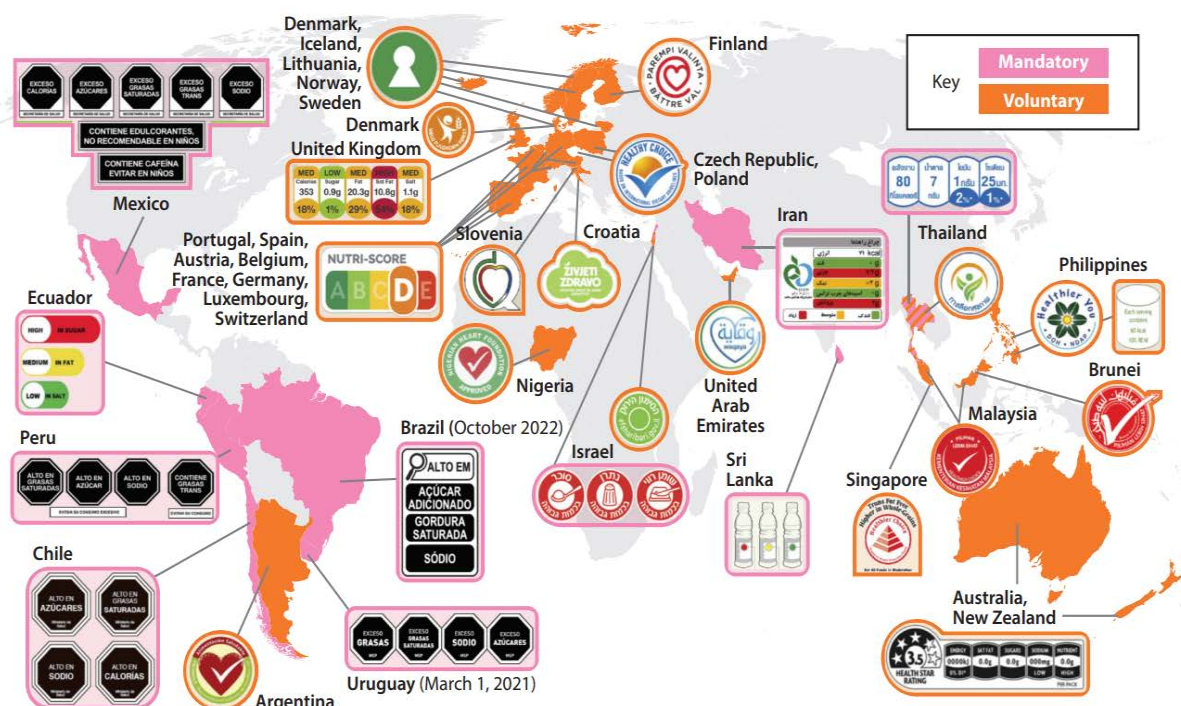


Figure 1. All countries with front-of-package food labeling systems [34].

These simple, often graphic labels provide at-a-glance information about the nutritional quality on the main display panel of food and beverages, complementing the detailed nutrient declarations on the back of the packaging. An increasing body of evidence suggests that such labels can help consumers understand nutritional quality, encourage the selection and purchase of healthier foods, and promote reformulation by the industry [32]. The application of front-of-package labeling systems globally is shown in Figure 1. Currently, 55 countries from Latin America, the Pacific West, and Europe voluntarily use various types of front-of-package food labeling [33]. At the same time, only in six countries is this system mandatory [14].

It is important to note that the implementation of front-of-package nutritional labels is associated with responses from food manufacturers. These responses depend on the label designs and the types of applications [35]. In addition, front-of-package labels contribute to encouraging product reformulation [36]. However, it is suggested that a mandatory approach be adopted globally, regardless of the label design, as it could have a significantly positive impact on public health [32].

1.3 Typologies and formats of front-of-package food labeling

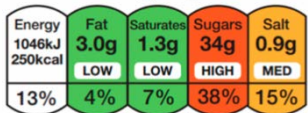
In the dynamic landscape of the food industry, front-of-package labeling serves as an essential communication tool between producers and consumers [37]. This tool helps in the quick and efficient identification of nutritional characteristics and other relevant attributes of food. Additionally, front-of-package labeling serves as a vehicle for promoting healthier eating practices through an accessible and universal language. The diversity of labels reflects a wide range of objectives, from providing essential product information, such as ingredients, nutritional values, and potential allergens, to effectively communicating health benefits [38]. Several types of front labels indicating the title, the countries where they apply, and the image represented are presented in Table 1.

Table 1

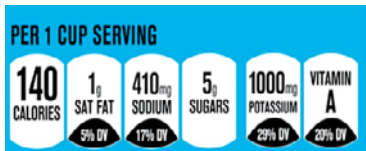
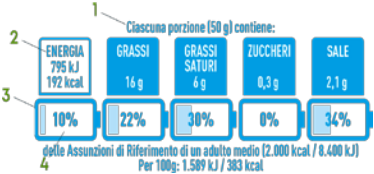
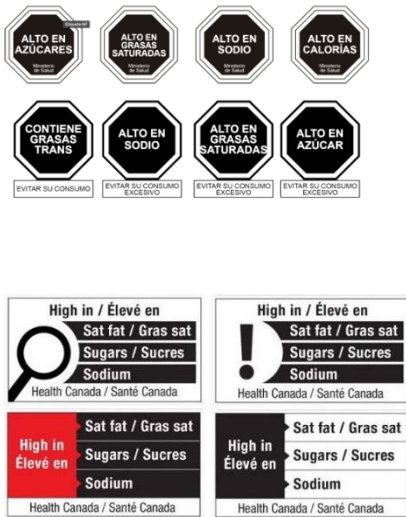
Types of front labels for food products

Front label name	Country where it is applied	Example images	Source
Reference Intake Label	UE		[39]
Nutri-Score	France, Belgium Spain, Germany Luxembourg Netherlands		[40]

Continuation Table 1

Keyhole	Sweden Norway Denmark Iceland Lithuania North Macedoni	 	[41]
Choices Logo	Poland Czech Republic		[11]
Finnish Heart Symbol	Finland		[42]
Traffic Lights	UK	Each serving (150g) contains  of an adult's reference intake Typical values (as sold) per 100g: 697kJ/ 167kcal	[43]
Pick the Tick	Australia		[44]
Evolved Nutrition Label (ENL)	UE	Each portion (250ml) contains  of an adult's Reference Intake (R.I.) per 100ml: 97kJ or 23kcal	[13]
Health Star Rating	Australia and New Zealand		[45]
Daily Intake Guide	Australia		[46]

Continuation Table 1

Facts-Up-Front	USA		[47]
Smart Choices	USA		[48]
Heart-Check Mark	USA		[49]
NutrInform Battery	Italy		[50]
Warning Signs	Chile Uruguay Peru Canada		[51]

1.4 Food labeling in the EU

In the European Union, correct and detailed food labeling is a fundamental pillar in ensuring consumers' right to be well-informed about the foods they consume. By establishing strict and harmonized standards at the European level, Regulation (EU) No. 1169/2011 on food labeling aims to facilitate healthy and informed choices by consumers [52].

Alongside the frameworks established by governmental bodies, food and beverage associations in Europe developed their own initiative, initially known as the "Recommended Daily Amount," which was later updated to the name "Reference Intake Label." Implemented in 2006, this innovation marked a pivotal moment in the progress of presenting nutritional

data on packaging. Any food that wishes to fall under the umbrella of this label must meet a set of specific nutritional standards aligned with current public health directives. These rules cover limitations on saturated fats, added sugars, and salt, among others, encouraging manufacturers to provide more nutritionally advantageous options [53].

1.4.1 Reference Intake Label

The Reference Intake Label exerts a notable influence on consumer decisions, allowing them to easily distinguish food products that promote a balanced diet [31]. By explicitly displaying the contribution of each product to the suggested daily intake, consumers gain the ability to choose dietary variations that promote health. The design of the label (Table 1) focuses on a clear and accessible presentation, opting for an intuitive visual arrangement that summarizes data on calorie values and key macronutrients [31]. The foundations of this approach are rooted in the idea of transparency and education, providing consumers with the proper tools to make informed food choices [54].

This type of label plays a crucial role in promoting a healthy lifestyle, serving as a support point for those interested in enhancing the quality of their diet. At the same time, this label highlights the importance of recognizing the value of nutrition in maintaining overall well-being [55].

1.4.2 Nutri-Score Label

Among front-of-package nutritional labeling systems, Nutri-Score has marked a significant progress in public health and nutrition [56]. The Nutri-Score system originated in France, where it was introduced in 2017. This form of labeling is the result of extensive research in the fields of public health and nutrition [10]. After its implementation in France, the demonstrated popularity and effectiveness of the Nutri-Score system led to its adoption and expansion in other European countries. Belgium, Spain, Germany, Switzerland, and Luxembourg are among the countries that have adopted or expressed support for Nutri-Score, either as a voluntary system or through regulatory initiatives [57]. This expansion reflects the recognition of Nutri-Score's impact as a tool for improving public health by promoting healthy eating [58].

The Nutri-Score system serves as a visual guide for consumers, making it easier to quickly identify the nutritional quality of food products through a simple front-label. This system aims to tackle the rise of nutrition-related issues, such as obesity and malnutrition, by promoting healthier food choices [59].

The classification of prepackaged food products in the Nutri-Score system is based on an algorithm that evaluates both the content of nutrients and ingredients with potential negative effects on health (high calories, saturated fatty acids, added sugars, sodium, etc.) as well as those with health benefits (fruits, vegetables, nuts and legumes, fibers, proteins). The final score reflects a balance between these factors, classifying products from A to E [60].

The Nutri-Score label uses an intuitive combination of colors and letters to classify foods based on their nutritional quality. The system uses a scale from A (green, indicating the healthiest option) to E (red, indicating the least healthy option), making it easier for consumers to make informed food choices at a glance [61]. The color palette ranges from green (indicating the healthiest options) to red (indicating the options with the lowest nutritional quality), with intermediate categories in yellow, orange, and light red, providing a clear visual gradient to guide consumers in choosing healthier food options [62]. This color scheme facilitates quick recognition and assessment of food products. Each color category is

associated with a letter, from A (the healthiest) to E (the least healthy). The visual design of Nutri-Score (Table 1) is intended to be as accessible and easy to understand as possible for a wide range of consumers, regardless of their level of nutritional knowledge. The visual impact of the label aids in making informed decisions in a short amount of time, which is particularly valuable in crowded shopping environments [63]. It promotes nutritional transparency and encourages healthy choices through the simple visual scanning of available options. Research shows that Nutri-Score has a significant positive impact on consumer food choices. A study published in *Public Health Nutrition* found that the presence of the Nutri-Score label on food packaging can prompt consumers to choose healthier options, compared to the absence of a nutritional label or the presence of other types of labeling [64]. This effectiveness is likely due to the intuitive and easy-to-understand design of the system, which facilitates quick comparisons between different food products at the time of purchase. A study conducted in France showed that the presence of Nutri-Score on food packaging increased consumers' selection of foods with a superior nutritional profile [65].

In conclusion, Nutri-Score is a valuable tool in the arsenal of strategies aimed at improving public health through the promotion of healthy eating. However, its continued success depends on ongoing research, adaptation, and implementation efforts that take into account the diversity and complexity of nutritional and dietary needs globally [66].

1.4.3 "Keyhole" label

The "Keyhole" label (Table 1) was created with the goal of guiding consumers towards healthier food choices, emphasizing the identification of products with lower content of fats, sugar, dietary fiber, or salt [67]. This front label was created in 1989 in Sweden by the Nordic Council of Nutrition and Food and has been essential in promoting a balanced diet [68]. The Keyhole symbol has a distinct shape, resembling a stylized key with a hole in the center, which is where the name "Keyhole" comes from, symbolizing the opening to a healthy life [69]. The color can be either black or green, but the dominant color is often green. This color symbolizes the freshness and naturalness of healthy foods [70]. The emblem must be accompanied by the ® symbol, and its structure must comply with the requirements outlined in the "Design manual for the Keyhole logo" [71].

The label generally applies to food products that meet specific nutritional criteria, such as:

- limiting sugar;
- low fat content;
- higher content of dietary fiber and whole grains;
- control of potassium (salt) [72].

In conclusion, the Keyhole label stands out by not requiring advanced knowledge in nutrition or high intelligence to be understood. Its simple nutritional labeling system, placed visibly on the front of the packaging, is designed to be accessible and easy for consumers to use when selecting a product. This aspect helps facilitate the process of choosing healthier food products, while promoting quick and efficient understanding of essential nutritional information. In essence, this symbol facilitates the adoption of positive eating habits, reflecting a commitment to a more informed and healthier society [73].

1.4.4 "NutrInform Battery" label

The "NutrInform Battery" label is attributed to a relatively recent innovation in nutritional labeling. It offers consumers an intuitive visual method for evaluating the

contribution of a food product's serving to the recommended daily intake of nutrients. This type of label made its debut at a time when the demand for transparency in food labeling grew exponentially. The "NutrInform Battery" was designed to meet the need for a quick and intuitive understanding of the intake of essential nutrients, providing consumers with vital information through a memorable visual that supports them in making informed dietary decisions [74].

The design of the "NutrInform Battery" label is distinct and intuitive, using the analogy of a battery (Table 1) to visually communicate the level of energy and nutrients provided by the product, in the context of the recommended daily intake. This design choice aims to improve informational ergonomics, facilitating the immediate and intuitive interpretation of essential nutritional data on the front label. "NutrInform Battery" is assigned to front labels that simplify and significantly influence the decision-making process at the point of purchase, offering an easy-to-understand graphic representation of nutritional information [75].

The impact of the "NutrInform Battery" label on consumer behavior is a topic of interest in the fields of human nutrition and public health. Studies and research conducted so far suggest that this label has significant potential and significantly influences both purchasing decisions and the nutritional awareness of consumers [76].

Following the analysis of the "NutrInform Battery" label, we conclude that this label represents a step forward in the evolution of nutritional labeling, achieving the goal of making nutritional information accessible to consumers in an intuitive and immediately interpretable visual format. Through the battery symbol, the label quickly conveys a food's contribution to the daily recommended intake of energy and nutrients, thus supporting a well-founded and conscious food decision-making process.

1.4.5 "Choices Logo" label

The "Choices Logo" concept was initially developed in the Netherlands as a voluntary labeling system aimed at identifying food products that meet specific nutritional standards set by an independent scientific committee [77]. The goal of using this type of label is to provide consumers with a simple and direct method of recognizing healthier food options on store shelves. The main objectives of the "Choices Logo" label focus on promoting public health and educating consumers on nutrition [78]. The "Choices Logo" label aims to:

- Help consumers make healthier food choices: By providing a clear and visual way to identify products that meet strict nutritional standards.
- Promote a healthy lifestyle: By encouraging the consumption of nutritionally balanced food products, thereby contributing to the reduction of public health risks.
- Support nutritional education: By offering accessible information to consumers to help them understand the importance of food choices and their long-term health effects.
- Facilitate the quick recognition of healthy food options: Ensuring that products labeled with the "Choices Logo" are easy to identify on store shelves, saving consumers time and effort.
- Contribute to reducing the risks associated with unhealthy eating: By making healthier products more visible and accessible, the label can support a reduction in diseases related to an unbalanced diet, such as obesity, diabetes, and cardiovascular diseases [79].

The design of the "Choices Logo" label incorporates strategic visual elements to effectively communicate the nutritional benefits of food products to consumers. Analyzing

the design of this label reveals a careful use of symbolism, color, and placement, each of these aspects being crucial in facilitating quick recognition and understanding of its message [80].

2. Authorized methods with reference to the evaluation of food labelling

"Authorized Methods for Labeling Evaluation" refers to a set of official, standardized procedures and techniques employed to assess the accuracy, effectiveness, and compliance of food labeling with regulatory requirements [81]. These methods are designed to ensure that food labels provide clear, truthful, and reliable information to consumers, thus aiding in informed decision-making and promoting public health [82]. The evaluation of food labels involves several scientific approaches, such as chemical analysis, sensory testing, and expert review. These methods help verify nutritional content, ingredient lists, allergen declarations, and any other claims made on the label. To ensure the reliability and consistency of labeling practices, these methods are often authorized by regulatory bodies such as the European Food Safety Authority (EFSA), the U.S. Food and Drug Administration (FDA), or other national and international standardization organizations [83].

Key components of authorized methods for labeling evaluation include:

Nutritional Analysis. This involves laboratory testing to verify the nutritional composition of food products, ensuring the accuracy of caloric, macronutrient, micronutrient, and other nutritional claims made on labels. For example, food may undergo testing for its levels of vitamins, minerals, sugars, fats, proteins, and other key components.

Sensory Analysis. This is the evaluation of food labels in terms of consumer understanding and appeal. It includes testing how well the label communicates essential information through design, colors, and the choice of terminology, ensuring clarity and ease of use for the general population.

Regulatory Compliance Checks. Authorized methods also involve verifying that the food labeling complies with the established legal frameworks, such as those set forth by Codex Alimentarius, the FDA, or the European Union regulations. This includes checks for mandatory nutritional declarations, allergen warnings, and appropriate health claims.

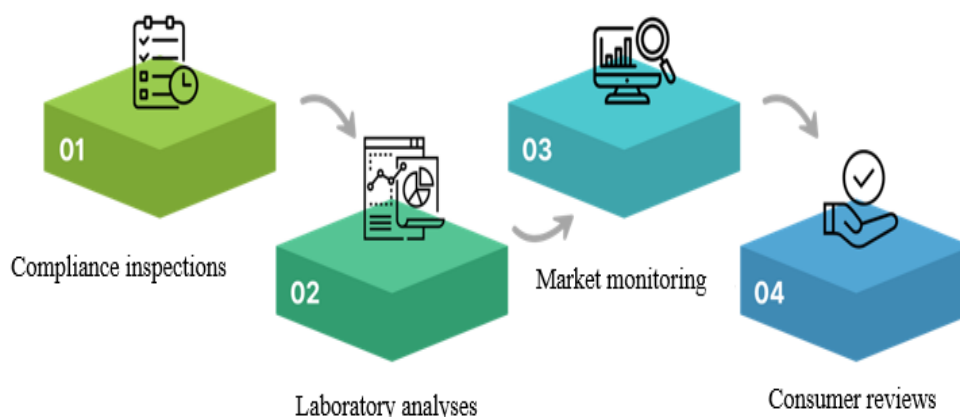


Figure 2. Authorized Methods for Labeling Evaluation.

Technological Assessments. With advancements in digital labeling, methods for evaluating the accuracy of QR codes, smart labeling systems, and other digital methods have emerged. These technologies must also be evaluated to ensure that they meet current standards and provide consumers with accurate, accessible information.

Consumer Feedback and Behavior Analysis. Some authorized methods involve assessing consumer reactions to labeling formats and claims through surveys and market

research. Understanding consumer behavior helps refine labeling strategies to better serve public health goals.

Overall, the goal of authorized methods for labeling evaluation is to safeguard consumers by ensuring that food labels are accurate, clear, and compliant with regulations. These methods are essential for maintaining transparency in the food industry, supporting healthier consumer choices, and contributing to the broader objectives of public health and nutrition.

Competent authorities conduct regular inspections at food producers and distributors to ensure that labeling complies with the applicable regulations (Figure 2). These inspections include verifying product labels on-site or in authorized laboratories to confirm the accuracy of the declared information. To validate nutritional information and check for the presence of allergens mentioned on the label, laboratory analyses are performed. These tests are essential to ensure the accuracy of the data presented to consumers.

3. Authorized methods with reference to the evaluation of food labelling

It is evident that the packaging and labeling of food products are continuously improving [84]. This responds to the current demands for foods that need to be as fresh as possible, easily preserved, convenient, delicious, safe, healthy, and with a longer shelf life [85]. Innovations in packaging are a tool for increasing the global sustainability of food production and reducing losses and food waste caused by expiration dates [86,87]. Despite the current success of labeling, further research is needed to meet market demands [88]. Technology and cost-effectiveness are the main constraints in the development of packaging labels. Labels involve complex technology, limited basic research, and high production costs, which can account for, in some cases, about 10-20% of the total packaging cost [89].

It is worth mentioning that today, mobile networks such as 4G and 5G, cloud storage, large data platforms, smart homes in supermarkets, and others are gradually gaining popularity. Food product labels display information about products and anti-counterfeiting functions. Specifically, labels also have the function of a "dialogue" with the consumer. Different types of food front labels are constantly emerging, but the application of labels must respond to their fundamental purpose and objectives, while also being environmentally friendly. To establish an integrated labeling system for food, future research should focus on improving the universal applicability of label items and environmental sustainability, in order to make labels more digital and modern [90].

With all the aforementioned, there are various challenges that need to be addressed to ensure the efficiency and relevance of this information system. In the following, we will analyze the main challenges and future perspectives of food labeling.

The most relevant challenges are:

1. **Diversity of international regulations and standards.** Food labeling varies significantly from one country to another, and differences in legal regulations and nutritional standards can complicate the process of understanding labels by consumers, especially for international products. Harmonizing regulations at the global level remains an ongoing challenge.

2. **Complexity of labels.** Food labels are often overloaded with information that can become confusing for consumers, especially for those without advanced knowledge of nutrition. This complexity can lead to a misunderstanding of the nutritional value of the product.

3. **Accessibility and language of labels.** The use of technical language and complex nutritional concepts can pose a barrier for many consumers. Additionally, it is important for labels to be accessible to people with visual impairments or reading difficulties.

4. **Marketing of processed products.** Many processed food products are often marketed as healthy, even though they may contain high levels of sugars, saturated fats, or salt. Labeling can be misused to mask these deficiencies, presenting a challenge for consumers to make informed choices.

5. **Lack of a universal label.** Currently, there is a wide variety of nutritional labels (Nutri-Score, Keyhole, etc.), and consumers may become confused due to the lack of a universally standardized system at the global level. While some labels are well-received, others may be misunderstood or ignored.

Some **perspectives** for the future are presented below:

1. **Harmonizing global regulations and standards.** It is essential for countries and international organizations to work towards harmonizing regulations regarding food labeling. A globally standardized system would help reduce confusion and facilitate informed consumer choices.

2. **Promoting clear and visible front-of-pack labels.** Front-of-pack nutritional labels, which provide clear and concise information about the nutritional value of a product, are likely to gain more popularity. Labels such as "traffic light" or those with visible scores (e.g., Nutri-Score) can help consumers quickly identify healthier food options.

3. **Educating consumers and developing nutritional knowledge.** The future of food labeling will not only focus on improving the design of labels but also on nutritional education. Teaching consumers about the importance of reading labels and understanding the nutritional value of products will support the adoption of healthier eating habits.

4. **Technology and digital labeling.** Technology is playing an increasingly important role in food labeling. Digital labels or mobile apps can help consumers access detailed information about food products by scanning QR codes or other forms of encoding. This innovation will allow for the rapid updating of information and help consumers make better choices.

5. **Stricter monitoring and regulation.** In the future, authorities will need to continue to monitor and regulate the food industry more strictly to ensure that labeling complies with legal regulations and that there are no deceptive practices. This will help prevent abuses and encourage transparency in the food industry.

4. Conclusions

Nutritional labeling has become an essential element in promoting public health and guiding consumers toward well-informed and reasoned food choices. Throughout history, various types and formats of front-of-pack labeling have been developed, highlighting different approaches such as "Nutri-Score," "NutriInform Battery," and "Keyhole," among others, all aimed at providing consumers with quick and useful information about the nutritional content of foods, thus facilitating healthy choices.

In the Republic of Moldova, nutritional labeling regulations align with European standards, conforming to the recommendations of the World Health Organization and Codex Alimentarius, thereby contributing to consumer protection and the promotion of healthy eating. The authorized methods for evaluating food product labeling, as well as the

involvement of specialized and related organizations, ensure the quality and accuracy of the information provided to consumers.

Overall, food labeling plays a crucial role in guiding consumers toward healthy food choices, serving as an essential tool in promoting public health. The diversity of labeling types, from "Reference Intake Labels" to "Warning Signs," highlights global efforts to provide consumers with the necessary tools to support their understanding of the nutritional complexity of foods. This complexity requires a multidisciplinary approach, encompassing not only nutrition science but also consumer psychology, communication design, and health policy.

For nutritional labels to be effective, they must evolve alongside knowledge and nutritional trends. Global collaboration and legislative adaptability are essential to ensure effective nutritional labeling in a globalized world. In this context, nutritional labeling represents a vital tool for supporting consumers in making healthy food choices and promoting a healthy lifestyle, both on an individual level and in terms of public health.

Acknowledgments. This work was supported by the National Agency for Research and Development (NARD), grant number 23.70105.5107.05, for the project "Exploratory analysis of food security in the Republic of Moldova based on sustainable and nutritional quality (SNUQ) metrics of food products" and the Institutional Project 020405 "Optimization of food processing technologies in the context of circular bioeconomy and climate change", Bio-OpTehPAS, which is carried out within the Technical University of Moldova.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Feldman, C.; Murray, D.; Chavarria, S.; Zhao, H. Menu label accuracy at a university's foodservices. An exploratory recipe nutrition analysis. *Appetite* 2015, 92, pp. 24-28.
2. Aripin, Z.; Matriadi, F. The zero price paradox: when and why zero prices are less effective than low prices in driving consumer demand. *Journal of Economics, Accounting, Business, Management, Engineering and Society* 2024, 1(3), pp. 34-47.
3. Levi, R.; Schwartz, M.; Campbell, E.; Martin, K.; Seligman, H. Nutrition standards for the charitable food system: challenges and opportunities. *BMC Public Health* 2022, 22(495), 13 p.
4. Campos, S.; Doxey, J.; Hammond, D. Nutrition labels on pre-packaged foods: a systematic review. *Public Health Nutr.* 2011, 14(8), pp. 1496-1506.
5. Chirsanova, A. The consumption of salt, sugar and trans fats and the nutritional profile in the Republic of Moldova. In: *Smart Life Sciences and Technology for Sustainable Development (CASEE)*, June 28-30, Chisinau, Republic of Moldova, 2023, p. 50.
6. An, R.; Shi, Y.; Shen, J.; Bullard, T.; Liu, G.; Yang, Q.; Chen, N.; Cao, L. Effect of front-of-package nutrition labeling on food purchases: a systematic review. *Public Health* 2021, 191, pp. 59-67.
7. Țurcanu, D.; Siminiuc, R. Front-End Nutrition Labeling And Eco-Labeling Models For Public Health Promotion. *Journal. Soc. Sci.* 2023, 6(3), pp. 77-86.
8. Devaux, M.; Aldea, A.; Lerouge, A.; Vuik, S.; Cecchini, M. Establishing an EU-wide front-of-pack nutrition label: Review of options and model-based evaluation. *Obesity Reviews* 2024, 25(6), e13719.
9. Chirsanova (Calcatiniuc), A. Sustainable gastronomy: the impact on the future diet agenda. In: *Modern Technologies in the Food Industry*, 17-18 octombrie 2024. Chișinău, Republica Moldova, 2024, p. 87.
10. Chantal, J.; Hercberg, S. Development of a new front-of-pack nutrition label in France: the five-colour Nutri-Score. *Public health panorama* 2017, 3(4), pp. 712-725.
11. Vyth, E. L.; Steenhuis, I. H.; Roodenburg, A. J.; Brug, J.; Seidell, J. C. Front-of-pack nutrition label stimulates healthier product development: a quantitative analysis. *International journal of behavioral nutrition and physical activity* 2010, 7, pp. 1-7.
12. Akker, K. van den; Bartelet, D.; Brouwer, L.; Luijpers, S.; Nap, T.; Havermans, R. The impact of the nutri-score on food choice: A choice experiment in a Dutch supermarket. *Appetite* 2022, 168, 105664.

13. Mazzù, M. F.; Donato, C.; Marozzo, V. An investigation on the interplay between Front-of-Pack nutritional labels and plastic packaging materials in healthy foods. *Food Quality and Preference* 2025, 122, 105291.
14. George, S. M. St.; Morales, V.; Laurie, Ch.; Bean, M. K.; Figueroa, R.; Adams, E. L.; Greenthal, E. Front-of-Package Nutrition Labeling: Evidence, Global Trends, and U.S. Policy Landscape. *Policy Insights from the Behavioral and Brain Sciences* 2025, 12(1), pp. 58-67.
15. Kelly, B.; Ng, S. H.; Carrad, A.; Pettigrew S. The Potential Effectiveness of Front-of-Pack Nutrition Labeling for Improving Population Diets. *Annual Review of Nutrition* 2024, 44, pp. 405-440.
16. Fernandez-Alonso, J.; Lamas-Mendoza, M. del M.; Rodriguez-Sanchez, N.; Galloway, S. D. R.; Gravina, L. Assessing the Validity of Front-of-Pack Nutrition Labels for Evaluating the Healthiness of Mediterranean Food Choices: A Global Comparison. *Nutrients* 2024, 16(17), 2925.
17. Fragomeni, D. The evolution of exhibit labels. *Faculty of Information Quarterly* 2010, 2(1), pp. 1-11.
18. Lang, T.; Heasman, M. *Food wars: the global battle for mouths, minds and markets*. Routledge, London, UK, 2015, 324 p.
19. Tchernia, A. *The Romans and Trade*. Oxford University Press, Oxford, UK, 2016, 396 p.
20. Montanari, M. *Let the meatballs rest: And other stories about food and culture*. Columbia University Press, Columbia, USA, 2012, 192 p.
21. Pilcher, J. M. *Food in world history*. Routledge, London, UK, 2023, 174 p.
22. Sapienza, S. Current Trends, Machine Learning, and Food Safety Data Governance. In: *Big Data, Algorithms and Food Safety: A Legal and Ethical Approach to Data Ownership and Data Governance*, Sapienza, S. (ed.). Springer, Cham, Germany, 2022, pp. 123-160.
23. Burnett J. *Plenty and want: A social history of food in England from 1815 to the present day*. Routledge, London, UK, 2013, 380 p.
24. Richardson, S. B. *Is Safe Food Good Food? Looking beyond safety to regulate good food systems*. Montreal, 2019. 217 p.
25. Young, J.H. *Pure food: securing the Federal Food and Drugs Act of 1906*. Princeton University Press, Princeton, SUA, 2014, 336 p. ISBN 978-1400860326.
26. Corallo, A.; Latino, M. E.; Menegoli, M.; Pizzi, R. Assuring effectiveness in consumer-oriented traceability; suggestions for food label design. *Agronomy* 2021, 11(4), 613.
27. Namysłowska, M. Digitalization in the food sector and consumer protection. In: *Internet of Things in the Food Industry: Challenges and Opportunities for the Internet of Food Things*, Rogala, A.; Nestorowicz, R.; Jerzyk, E. (eds.). Routledge, London, UK, 2024, pp. 181-192. ISBN 978-1003401421.
28. Delhomme, V. Front-of-pack nutrition labelling in the European Union: a behavioural, legal and political analysis. *European Journal of Risk Regulation* 2021, 12(4), pp. 825-848.
29. Chirsanova, A.; Covaliov, E.; Capcanari, T.; Suhodol, N.; Deseatnicova, O.; Boistean, A.; Resitca, V.; Sturza, R. Consumer behavior related to salt intake in the Republic of Moldova. *Journal of Social Sciences* 2020, 3(4), pp. 101-110.
30. Chirsanova, A.; Capcanari, T.; Boistean, A.; Covaliov, E.; Resitca, V.; Sturza, R. Behavior of Consumers in the Republic of Moldova Related to the Consumption of Trans Fat. *International Journal of Food Science, Nutrition and Dietetics* 2020, 9(8), pp. 493-498.
31. Boiștean, A.; Chirsanova, A.; Sturza, R.; Siminiuc, R. Consumer behavior and current trends in sugar consumption in the Republic of Moldova. In: *International Scientific Symposium Modern Trends in the Agricultural Higher Education*, October 5-6, 2023, p. 159. ISBN 978-9975-64-360-3 (PDF).
32. Ganderats-Fuentes, M.; Morgan, S. Front-of-Package Nutrition Labeling and Its Impact on Food Industry Practices: A Systematic Review of the Evidence. *Nutrients* 2023, 15(11), 2630.
33. Rao, A.; Ursu R. The impact of voluntary labeling, *Marketing Science* 2025, pp. 1-20.
34. Vargas-Meza, J.; Jáuregui, A.; Pacheco-Miranda, S.; Contreras-Manzano, A.; Barquera, S. Front-of-pack nutritional labels: Understanding by low-and middle-income Mexican consumers. *PLoS One* 2019, 14(11), e0225268.
35. Griffith, R.; O'Connell, M.; Smith, K. The importance of product reformulation versus consumer choice in improving diet quality. *Economica* 2017, 84(333), pp. 34-53.
36. Gressier, M.; Sassi, F.; Frost G. Healthy foods and healthy diets. How government policies can steer food reformulation. *Nutrients* 2020, 12(70), 1992.
37. Cuenca, M. H.; Proaño, G. V.; McDermid, J. M.; El Shikieri, A. B.; Steeves, E. A.; Carrillo-Alvarez, E.; Steiber, A. Advancing Nutrition and Dietetics Research in Global Food and Nutrition Security: A Roundtable Meeting Report. *Journal of the Academy of Nutrition and Dietetics* 2024, 124(1), pp. 102-122

38. Dereń, K.; Dembiński, Ł.; Wyszynska, J.; Mazur, A.; Weghuber, D.; Łuszczki, E.; Koletzko, B. Front-of-pack nutrition labelling: A position statement of the European academy of paediatrics and the European childhood obesity group. *Annals of Nutrition and Metabolism* 2021, 77(1), pp. 23-28.
39. Ioannidou, S.; Cascio, C.; Gilsenan, M. B. European Food Safety Authority open access tools to estimate dietary exposure to food chemicals. *Environment International* 2021, 149, 106357.
40. Davison, K.M.; Araujo Almeida, V.; Gondara, L. Lower Energy-Adjusted Nutrient Intakes Occur Among Food Energy Under-Reporters with Poor Mental Health. *Front. Nutr.* 2022, 9, 833354.
41. Andersson, C. The Nordic Keyhole - quantitative analysis of its use in product reformulation and development. Master thesis. Uppsala, 2021. 45 p.
42. Shrestha, A.; Cullerton, K.; White, K. M.; Mays, J.; Sendall M. Impact of front-of-pack nutrition labelling in consumer understanding and use across socio-economic status: A systematic review. *Appetite* 2023, 187, 106587.
43. Vandevijvere, S.; Mackay, S.; Swinburn, B. *Benchmarking Food Environments 2017: Progress by the New Zealand Government on implementing recommended food environment policies and priority recommendations: Technical Report*. The University of Auckland, Auckland, New Zealand, 2017, 31 p.
44. Shahid, M.; Neal, B.; Jones, A. Uptake of Australia's health star rating system 2014-2019. *Nutrients* 2020, 12(6), 1791.
45. Sobierajski, M.; Spratt, B.; Williams, P.; Houston, A.; Roesler, A.; Ridges, L.; Yeatman, H. R. Nutrition function, health and related claims on packaged Australian food products - prevalence and compliance with regulations. *Asia Pacific Journal of Clinical Nutrition* 2006, 15(1), pp. 10-20.
46. Ikonen, I.; Sotgiu, F.; Aydinli, A.; Verlegh, P. W. Consumer effects of front-of-package nutrition labeling: an interdisciplinary meta-analysis. *Journal of the Academy of Marketing Science* 2020, 48, pp. 360-383.
47. Lupton, J. R.; Balentine, D. A.; Black, R. M.; Hildwine, R.; Ivens, B. J.; Kennedy, E. T.; Story, M. The Smart Choices front-of-package nutrition labeling program: rationale and development of the nutrition criteria. *The American Journal of Clinical Nutrition* 2010, 91(4), pp. 1078S-1089S.
48. Johnson, R. K.; Lichtenstein, A. H.; Kris-Etherton, P. M.; Carson, J. A. S.; Pappas, A.; Rupp, L.; Vafiadis, D. K. Enhanced and updated American Heart Association heart-check front-of-package symbol: Efforts to help consumers identify healthier food choices. *Journal of the Academy of Nutrition and Dietetics* 2015, 115(6), pp. 876-880.
49. Carruba, M. O.; Caretto, A.; De Lorenzo, A.; Fatati, G.; Ghiselli, A.; Lucchin, L.; Nisoli, E. Front-of-pack (FOP) labelling systems to improve the quality of nutrition information to prevent obesity: NutriInform Battery vs Nutri-Score. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity* 2021, 27, pp. 1575-1584.
50. Taillie, L. S.; Hall, M. G.; Popkin, B. M.; Ng, S. W.; Murukutla N. Experimental studies of front-of-package nutrient warning labels on sugar-sweetened beverages and ultra-processed foods: a scoping review. *Nutrients* 2020, 12(2), p. 569.
51. Giusti, A.; Tinacci, L.; Verdigi, F.; Narducci, R.; Gasperetti, L.; Armani, A. Safety and commercial issues in fresh mushrooms and mushroom-based products sold at retail in Tuscany region. *Italian journal of food safety* 2022, 11(3), 10044.
52. Rebolledo, N.; Ferrer-Rosende, P.; Reyes, M.; Smith Taillie, L.; Corvalán, C. Changes in the critical nutrient content of packaged foods and beverages after the full implementation of the Chilean Food Labelling and Advertising Law: a repeated cross-sectional study. *BMC Medicine* 2025, 23(1), 46.
53. Phan, T. X. D. Understanding the acquisition, usage, and disposal behaviours in sustainable food consumption: A framework for future studies. *Cleaner and Responsible Consumption* 2024, 12, 100162.
54. Pathak, K.; Prakash, G.; Jain, Agarwal, R.; Attri, R. Do eco labels matter for green business strategy and sustainable consumption? A mixed method investigation on green products. *Business Strategy and the Environment*, 2024, 33(5), pp. 4271-4291.
55. Peters, S.; Verhagen, H. Publication bias and Nutri-Score: A complete literature review of the substantiation of the effectiveness of the front-of-pack logo Nutri-Score. *Pharma Nutrition* 2024, 27, 100380.
56. Sarda, B.; Kesse-Guyot, E.; Deschamps, V.; Ducrot, P.; Galan, P.; Hercberg, S.; Julia, C. Complementarity between the updated version of the front-of-pack nutrition label Nutri-Score and the food-processing NOVA classification. *Public Health Nutrition* 2024, 27(1), e63.
57. Panczyk, M.; Dobrowolski, H.; Sińska, B. I.; Kucharska, A.; Jaworski, M.; Traczyk, I. Food front-of-pack labelling and the Nutri-Score nutrition label-Poland-wide cross-sectional expert opinion study. *Foods* 2023 12(12), 2346.

58. Fialon, M.; Babio, N.; Salas-Salvadó, J.; Galan, P.; Kesse-Guyot, E.; Touvier, M.; Julia, C. Comparative understanding and preference of Nutri-Score and NutriInform Battery in a sample of Spanish consumers. *European Journal of Public Health* 2023, 33(2), pp. 293-298.
59. Fialon, M.; Serafini, M.; Galan, P.; Kesse-Guyot, E.; Touvier, M.; Deschasaux-Tanguy, M.; Julia, C. Nutri-Score and NutriInform Battery: Effects on performance and preference in Italian consumers. *Nutrients* 2022, 14(17), 3511.
60. Egnell, M.; Talati, Z.; Galan, P.; Andreeva, V.A.; Vandevijvere, S.; Gombaud, M.; Julia, C. Objective understanding of the Nutri-score front-of-pack label by European consumers and its effect on food choices: an online experimental study. *International Journal of Behavioral Nutrition and Physical Activity* 2020, 1, 146.
61. Andreeva, V. A.; Egnell, M.; Handjieva-Darlenska, T.; Talati, Z.; Touvier, M.; Galan, P.; Julia, C. Bulgarian consumers' objective understanding of front-of-package nutrition labels: a comparative, randomized study. In: *Archives of Public Health* 2020, 78, 35.
62. Eykelenboom, M.; Olthof, M. R.; Van Stralen, M. M.; Djojosoeparto, S. K.; Poelman, M. P.; Kamphuis, C. B.; Steenhuis, I. H. The effects of a sugar-sweetened beverage tax and a nutrient profiling tax based on Nutri-Score on consumer food purchases in a virtual supermarket: a randomised controlled trial. *Public health nutrition* 2022, 25(4), pp. 1105-1117.
63. Egnell, M.; Ducrot, P.; Touvier, M.; Allès, B.; Hercberg, S.; Kesse-Guyot, E.; Julia, C. Objective understanding of Nutri-Score Front-Of-Package nutrition label according to individual characteristics of subjects: Comparisons with other format labels. *Plos One* 2018, 13(8), e0202095.
64. Ducrot, P.; Méjean, C.; Julia, C.; Kesse-Guyot, E.; Touvier, M.; Fezeu, L.; Péneau, S. Effectiveness of Front-of-Pack Nutrition Labels in French Adults: Results From the NutriNet-Sante Cohort Study. *Plos One* 2015, 10(10), e0140898.
65. Jakhar, R.; Singh, S. Conducting systematic literature review of Front-of-Pack-Labeling: integrative framework, themes formation, and path for future research. *Nutrition & Food Science* 2025, 55(1), pp. 16-34.
66. Wanselius, J.; Larsson, C.; Berg, C.; Öhrvik, V.; Lindroos, A. K.; Lissner, L. Consumption of foods with the Keyhole front-of-pack nutrition label: potential impact on energy and nutrient intakes of Swedish adolescents. *Public Health Nutrition* 2022, 25(12), pp. 3279-3290.
67. Pitt, S.; Julin, B.; Øvrebø, B.; Wolk, A. Front-of-Pack Nutrition Labels: Comparing the Nordic Keyhole and Nutri-Score in a Swedish Context. *Nutrients* 2023, 15(4), 873.
68. Biloft-Jensen, A.; Ygil, K.; Kørup, K.; Christensen T.; Fagt, S. Potential effect of eating keyhole-labeled products-focus on intake of nutrients and whole grains. Technical University of Denmark, 2015.
69. Chan, W. K.; Pitt, S.; Smorenburg, H.; Wolk, A.; Lissner, L. The Nutrient Profiling of Swedish Food Products-A Study of the Alignment of the Multi-Level Criteria for the Choices and Nutri-Score Systems with the Nordic Keyhole Logo. *Nutrients* 2025, 17(3), 421.
70. Hafner, E.; Pravst, I. A Systematic Assessment of the Revised Nutri-Score Algorithm: Potentials for the Implementation of Front-of-Package Nutrition Labeling across Europe. *Food Frontiers* 2024, 5(3), pp. 947–963.
71. Rane, B. R.; Amkar, A. J.; Patil, V. S.; Vidhate, P. K.; Patil, A. R. Opportunities and Challenges in the Development of Functional Foods and Nutraceuticals. In: *Formulations, Regulations, and Challenges of Nutraceuticals*, Mohan Rao, T. J.; Kesharwani, R. K.; Keservani, R. K.; Sharma, A. K. (eds.). Apple Academic Press, New York, SUA, 2024, pp. 227-254. ISBN 978-1003412496.
72. Sharma, G. Regulatory Guidelines for the Development of Plant/Phytochemical-Based Nutraceuticals. In: *Formulations, Regulations, and Challenges of Nutraceuticals*, Mohan Rao, T.J.; Kesharwani, R.K.; Keservani, R.K.; Sharma, A.K. (eds.). Apple Academic Press, New York, SUA 2024, pp. 171-191.
73. Fialon, M. et al. Nutri-Score and NutriInform Battery: Effects on Performance and Preference in Italian Consumers. *Nutrients* 2022, 14(17), 3511.
74. Carruba, M. O. et al. Front-of-pack (FOP) labelling systems to improve the quality of nutrition information to prevent obesity: NutriInform Battery vs Nutri-Score. *Eat Weight Disord* 2022, 27, pp. 1575-1584.
75. Peonides, M.; Knoll, V.; Gerstner, N.; Heiss, R.; Frischhut, M.; Gokani, N. Food labeling in the European Union: a review of existing approaches. In: *International Journal of Health Governance* 2022, 27(4), pp. 460-468.
76. Thow, A. M.; Jones, A.; Huckel Schneider, C.; Labonté, R. Increasing the public health voice in global decision-making on nutrition labelling. *Global Health* 2020, 16(1), p. 3.
77. Vyth, E. L. et al. Actual use of a front-of-pack nutrition logo in the supermarket: consumers' motives in food choice. *Public Health Nutrition* 2010, 13(11), pp. 1882-1889.

78. Akker, K. Van Den; Bartelet, D.; Brouwer, L.; Luijpers, S.; Nap, T.; Havermans, R. The impact of the nutri-score on food choice: A choice experiment in a Dutch supermarket. *Appetite* 2022, 168, 105664.
79. Trompeter, N. Impact of out-of-home nutrition labelling on people with eating disorders: a systematic review and meta-synthesis. *BMJ Public Health* 2025, 3(1), e000862.
80. Shangguan, S. A Meta-Analysis of Food Labeling Effects on Consumer Diet Behaviors and Industry Practices. *American Journal of Preventive Medicine* 2019, 56(2), pp. 300-314.
81. Meijer, G. W.; Detzel, P.; Grunert, K. G.; Robert, M. C.; Stancu, V. Towards effective labelling of foods. An international perspective on safety and nutrition. *Trends in Food Science & Technology* 2021, 118, pp. 45-56.
82. An, R., Shi, Y., Shen, J., Bullard, T., Liu, G., Yang, Q., Cao, L. Effect of front-of-package nutrition labeling on food purchases: a systematic review. *Public Health* 2021, 191, pp. 59-67.
83. Siminiuc, R.; Ciumac, J.; Reșitca, V. Strategii de educație nutrițională în Republica Moldova. In: *Conferința Tehnico-Științifică a Colaboratorilor, Doctoranzilor și Studenților*, 16-18 noiembrie 2017, Universitatea Tehnică a Moldovei, 2017, 2, pp. 46-47. ISBN 978-9975-45-545-9.
84. Bibi, F.; Guillaume, C.; Gontard, N.; Sorli, B. A review: RFID technology having sensing aptitudes for food industry and their contribution to tracking and monitoring of food products. *Trends in Food Science & Technology* 2017, 62, pp. 91-103.
85. Poyatos-Racionero, E.; Ros-Lis, J. V.; Vivancos, J. L.; Martínez-Máñez, R. Recent advances on intelligent packaging as tools to reduce food waste. *Journal of Cleaner Production* 2018, 172, pp. 3398-3409.
86. Chirsanova, A.; Calcatiniuc, D. The Impact of Food Waste and Ways to Minimize It. *Journal of Social Sciences* 2021, 4(1), pp. 128-139.
87. Chirsanova, A.; Reșitca, V. Factori de bază ce influențează politicile alimentare și nutriționale la nivel internațional. *Meridian Ingineresc* 2013, 3, pp. 86-90.
88. Wu, S.; Zhang, M.; Yu, Q.; Mujumdar, A. S.; Yang, C. Fresh Food Quality Deterioration Detection and Labeling: a Review of Recent Research and Application in Supply Chain. *Food and Bioprocess Technology* 2024, 17, pp. 1706-1726.
89. Iapăscuță, V.; Țurcanu, D.; Siminiuc, R. Integration of a Data-Driven Software Application and a Multimodal Large Language Model for Enhanced Nutritional Guidance: A Case Study. *Journal of Engineering Science* 2024, 31(3), pp. 75-84.
90. Dobrucka, R.; Przekop, R. New perspectives in active and intelligent food packaging. *Journal of Food Processing and Preservation* 2019, 43(11), e14194.

Citation: Chirsanova A.; Siminiuc R.; Reșitca V.; Nistiriuc A.; Chioru A. Front-of-pack labeling of food products: evolution, characteristics, challenges and prospects. 8 (2), pp. 28-45. [https://doi.org/10.52326/jss.utm.2025.8\(2\).02](https://doi.org/10.52326/jss.utm.2025.8(2).02).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).04](https://doi.org/10.52326/jss.utm.2025.8(2).04)
UDC 656.135(478)"2018/2023"



DEVELOPMENT TRENDS IN ROAD FREIGHT TRANSPORT IN THE REPUBLIC OF MOLDOVA

Maria Gheorghita, ORCID: 0000-0002-2177-3497,
Natalia Sestenco-Diacek *, ORCID: 0000-0002-0726-600X

Technical University of Moldova, 168 Ștefan cel Mare Blvd., MD-2004, Chișinău, Republic of Moldova

* Corresponding author: Natalia Șestenco-Diacek, natalia.sestenco@adm.utm.md

Received: 04.18.2025

Accepted: 06.05.2025

Abstract. The article deals with the development trends of the road freight transport sector in the Republic of Moldova with a particular focus on road haulage for hire and reward. The importance of the sector for the national economy in terms of its contribution to the country's Gross Domestic Product (GDP) and employment was emphasised. The evaluation of the development trends of the sector was facilitated by the presentation and interpretation of statistical data reflecting the road haulage industry's situation for a period of five years (2018-2023). The given period reflected the situation before the pandemic, the influence of the pandemic on the situation in the sector, and the trends of recovery and development after the pandemic. The efficiency of enterprises in the sector was appraised through the utilisation of indicators encompassing sales revenue, inventory, profit, profitability, and labour productivity. The study also considered an evaluation of the state of the vehicle fleet, its technical condition, and the level of staffing. The analysis also identified the fundamental challenges confronting the sector, which impeded progress.

Keywords: *road haulage, transport operators, fleet, freight routing, profit, profitability, productivity.*

Abstract: În articol au fost reflectate tendințele de dezvoltare a sectorului de transport rutier de mărfuri din Republica Moldova, accentul fiind pus pe transportul rutier de mărfuri contra cost. S-a subliniat importanța sectorului pentru economia națională din punct de vedere a aportului la Produsul Intern Brut al țării și oferire de locuri de muncă. Pentru evaluarea tendințelor de dezvoltare a sectorului, în articol au fost prezentate și interpretate date statistice care reflectă situația din industria transportul auto de mărfuri pentru o perioadă de cinci ani (2018-2023). Anume această perioadă reflectă situația înainte de pandemie, influența pandemiei de Covid-19 asupra situației din sectorul dat și tendințele de recuperare și dezvoltare după pandemie. Nivelul de eficiență al activității întreprinderilor din sector a fost evaluat cu ajutorul indicatorilor care reflectă venitul din vânzări, parcursul mărfurilor, profitul, rentabilitatea și productivitate a muncii. De asemenea s-a reflectat situația privind parcul auto, starea lui tehnică și nivelul de asigurare cu personal. S-au evidențiat și problemele de bază ale sectorului care afectează negativ dezvoltarea de mai departe.

Cuvinte cheie: *transport rutier de mărfuri, operatori de transport, parc auto, parcursul mărfurilor, profit, rentabilitate, productivitate.*

1. Introduction

In today's world, transport is a strategic sector of any economy, essential for economic and social activity. There is a relationship of interdependence and mutual influence between transport and other sectors of the national economy. Transport facilitates links between the sectors of the national economy and is an important factor in economic and social development and progress. Thanks to the activity of the transport sector, goods or people are moved through space in order to satisfy the material and spiritual needs of society. There is no activity of material production that is not more or less connected and/or conditioned by transport [1, 2].

Transport is considered to be one of the primary pillars of European integration, playing a pivotal role in facilitating the free movement of people and goods. The significance of the transport industry is underscored by its substantial contribution to the European economy, accounting for approximately 6% of the European Union (EU) Gross Domestic Product (GDP), over 6% of the workforce, and 40% of the investments of the EU Member States. The sector has been growing steadily over the last two decades, at 2.3% per year for freight and 3.1% for passenger transport [3]. The relationship between transportation and economic development is difficult to establish formally and has been debated for many years. In some circumstances, transport investments appear to catalyze economic growth, while in others, economic growth puts pressure on existing transport infrastructures and incites additional investments [4].

In the Republic of Moldova, the transportation sector has reached a share of approximately 5.0% in GDP, and about 10% of the total number of employees in the national economy.

The increase in the exchange of goods and other activities, both nationally and internationally, due to the direct contribution of transport, highlights several economic advantages of transport, such as:

- Contribution to increased trade activity locally and internationally. The development and enhancement of transportation infrastructure has resulted in the expansion of the market on both a national and international scale, thereby augmenting its absorptive capacity.
- Facilitating the exchange between supply and demand. Transportation has facilitated, and continues to facilitate, a more efficient exchange between supply and demand for various goods nationally and internationally. The existence of surpluses in certain regions has enabled the more efficient allocation of goods to areas where demand is high.
- The advent of transportation has also engendered conditions conducive to healthy competition. As the geographical areas offering similar products expand, competition among suppliers of similar goods increases, keeping prices at reasonable levels. The increased number of potential suppliers competing with each other has also been identified as a factor contributing to the reduced likelihood of high price arrangements [5].

Transport infrastructure is of pivotal significance in ensuring the sustainability of the economy, particularly during periods of crisis. Reliable transport networks facilitate the economy's capacity to adapt expeditiously to fluctuations in supply and demand, thereby ensuring the flexibility and adaptability of economic systems.

The transport sector is widely regarded as a catalyst for scientific and technological advancement. Investments in new transport technologies, including high-speed rail, autonomous vehicles and novel fuels, have been demonstrated to stimulate the development of associated industries, thereby contributing to productivity growth and the advancement of the national economy as a whole.

2. Methodology of the research

To achieve the research objectives, a range of empirical and scientific research tools and methods were employed, including: abstraction, analysis and synthesis, observation, grouping, comparison, explanation, quantitative and qualitative analysis, deductive method, numerical and graphical method of data presentation. The method of analysis and synthesis was used to study the role and importance of the transport industry for the development of the national economy and the contribution of the sector in macroeconomic indicators. The employment of the synthesis method facilitated the identification of interconnections between the phenomena under investigation, while the utilisation of the graphical method enabled the presentation of statistical data in the form of figures and graphs, thereby reflecting the dynamics of the transport industry's development. The application of both quantitative and qualitative analysis methods was undertaken to assess economic indicators, thereby providing a comprehensive characterisation of the transport industry's dynamic development.

The informational and statistical support has been provided from different scientific publications related to the research field and from statistical data sources provided by the National Bureau of Statistics of the Republic of Moldova.

3. Assessment of development trends in road freight transport in the Republic of Moldova

3.1 General characteristics of road freight transport in the Republic of Moldova

According to the Classifier of Activities of the Moldovan Economy - 2 (CAEM-2), approved by order of the National Bureau of Statistics No. 28 of May 7, 2019, the Transport branch in the Republic of Moldova includes the following types of transport:

- land transportation and pipeline transportation;
- water transportation;
- air transportation [6].

The significance of diverse transportation modes is predominantly influenced by the geographical characteristics of the nation. For instance, in island countries such as Japan, maritime transport is pivotal to freight transportation. Conversely, in countries with vast territories, such as the USA, Canada, and Russia, rail transport plays a significant role. Conversely, in countries with a compact territory (especially landlocked) and developed infrastructure, such as in Western Europe, road transport is the most prevalent [7-9]. In the Republic of Moldova, the transportation sector is divided into two categories:

- 1) passenger transportation, accounting for 25%;
- 2) goods transportation, which accounts for 75% [1].

The geographical conditions of the republic are such that land and road freight transport account for the largest share (Figure 1). In 2023, road freight transport accounted for 91% of total transported goods.

The organisation and performance of road transport of goods in the Republic of Moldova is regulated by the Road Transport Code no.150 of 17-07-2014 [11]. The Road Code of the Republic of Moldova is currently being revised to align national transport legislation with EU standards. An assessment of the current regulations is planned, followed by the implementation of updated legal acts based on European norms [12].

According to the stipulated code, road transportation is classified according to the commercial qualification of the activity as follows:

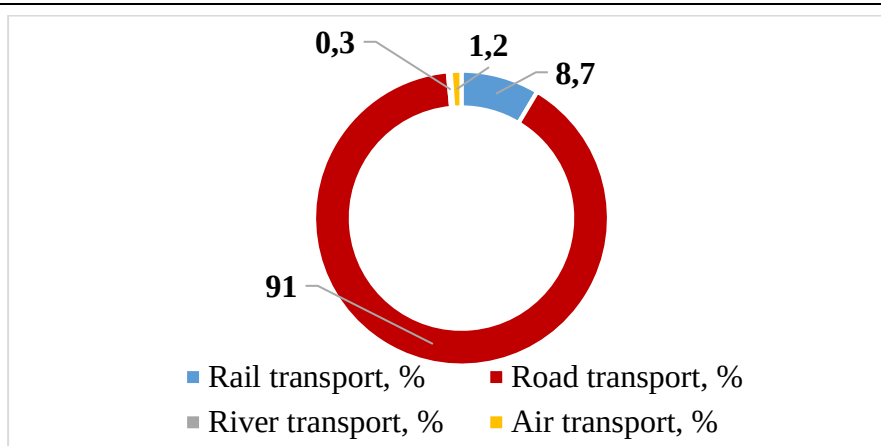


Figure 1. Road freight transport structure of the Republic of Moldova.

Source: Own calculations based on [10].

- road transportation against payment;
- road transportation for own account;
- road transportation for personal use.

Road hauliers in the Republic of Moldova engaged in road haulage for a fee are divided into four categories of enterprises: large, medium, small and micro enterprises. Quantitative data for these categories of enterprises for the period 2015-2022 is presented in Table 1, demonstrating the dynamics of their development. Each category of enterprise plays a specific role in the transport industry, reflecting the diversity and scale of activity in the given sector.

Table 1

Dynamics of the number of road haulage operators and their size structure								
	2015	2016	2017	2018	2019	2020	2021	2022
Total, units	1105	1132	1174	1274	1339	1431	1543	1746
Share %	100	100	100	100	100	100	100	100
Large enterprises, units	4	8	8	4	7	8	4	3
Share %	0,4	0,7	0,7	0,3	0,5	0,6	0,3	0,2
Medium enterprises, units	20	23	33	36	37	37	24	23
Share %	1,8	2,0	2,8	2,8	2,8	2,6	1,6	1,3
Small enterprises, units	228	223	234	258	262	263	295	259
Share %	20,6	19,7	19,9	20,3	19,7	18,4	19,1	14,8
Micro enterprises, units	853	878	899	976	1033	1123	1210	1461
Share %	77,2	77,6	76,6	76,6	77,0	78,5	78,4	83,7

Source: Own calculations based on data obtained from the National Bureau of Statistics of the RM

Over the last analyzed years, the number of road transport operators has increased from 1105 units in 2015 to 1746 units in 2022, representing an increase of 58% over the period analysed.

Even in 2020, a Covid-19 pandemic year, the number of road transport enterprises increased by 92 units, demonstrating the importance of the sector to the national economy. The number of large companies remains fairly stable but small, accounting for only 0.2% in 2022. The largest share, over 99.5%, is accounted for by micro, small and medium-sized enterprises. And the main contribution to the overall quantitative growth of the road transport sector is made by micro enterprises, whose quantitative share increases from 77.2% in 2015 to 83.7% in 2022, accounting for the largest share of the market and indicating an important role in commercial transport.

One of the most important factors influencing the efficiency of road transport companies is the vehicle fleet. It determines the company's ability to meet market requirements and is a key factor in its competitiveness in the field of transport services. Both the quality of the transport process and the economic benefits depend on the fleet structure.

The fleet of road transport companies in the Republic of Moldova is characterised by a variety of types and models of vehicles used for the transport of different types of goods. Over the last six years, road hauliers have invested in increasing the number of vehicles. If before the pandemic (in 2018) the number of vehicles was 7545 units, in 2023 the number of vehicles increased to 10096 units, which is an increase of 2551 units or about 34% (Figure 2).

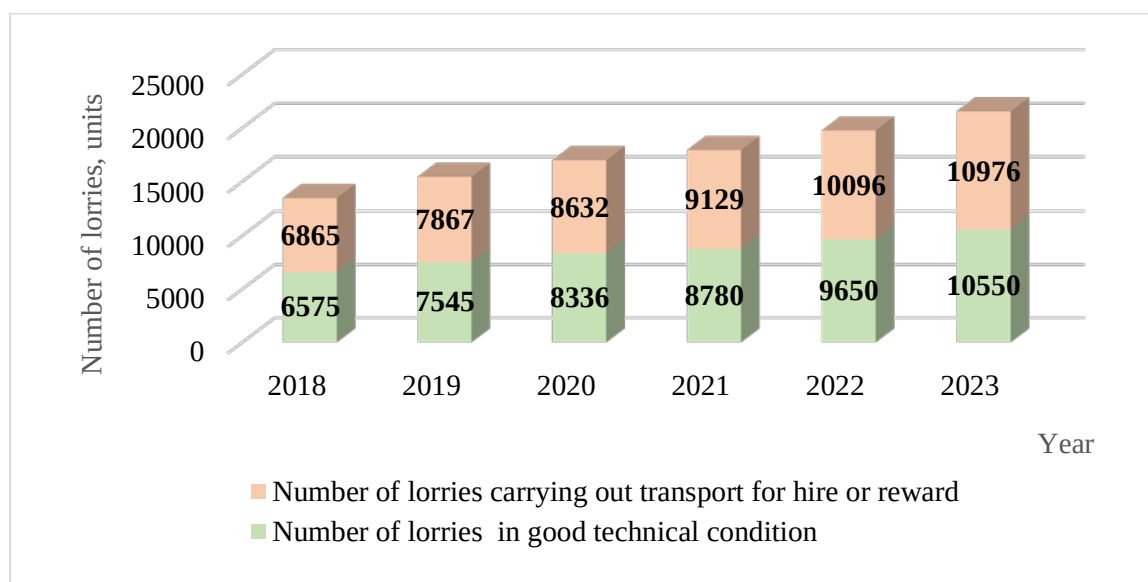


Figure 2. Characteristic of the vehicle fleet in terms of technical readiness

Source: Own calculations based on [13].

The technical readiness coefficient of the fleet is one of the key factors in the competitiveness of a road transport company. A high technical availability ratio helps to increase efficiency, reduce costs and improve service reliability. No less importantly, it ensures a good image for the operator. These aspects make the company more attractive to customers and allow it to compete successfully in the freight transport market. The technical readiness coefficient (the proportion of vehicles in good technical condition) of operators in the Republic has been around 96% in recent years. This is also ensured by the purchase of new vehicles, especially in the post-pandemic period. In the last two years, road hauliers have invested in 233 transport units. However, the substandard quality of road infrastructure

discourages road freight operators from investing in modern vehicles. Elevated maintenance costs, resulting from frequent wear and damage, significantly reduce the economic viability of such investments [14].

The authors agree with the opinion of the representative of the Association of International Road Carriers of Moldova that the renewal of freight vehicles is hindered by a number of economic issues:

- The lack of sufficient internal financial resources within transport companies to upgrade their vehicle fleets.
- High interest rates on loans.
- The non-reimbursement of Value-added tax on the purchase of transport vehicles, unlike in other sectors.
- Competition from foreign companies and the re-registration of Moldovan transport operators abroad (e.g., in Romania).
- The absence of government support in the form of subsidies and equal economic conditions [15].

Current approaches to business management highlight the importance of personnel as the main driver of resource efficiency [16]. An important indicator characterising the sector is staffing and job creation. At present, the road transport industry employs more than 30 thousand people, which is about 7.5% of the total number of employees in the national economy (Figure 3).

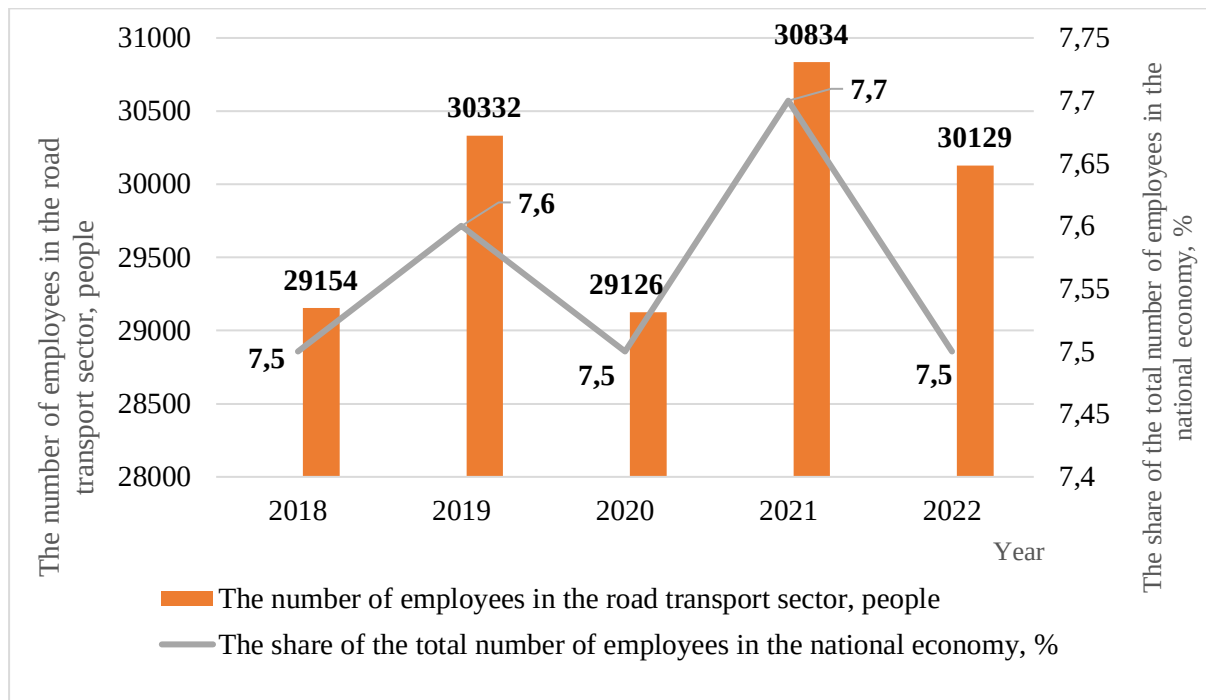


Figure 3. Dynamics of the number of employees in the road transport sector and their share in the total number of employees in the national economy of the Republic of Moldova.

Source: Own calculations based on [17].

The period of the Covid-19 pandemic influenced the reduction of the number of employees in the road transport sector from 30332 persons in 2019 to 29126 persons in 2020, or by about 4%. In the post-pandemic period, the number of persons employed in the sector increased, but unevenly.

Despite the stable share of land transport workers in the total number of persons employed in the country's economic activities, a decrease in the number of workers in this sector is observed in 2022, while the number of enterprises has increased significantly. It should be noted that with a relatively high share of employees in the economic activities of the national economy, the transport sector ranks 3rd in the republic in terms of labour shortage.

The shortage of labour in this sector is caused by a constant outflow of qualified drivers. Several factors have contributed to this situation, the main ones being low wages and less favourable working conditions compared to European countries.

3.2 Assessment of the efficiency of the operation of road haulage companies

The efficient operation of a road haulage company depends to a large extent on its ability to make optimum use of its fleet. The main indicators characterising the activity of the fleet are the volume of freight transported and the freight journey, which represents the total amount of freight transported over a given distance in a given period of time and is defined as the product of the volume and the distance (tonne-km) [18].

The trends of these indicators for road freight transport conducted at cost over the past six years are illustrated in Table 2.

Table 2

Dynamics of the volume of goods transported by road hauliers on a cost basis and of the number of goods journeys

	2018	2019	2020	2021	2022	2023
Volume of goods transported by road transport operators, thousand tons	16947	17592.5	17391.3	19496.6	20175	18777.2
Thousand tons/per vehicle	2.5	2.2	2.0	2.1	2.0	1.7
Freight flows of freight transport operators, thousands tonne-km	4145.7	4343.7	4370.5	5110.9	5386.6	5548.2
Thousands tonne-km/per vehicle	603.9	552.1	506.3	559.9	533.5	505.5

Source: Own calculations based on [13].

Analysing the total volume of goods transported by road hauliers on a cost basis in 2018-2023, a slight fluctuation can be observed. In 2020 there was a decrease due to the pandemic. However, the decrease was insignificant, less than 2% compared to 2019. The next two years show a continuous growth compared to the previous year, with 12.1% in 2021 and 3.5% in 2022. In 2023, the total volume of goods transported fell to 18777 thousand tonnes, a decrease of 6.9% compared to 2022. This decrease was significantly influenced by the drought, which reduced the volume of agricultural products transported. The decline in fleet productivity in tonnes per vehicle is also evident. During the period analysed, the volume of transported goods per vehicle decreased from 2.5 thousand tonnes in 2018 to 1.7 thousand tonnes in 2023, i.e. by 30.7%. This indicates a decrease in the vehicle load factor due to the decrease in the volume of transported goods and the change in the structure of goods.

The dynamics of the freight path of hauliers in the period 2018-2023 shows a steady growth. In 2018, the freight path amounted to 4.145 million tonne-kilometres, after which it increased every year, reaching a maximum value of 5.548 million tonne-kilometres in 2023, representing an increase of 33.8%. The jump between 2020 and 2021 is particularly noticeable, when the volume of goods transported increases by 16%, indicating an increased demand for transport services during this period.

Despite the general increase in the total distance travelled by for-hire road transport operators, a negative productivity dynamic can be observed in terms of tonne-kilometres per vehicle. In 2018, this indicator was 603.9 thousand ton-km per vehicle, but by 2023 it had fallen to 505.5 thousand ton-km, or by 16.3%. The negative dynamics of this indicator indicates a decrease in the efficiency of the use of transport vehicles in long-distance freight transport, caused by a number of factors, including changes in demand, the technical condition of vehicles or the use of vehicles on less optimal routes. The factor of bypassing the territory of Ukraine, which became necessary to ensure the safety of road transport operations, had a significant impact on freight transport.

The efficiency of a business can be assessed by looking at the levels and trends of key indicators such as revenue and profit. Turnover reflects the ability of the company to generate cash flow, while profit reflects the level of efficient cost management and the ability of the company to create value and thus ensure its long-term sustainable growth.

The dynamics of motor transport operators' turnover and net profit on a cost basis are shown in Figure 4.

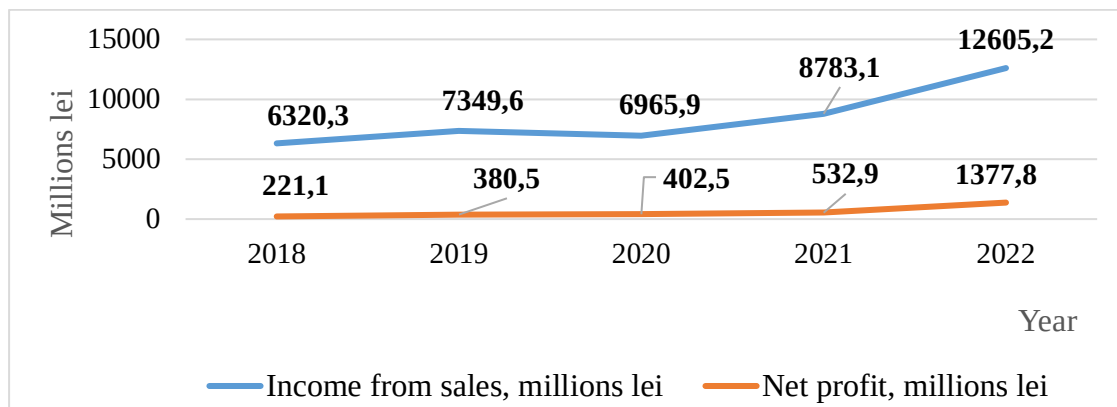


Figure 4. Dynamics of revenue and net profit of road transport operators on a cost basis

Source: Own calculations based on data obtained from the National Bureau of Statistics of the RM

During the last six years, the turnover of road hauliers on a cost basis showed a positive upward trend from 6320.3 million lei in 2018 to 12605.2 million lei in 2022, which was about two times higher than before the Covid-19 pandemic. Only in 2020 was there a decrease of 5.2% due to the pandemic. Net profit in 2022 is also more than 2.5 times higher than in the previous year.

Another important indicator that characterises the efficiency of business activity is the return on sales. This indicator reflects the company's ability to generate profit based on the volume of services provided and makes it possible to assess the efficiency with which the company manages its costs [19].

Given the wide range of companies of different sizes operating in the road transport sector, it is interesting to assess the level of profit and profitability of different operators (Table 3).

Table 3

Dynamics of profit and profitability of a road haulage operator depending on the size of the undertaking

Year	Profit net per operator, mil lei				Sales profitability, %			
	Large enterprises	Medium enterprises	Small enterprises	Micro enterprises	Large enterprises	Medium enterprises	Small enterprises	Micro enterprises
2018	22.6	73.5	87.4	18.6	4.22	4.23	3.1	3.05
2019	61.8	110.0	139.4	102.4	5.84	5.62	4.96	4.55
2020	51.0	94.0	189.4	262.6	4.45	6.26	6.71	4.54
2021	18.6	102.4	262.6	149.3	2.19	5.99	6.27	7.30
2022	37.5	269.5	650.9	419.8	3.37	12.16	12.16	10.47

Source: Own calculations based on data obtained from the National Bureau of Statistics of the RM.

The most noticeable increase in profits between 2018 and 2022 was observed for small and micro enterprises. For small enterprises, net profit increased more than 7.4 times (from 87.4 million to 650.96 million lei), and for micro enterprises, profit increased more than 22.5 times (from 18.6 million to 419.8 million lei). The highest profitability in 2022 was also achieved by medium and small enterprises, which exceeded 12%, and the profitability of micro enterprises was about 10.5%. Practically the lowest profitability was achieved by large enterprises, ranging from 2.2% to 5.8%.

In order to assess the operational efficiency of road transport enterprises, labour productivity, calculated as the level of turnover per employee, was determined [20] (Figure 5).

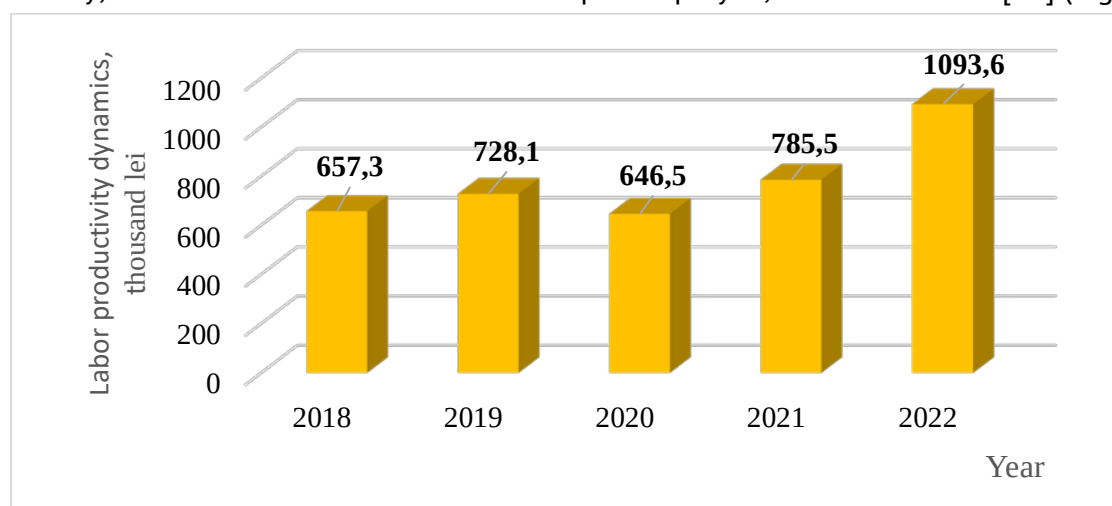


Figure 5. Labor productivity dynamics (2018-2022)

Source: Own calculations based on data obtained from the National Bureau of Statistics of the RM.

In recent years, road transport companies on a cost basis have recorded a positive trend of increase in labor productivity from 657.3 thousand lei per employee in 2018, before the pandemic, to 1093.6 thousand lei per person in 2022, which was an increase of about 1.7 times. Only in 2020, the pandemic year of Covid -19, there was a decrease in labour productivity of 11.2%, which was recovered in 2021. The labour productivity indicator shows an increase in the efficiency of the use of personnel by road hauliers on a cost basis.

4. Conclusions

The transport sector is an important sector for any country, as it contributes to the intensification of its commercial activity both nationally and internationally, facilitates a more efficient exchange between supply and demand for various goods and creates conditions for healthy competition.

The transport sector is one of the most important branches of the national economy of the Republic of Moldova, as evidenced by its significant contribution to the creation of the gross domestic product (5%) and the employment of a significant share of the workforce (10%). The sector has experienced continuous economic growth, especially after the period of the Covid-19 pandemic.

Due to the geographical conditions of the republic, road transport of goods is a priority, accounting for about 91%. More than 1760 companies are operating in the road transport sector, the lion's share of which - about 99.5% - are medium, small and micro enterprises. These companies are quite flexible and adapt easily to changes in demand. Approximately 30130 people are employed in road freight transport in the Republic.

Despite the significant contribution of automotive transportation to the economic processes of the Republic of Moldova, and the attractiveness of the transportation market for entrepreneurs due to a fairly high efficiency of the branch's activity, the problem of the outdated vehicle fleet and the shortage of qualified personnel in the automotive transportation segment hurt the competitiveness of the sector. If timely measures are not taken to attract and retain specialists, the sector could face serious structural problems soon, such as: slowing down of logistic processes, inability to meet demand requirements, reduction of transport volume, increase in transport costs, reduction of image and loss of positions, especially in international supply chains. It is important to note that over the next few years, it will be essential to invest in regional development and transport infrastructure, not only to enhance links with the European Union but also to seize the opportunity for the Republic of Moldova to serve as a major logistics center in the process of Ukraine's recovery [21]. The risk of foreign carriers being involved in the external economic activity of the Republic of Moldova increases significantly, which will harm the country's economic stability, as financial flows related to transportation services will be directed abroad, reducing the contribution of the transportation industry to GDP.

Conflict of interest: The authors declare no conflict of interest.

References

1. Ionita, V. Analize Economice: Serviciile de transport din Republica Moldova. Available online: <https://ionita.md/2023/03/10/090-analize-economice-serviciile-de-transport-din-republica-moldova/> (accessed on 01.03.2025).
2. Importanta transporturilor asupra economiei. Available online: <https://www.transporturi-romania.ro/articole/transporturile-si-importanta-acestora-asupra-economiei-si-societatii-18> (accessed on 01.03.2025).
3. Politica în domeniul transporturilor. Institutul European din România, 2005. Available online: <https://ier.gov.ro/wp-content/uploads/publicatii/Transporturi.pdf> (accessed on 01.03.2025).
4. The Geography of Transport Systems. 3.1 – Transportation and Economic Development. Available online: <https://transportgeography.org/contents/chapter3/transportation-and-economic-development/> (accessed on 02.03.2025).
5. Osipov, D. Rolul și importanța transporturilor în dezvoltarea economiei naționale. In: Conferința națională. științifico-practică cu participare internațională - Transport: economie, inginerie, și management, Chișinău, Moldova, 25-26 octombrie 2019, UTM. Available online: <https://repository.utm.md/handle/5014/7561?show=full> (accessed on 02.03.2025).
6. Clasificatorul activităților din Economia Moldovei (CAEM-2). Biroul Național de Statistică,

- Chişinău, Moldova, 2019. Available online: https://midr.gov.md/files/shares/Clasificatorul_activit_ilor_CAEM_2_rom.pdf (accessed on 03.03.2025).
7. Japan Maritime Center. Message from the Chairman. Available online: <https://www.jpmac.or.jp/en/about/> (accessed on 03.03.2025).
 8. Statista. Length of railroad network in selected countries around the world in 2021. Available online: <https://www.statista.com/statistics/264657/ranking-of-the-top-20-countries-by-length-of-railroad-network/> (accessed on 03.03.2025).
 9. Global Railway Review. Available online: <https://www.globalrailwayreview.com/article/5591/russias-role-in-increasing-international-rail-transportation/> (accessed on 03.03.2025).
 10. Banca de date statistice. Transportul de mărfuri, pe moduri de transport, 1995-2023. Available online: https://statbank.statistica.md/PxWeb/pxweb/ro/40%20Statistica%20economica/40%20Statistica%20economica_19%20TRA_TRA030_serii%20anuale/TRA030200.px/table/tableViewLayout2/?rxid=b2ff27d7-0b96-43c9-934b-42e1a2a9a774. (accessed on 03.03.2025).
 11. Cod Nr. 150 din 17-07-2014 Transporturilor rutiere. Available online: https://www.legis.md/cautare/getResults?doc_id=48623&lang=ro (accessed on 03.03.2025).
 12. Transport Community. Republic of Moldova to Revise Its Road Code. Available online: <https://www.transport-community.org/news/republic-of-moldova-to-revise-its-road-code-align-with-eu-standards/> (accessed on 05.03.2025).
 13. Biroul național de statistică al Republicii Moldova. Transportul rutier (posesori persoane juridice) și lungimea drumurilor private (în profil teritorial și pe forme de proprietate). Available online: https://statistica.gov.md/ro/statistic_indicator_details/17 (accessed on 20.03.2025).
 14. International Finance Corporation. Country private sector diagnostic. Creating markets in Moldova. Available online: <https://www.ifc.org/content/dam/ifc/doc/2023-delta/cpsd-moldova-en.pdf> (accessed on 07.03.2025).
 15. Infotag. Avtoransportnoye delo. Available online: <https://www.infotag.md/interview/301673/> (accessed on 10.03.2025).
 16. Șestenco-Diacek, N.; Garștea, N.; Voloșenco, G. The qualitative education of personnel – the key to the competitiveness of transport companies. In: *The XXXI-st SIAR International Congress: Automotive and Integrated Transport Systems*, AITS 2021, Chişinău, Moldova, 28-30 October 2021, Tehnica-UTM, 2022, pp. 93-96.
 17. Banca de date statistice. Principalii indicatori ai activitatii întreprinderilor pe activitati economice, 2014-2023. Available online: https://statbank.statistica.md/PxWeb/pxweb/ro/40%20Statistica%20economica/40%20Statistica%20economica_24%20ANT_ANT020/ANT020100.px/table/tableViewLayout2/?rxid=9a62a0d7-86c4-45da-b7e4-fecc26003802 (accessed on 15.03.2025).
 18. Șestenco-Diacek, N. Structure and Efficiency of Road Freight Vehicles Utilization as a Factor of Transport Companies Competitiveness. In: *International Congress of Automotive and Transport Engineering, CONAT 2024, Proceedings in Automotive Engineering*, 20 November 2024, pp.85-93, Springer, Cham. https://doi.org/10.1007/978-3-031-77635-9_8
 19. Income/Outcome Business Simulations. Return on Sales (ROS): How to Measure and Improve Profitability. Available online: <https://www.income-outcome.com/blog/return-on-sales> (accessed on 25.03.2025).
 20. Gheorghita, M. *Economia întreprinderii industriale* (manual universitar). Cuvântul- ABC, Chişinău, Moldova, 2011, 280 p.
 21. Expert -Grup. State of the country report. The Moldovan Economy in the Context of European Intergration. Available online: https://library.fes.de/pdf-files/bueros/moldau/20196/2023_country-state-report.pdf (accessed on 25.03.2025).

Citation: Gheorghita, M.; Sestenco-Diacek, N. Development trends in road freight transport in the Republic of Moldova. *Journal of Social Sciences* 2025, 8 (2), pp. 46-56. [https://doi.org/10.52326/jss.utm.2025.8\(2\).04](https://doi.org/10.52326/jss.utm.2025.8(2).04).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).05](https://doi.org/10.52326/jss.utm.2025.8(2).05)
UDC 377(478)



THE IMPACT OF ACCELERATING THE IMPLEMENTATION OF DUAL EDUCATION

Silviu Gîncu ^{1,2*}, ORCID: 0000-0003-4772-4674,
Elena Movileanu ³, ORCID: 0000-0003-4664-7865

¹Ministry of Education and Research, 1 Piața Marii Adunări Naționale, Chisinau, Republic of Moldova

²Technical University of Moldova, 168 Stefan cel Mare Blvd., Chisinau, Republic of Moldova

³Chamber of Commerce and Industry of the Republic of Moldova, 151 Stefan cel Mare Blvd., Chisinau, Republic of Moldova

* Corresponding author: Silviu Gîncu, silviu.gincu@isa.utm.md

Received: 03.12.2025

Accepted: 05.18.2025

Abstract. The trends in the development of the economic situation require authorities to identify quick and effective measures to ensure the labor market is supplied with a qualified workforce. In 2024, under the aegis of the Ministry of Education and Research, the authorities focused their resources on accelerating the implementation of dual education. This article reflects the main results of the acceleration of dual education implementation in the Republic of Moldova and provides an overview of dual education through the lens of four pillars: policy framework, funding, institutional framework, and human resource management in dual education. We believe that the results presented in this paper are relevant for both national public authorities and at the international level. We consider that accelerating the implementation of dual education represents an example of best practices in the implementation of educational policies.

Keywords: *dual education, education, economic entities, technical professional education.*

Rezumat. Tendințele de dezvoltare a economiei de piață impun autoritățile a identifica măsuri rapide și eficiente de a asigura piața muncii cu forță de muncă calificată. În anul 2024 sub egida Ministerului Educației și Cercetării, autoritățile și-au concentrat resursele pe accelerarea implementării învățământului dual. În prezentul articol sunt reflectate principalele rezultate ale accelerării implementării învățământului dual în Republica Moldova, precum și este prezentată o radiografie a învățământului dual prin prisma a patru piloni: cadrul de politici, finanțare, cadrul instituțional și managementul resurselor umane în învățământul dual. Considerăm că rezultate expuse în prezenta lucrare sunt relevante atât pentru autoritățile publice naționale cât și la nivel internațional. În această ordine de idei accelerarea implementării învățământului dual reprezintă un exemplu de bune practici în implementarea politicilor educaționale.

Cuvinte cheie: *învățământ dual, învățământ profesional tehnic, unități economice.*

1. Introducere

Datorită impactului învățământului asupra sistemului socio-economic, învățământul dual este tot mai frecvent privit drept o cale optimă de a asigura piața muncii cu forță de muncă calificată. În acest sens, obiectivul specific 1.6 al Programul de implementare a Strategiei de dezvoltare „Educația 2030” pentru anii 2023-2025 [1], include indicatori precum: „(1) Creșterea cu 20% anual a numărului de elevi admiși la programe de formare profesională prin învățământ dual; (2) Creșterea cu 5% anual a numărului de companii implicate în învățământul dual; (3) Numărul de companii ce au acorduri de parteneriat în domeniul învățământului profesional dual cu instituțiile de învățământ” [1, pag. 39-40].

În acest sens autoritățile cu atribuții în domeniu [2, art. 8-11], pe perioada anului 2024 sub egida Ministerului Educației și Cercetării și-au concentrat resursele pe accelerarea implementării învățământului dual.

Este de menționat că în anul de studii 2024-2025, în învățământul profesional tehnic 40 de instituții de învățământ în parteneriat cu peste 170 de unități economice implementează învățământul dual. În cadrul programelor de formare profesională tehnică prin învățământ dual își realizează studiile peste 2400 de elevi.

La mai bine de 11 ani de la implementarea învățământului dual (2014) numărul unităților economice a crescut semnificativ, precum și implicate unități economice din diverse domenii. Astfel, în anul de studii 2024-2025 cele peste 170 de unități economice au realizat învățământul dual în cadrul a circa 68 de programe de formare profesională tehnică.

Tabelul 1

Numărul de unități economice ce realizează învățământul dual per program de formare profesională tehnică

Nr. crt.	Programul de formare profesională tehnică	Numărul de unități economice
1.	Agent/agentă în transporturi	4
2.	Asistent farmacist/asistentă farmacistă	2
3.	Bombonier	1
4.	Brutar/brutăreasă	9
5.	Bucătar/bucătăreasă	25
6.	Cofetar/cofetară (cofetăreasă)	15
7.	Controlor-casier/controloare-casieră (casieră)	5
8.	Croitor-confecționar/croitoreasă-confecționeră îmbrăcămintă la comandă	2
9.	Cusător/cusătoreasă (cusătoare) în industria ușoară	23
10.	Diagnosticarea tehnică a transportului auto	1
11.	Electrician/electriciană în construcții	7
12.	Electrician-electronist/electriciană-electronistă auto	6
13.	Electrician-montator/electriciană-montatoare rețele de iluminat	1
14.	Electrogazosudor-montator	7
15.	Electromecanic la instalarea și întreținerea utilajului industrial	2
16.	Electromecanic mijloace de automatică și aparate la echipamente electrice	1
17.	Electromecanică	2

Continuare Tabelul 1

18.	Electromontator la întreținerea utilajului electric	4
19.	Electromontor la repararea și întreținerea utilajelor electrice	2
20.	Electrosudor la sudarea manuală	1
21.	Electromecanic la instalarea și întreținerea utilajului industrial	2
22.	Lăcătuș la lucrările de asamblare mecanică	3
23.	Lăcătuș-electrician la repararea utilajelor electrice	9
24.	Lăcătuș-instalator tehnică sanitară	1
25.	Lăcătuș-mecanic aparate radioelectronice	3
26.	Mecanic/mecanică auto	12
27.	Mecatronică	4
28.	Medicină	1
29.	Merceolog/merceologă	1
30.	Modelarea, proiectarea și tehnologia confecțiilor din țesături	1
31.	Operator în depozitele mecanizate și automatizate	1
32.	Operator la mașini-unelte semiautomate și automate	1
33.	Operator/operatoroare formare și producere mezeluri, preparate și produse din carne	1
34.	Operator/operatoroare în depozitele mecanizate și automatizate	2
35.	Operator/operatoroare în hoteluri și complexe turistice	2
36.	Operator/operatoroare introducere, validare și prelucrare date	1
37.	Operator/Operatoroare la fabricarea produselor zaharoase	1
38.	Operator/operatoroare la instalații de prelucrare a minereurilor și rocilor	1
39.	Operator/operatoroare la mașini agricole	17
40.	Operator-asamblor/operatoroare-asamblare la mașini-unelte în industria construcției de automobile	3
41.	Peisagist-floricultor/peisagistă-floriculatoare	1
42.	Placator cu plăci	6
43.	Prelucrător mezeluri	1
44.	Reglor/regloare utilaje în industria confecțiilor	2
45.	Rețele de calculatoare	4
46.	Rețele electrice	1
47.	Specialist/specialistă planificarea și administrarea afacerilor	2
48.	Strungar/strungărită multiprofil	4
49.	Tâmplar/tâmplărită	6
50.	Tehnician electrician/tehniciană electriciană	1

Continuare Tabelul 1

51.	Tehnician mecanic/tehniciană mecanică în industria alimentară	2
52.	Tehnician/tehniciană alimentație publică	1
53.	Tehnician/tehniciană electromecanic	2
54.	Tehnician/tehniciană în industria confecțiilor	1
55.	Tehnician/tehniciană în prelucrarea lemnului și fabricarea produselor din lemn	2
56.	Tehnician/tehniciană mecatronică	4
57.	Tehnician/tehniciană mentenanță mecanică a echipamentelor industriale	6
58.	Tehnician/tehniciană rețele de telecomunicații	2
59.	Tehnologia prelucrării materialelor	3
60.	Tehnologia produselor alimentare	1
61.	Tehnologii și rețele de telecomunicații	1
62.	Tipograf/tipografă print digital și offset	6
63.	Tractorist/tractoristă	4
64.	Tractorist-mașinist în producția agricolă	15
65.	Turism	4
66.	Utilaj tehnologic industrial și accesorii	5
67.	Vânzător-consultant/vânzătoare-consultantă	3
68.	Viticultor-vinificator/viticultrice-vinificatoare	4

Prezenta lucrare este focalizată pe măsurile implementate și rezultatele obținute urmare a accelerării implementării învățământului dual. În opinia noastră rezultate obținute sunt cu impact sporit în domeniu și prezintă un model de bune practici în implementarea politicilor din domeniu educațional și nu numai.

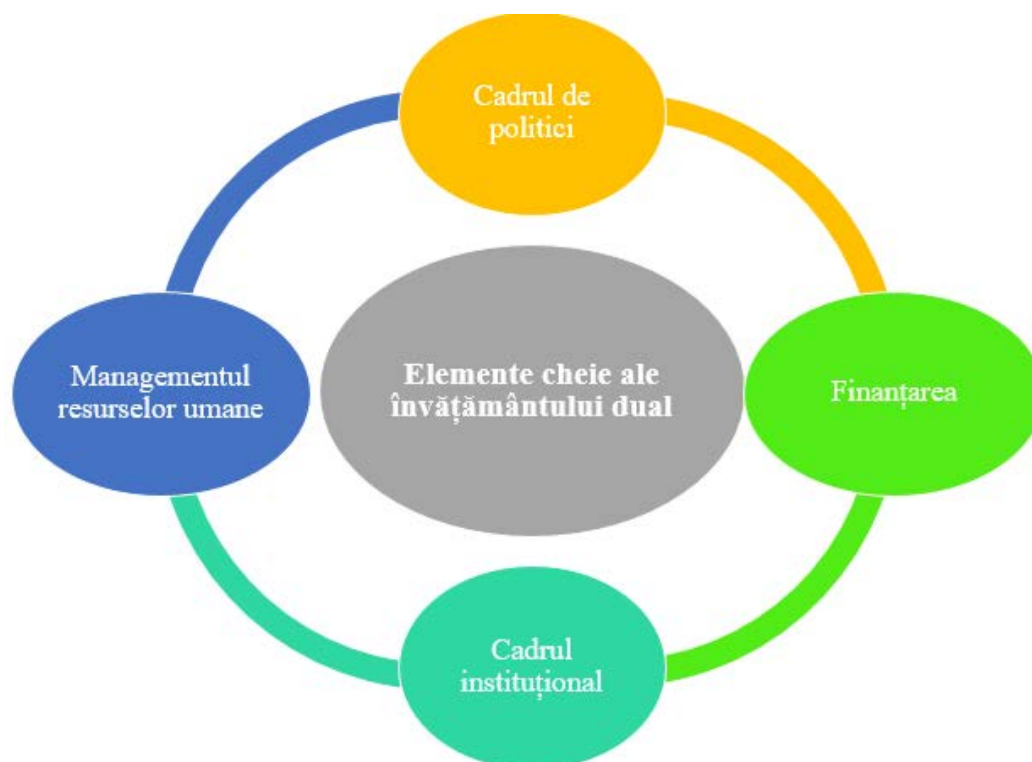


Figura 1. Elemente cheie ale învățământului dual.

Sursa: elaborat de autor

Din perspectiva analizei impactului accelerării implementării învățământului dual este important să înțelegem structura sistemului de formare profesională duală. Considerăm că doar în cadrul unui sistem funcțional pot fi obținute rezultate în acord cu obiectivele stabilite. Din perspectiva structurii unui sistem educațional, în literatura de specialitate [3-6] distingem patru elemente esențiale, care schematic pot fi reprezentate conform figurii 1:

În acest sens:

- Cadrul de politici reprezintă totalitatea actelor normative care reglementează învățământul dual.
- Finanțarea reprezintă mijloacele financiare care sunt puse la dispoziția sistemului pentru întreținerea, dezvoltarea și asigurarea sustenabilității învățământului dual.
- Cadrul instituțional vizează totalitatea instituțiilor implicate în procesul de organizare și desfășurare a învățământului dual.
- Managementul resurselor umane include totalitatea proceselor din învățământul dual ce vizează recrutarea elevilor, maiștrilor-instruciori, instruirea și dezvoltarea acestora, motivarea și recompensarea elevilor din învățământul dual, precum și asigurarea condițiilor corespunzătoare de formare în cadrul unităților economice.

Elementele cheie (figura 1) care definesc învățământul dual conțin reglementări detaliate și comprehensive după cum urmează (tabelul 2):

Tabelul 2

Descrierea elementelor cheie ale învățământului dual

Elementele cheie	Descrierea elementelor cheie
Cadrul de politici	▪ Legea nr. 110/2022 cu privire la învățământului dual [2]. ▪ Hotărârea Guvernului nr. 97/2023 [7]. ▪ Acte normative aprobate prin Ordinul Ministrului Educației și Cercetării [8-9].
Finanțarea	▪ Se realizează din contul alocațiilor prevăzute în Legea bugetului de stat. ▪ Finanțarea per elev a instituțiilor de învățământ profesional tehnic [10]. ▪ Cheltuielile unităților economice efectuate pentru învățământul dual sunt deductibile din punct de vedere fiscal [11]. ▪ Compensarea costurilor unităților economice pentru realizarea învățământului dual [7].
Cadrul instituțional	▪ Ministerul Educației și Cercetării. ▪ Ministerul Dezvoltării Economice și Digitalizării. ▪ Camera de Comerț și Industrie. ▪ Unități economice care întrunesc criteriile de conformitate [7,12]. ▪ Instituții de învățământ profesional tehnic.
Managementul resurselor umane	▪ Unitățile economice au posibilitatea de a selecta elevi motivați pentru a participa la învățământul dual [9]. ▪ Reprezentatul unității economice (maistru-instructor) deține competențe profesionale corespunzătoare domeniului și psihopedagogice. ▪ Program de formare psihopedagogică a maiștrilor-instruciori ai unităților economice (20 credite) [13].

Rezultatele expuse în prezenta lucrare vin să scoată în evidență (1) rezultatele obținute, în special în anul 2024, urmare a accelerării implementării învățământului dual, (2)

scoată în evidență impactul asupra învățământului dual prin prisma celor 4 elemente cheie; (3) bunele practici implementate în vederea dezvoltării învățământului dual.

2. Materiale utilizate și metode aplicate

În lucrare este analizat cadrul normativ în domeniu [1,2, 7-13], publicații care se referă la guvernanta sistemelor de educație [3-6], precum și publicații științifice naționale [14-16] și internaționale naționale [17-21] care abordează învățământul dual.

Accelerarea învățământului dual a vizat (1) campanii de informare a unităților economice din perspectiva atragerii lor în învățământul dual; (2) măsuri active de informare a elevilor din perspectiva participării acestora la concursul de admitere în învățământul dual; (3) campanie de informare a opiniei publice prin prima mijloacelor de informare în masă; (4) modificări ale prevederilor cadrului normativ din domeniu; (5) alte măsuri focusate pe atragerea a cât mai mulți absolvenți de gimnaziu, liceu și școli profesionale.

3. Rezultate și discuții

În contextul concluziilor Consiliului European din 23-24 iunie 2022 [22, pct. 11] prin care Consiliul European a decis să acorde statutul de țară candidată Republicii Moldova, racordarea legislației naționale la legislația Uniunii Europene a devenit un obiectiv strategic.

În acest sens este de menționat că Comisia Europeană a îndemnat constant statele membre să adopte învățământul profesional tehnic dual ca strategie pentru a aborda șomajul în rândul tinerilor și a îmbunătăți capacitatea de angajare a tinerilor. Comunicatul de la Bruges al Comisiei Europene din 2010 a subliniat importanța extinderii la maximum a formării la locul de muncă, inclusiv a învățământului dual [23].

Această recomandare a fost dezvoltată prin Rezoluția Parlamentului European din 14 septembrie 2017, unde Parlamentul European „recunoaște valoarea sistemelor de învățământ dual, însă subliniază că un sistem utilizat într-un stat membru nu poate fi copiat orbește într-un alt stat membru și se încurajează schimbul de modele de bune practici la care să participe și partenerii sociali” [24].

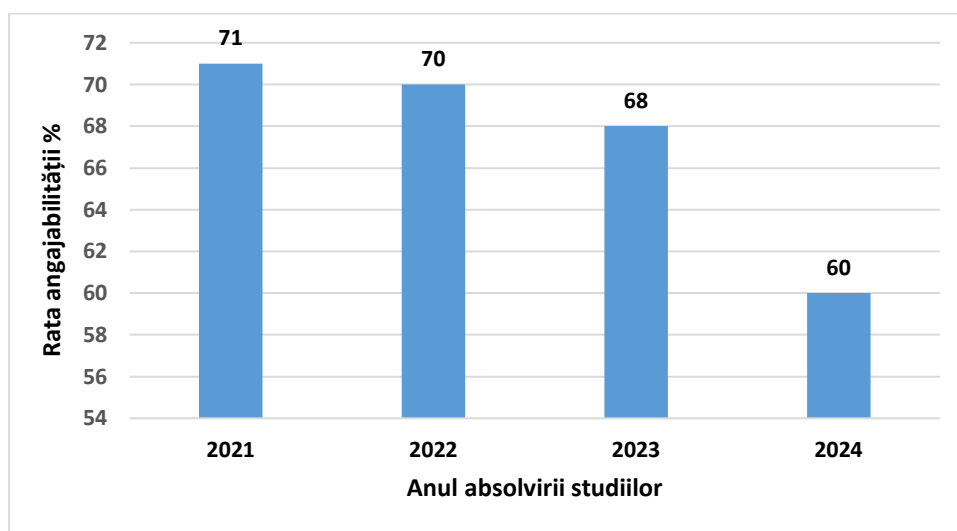


Figura 2. Rata de angajarea în câmpul muncii a absolvenților din învățământul dual la 6 luni după absolvirea studiilor.

Sursa: elaborat de autor în baza rapoartelor anuale de activitate ale MEC [25].

Ca urmare a implementării învățământului dual se constată [25] că circa 60-70% din absolvenții învățământului dual se angajează în câmpul muncii în termen de până la 6 luni

de la absolvirea studiilor. Este de menționat că această rată de angajare a absolvenților învățământului profesional tehnic per general nu depășește 35-40% [25]. Din această perspectivă învățământul dual asigură o relevanță sporită a învățământului profesional tehnic.

Având în vedere importanța învățământului dual este esențial a scoate în evidență rezultatele obținute ca urmare accelerării învățământului dual.

Managementul resurselor umane în învățământul dual.

În acord cu prevederile cadrului normativ [2,7,12,13] maiștri-instructori ai unităților economice reprezintă resursa umană principală care asigură dezvoltarea învățământului dual și participă nemijlocit la formarea competențelor profesionale ale elevilor din învățământul dual.

În contextul, maestrul instructor are rolul de a asigura crearea unei legături strânse între teorie și practică, ceea ce asigură o pregătire eficientă a elevului din învățământul dual, or potrivit [2, art. 16] „maistrul-instructor al unității ghidează elevul în procesul de formare profesională în cadrul unității”.

Din perspectiva realizării atribuțiilor sale, „maistrul instructor al unități este obligat să dețină cel puțin 20 de credite de studii de formare psihopedagogică” [2, art. 16]. În vederea formării psihopedagogice a maiștrilor instructori, de către Camera de Comerț și Industrie, sunt organizate la solicitarea unităților economice programe de formare profesională [13]. În cadrul programului formare psihopedagogică a maiștrilor-instructori ai unităților economice sunt abordate module precum „(1) Psihologie generală, (2) Pedagogie generală, (3) Curriculumul în învățământul dual, (4) Formarea profesională inițială la unitatea economică, (5) Proiectarea și realizarea planului de instruire practică la unitatea economică, (6) Organizarea formării profesionale a elevilor în învățământul dual, (7) Modele de realizare a lecțiilor practice, (8) Monitorizarea și evaluarea rezultatelor învățării elevilor în învățământul dual” [13].

Astfel, au fost certificați peste 300 de maiștri instructori, iar în anul 2024 circa 94 de persoane. Din punct de vedere cantitativ, în învățământul profesional tehnic [13] activează circa 625 de maiștri instructori.

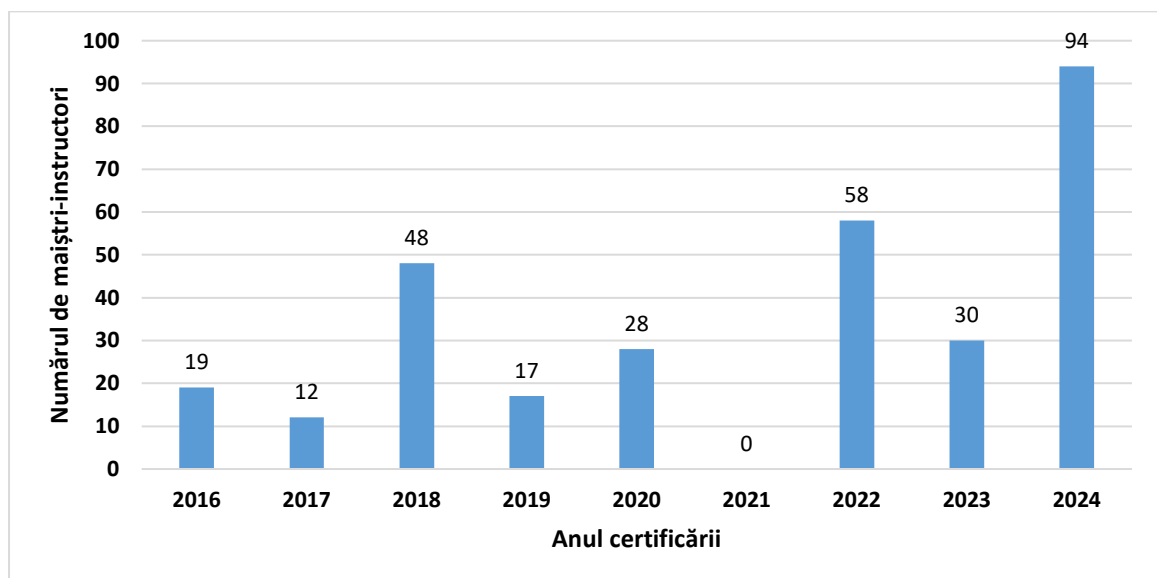


Figura 3. Numărul maiștrilor instructori care au fost formați în cadrul programului de formare psihopedagogică a maiștrilor-instructori ai unităților economice (20 credite)

Sursa: elaborat de autor în baza rapoartelor anuale de activitate ale MEC [25]

Astfel, constatăm că prin implicarea maiștrilor instructori din învățământul dual se asigură o mai bună dezvoltare a abilităților practice ale elevilor în cadrul unităților economice.

O altă dimensiunea a resurselor umane în învățământul dual o reprezintă elevii care sunt înmatriculați la studii. Din această perspectivă pentru a asigura o formare corespunzătoare a elevilor aceștia trebuie să fie motivați de a își dezvolta abilitățile practice în cadrul unității economice.

În vederea măsurării motivației elevilor care își manifestă intenția de a participa la concursul de admitere pentru învățământul dual, „la decizia unităților economice pot fi organizate și desfășurate probe de aptitudini în cadrul concursului de admitere” [9, pct. 29]. În cadrul probei respective unitatea economică, de regulă, desfășoară interviuri cu elevii pentru a înțelege disponibilitatea acestora de a învăța și exersa practice în cadrul unităților economice.

Având în vedere acțiunile de accelerare a învățământului dual, în anul 2024 s-a constatat o majorare de peste 60% a numărului de elevi înmatriculați la învățământul dual comparativ cu anul 2023. Dacă în anul 2023 au fost înmatriculați la învățământul dual circa 1011 elevi, atunci în anul 2024 au fost înmatriculați circa 1695 de elevi. [25]. Evoluția în timp a numărului de elevi în învățământul dual este după cum urmează:

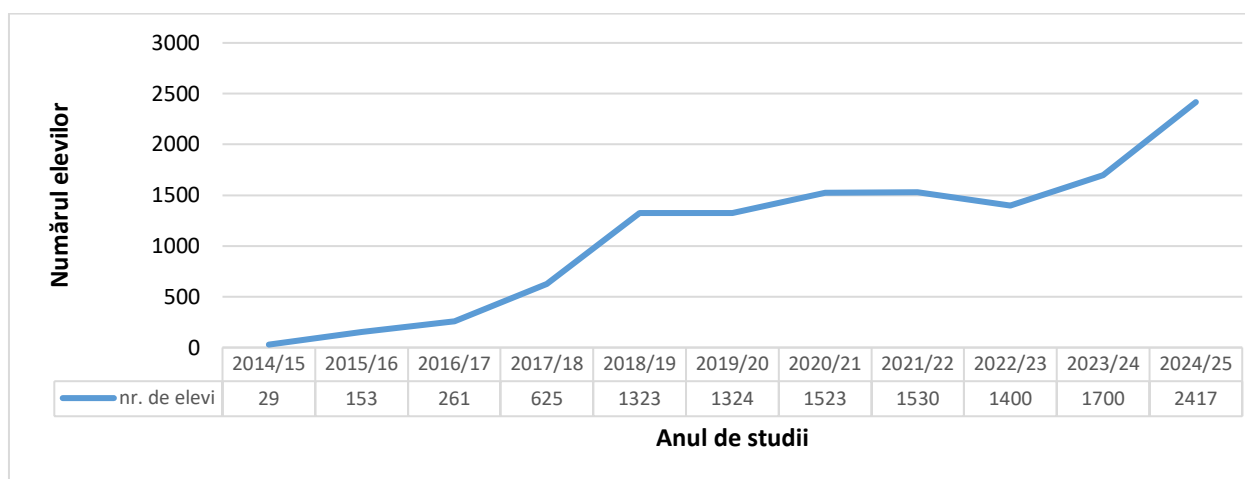


Figura 4. Evoluția numărului de elevi din învățământul dual

Sursa: elaborat de autor în baza rapoartelor anuale de activitate ale MEC [25].

Așadar creșterea numărului de elevi înmatriculați în anul 2024 a produs o creștere a numărul de elevi din învățământul dual față de anul 2023 cu circa 42%.

Cadrul instituțional

După cum se menționează și în Rezoluția Parlamentului European [24] fiecare stat membru este încurajat să își dezvolte propriile sisteme de formare profesională în învățământul dual. Așadar actele normative în domeniu [2,7] pe lângă nominalizarea autorităților și atribuțiilor acestora prevede și faptul că unitățile economice care au intenția de a se implica în învățământul dual trebuie să respecte criteriile de conformitate.

Această măsură este necesară pentru a asigura sustenabilitatea învățământului dual, deoarece în cadrul procesului de constatare a conformității, unitățile economice sunt evaluate din perspectiva respectării criteriilor de conformitate [14].

În timp s-a constatat că în procesul de evaluare a conformității unităților economice pe lângă constatarea respectării criteriilor de conformitate, reprezentanții unităților economice sunt informați despre măsurile pe care urmează să le realizeze ca urmare a asumării angajamentului de a realiza învățământul dual. Astfel unitățile economice sunt mult mai pregătite în a-și realiza atribuțiile specifice învățământului dual.

Desigur că învățământul dual este realizat de către unitatea economică în parteneriat cu instituția de învățământ. În timp, datorită implicării autorităților cu responsabilități în domeniu și cu suportul partenerilor de dezvoltare numărul de parteneriate duale a crescut. Evoluția acestora este redată în Figură 5.

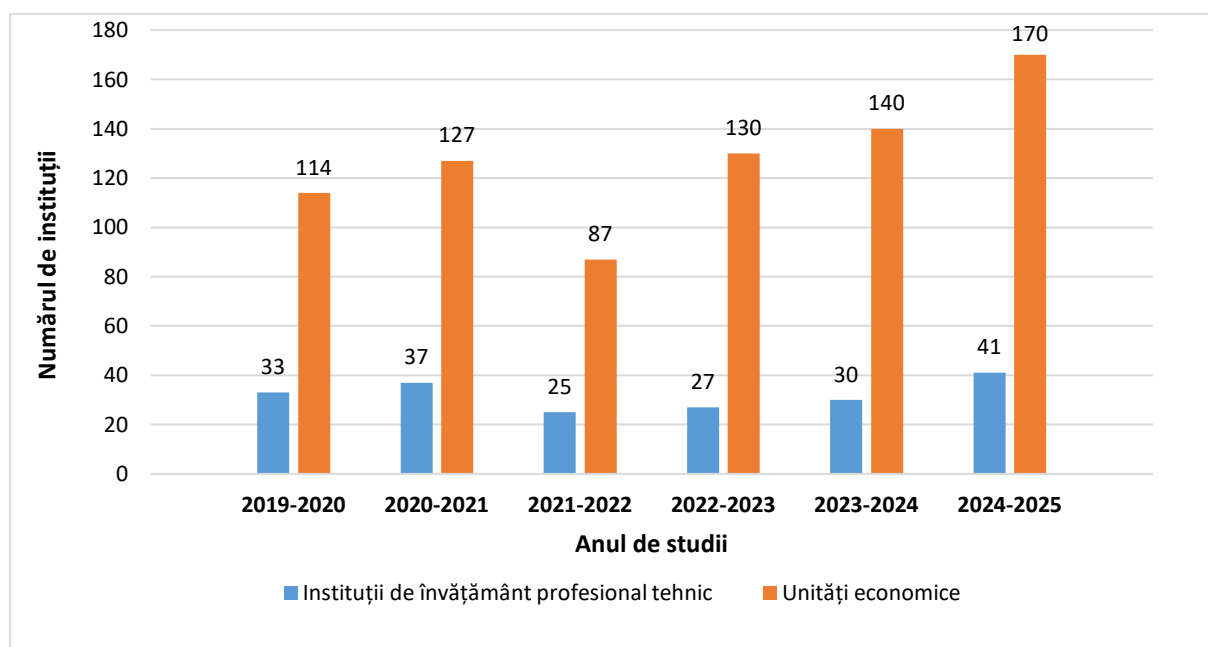


Figura 5. Evoluția parteneriatelor duale.

Sursa: elaborat de autor în baza rapoartelor anuale de activitate ale MEC [25].

Așadar în anul 2024 numărul instituțiilor de învățământ profesional tehnic comparativ cu anul precedentă precedent este în creștere cu circa 36%, iar numărul unităților economice este în creștere cu circa 21%.

Comparativ cu anii 2019-2023 se constată că în anul 2024 numărul parteneriatelor duale a crescut semnificativ comparativ cu evoluția acestora din anii precedenți.

Finanțarea

Învățământul dual nu poate să fie sustenabil dacă nu are un sistem de finanțare corespunzător. În acest sens scoatem în evidență câteva elemente pe care le considerăm importante și anume:

Elevii înmatriculați la studii prin învățământ dual în mare măsură își realizează studiile cu finanțare de la bugetul de stat. Astfel instituțiile de învățământ profesional tehnic care realizează învățământul dual sunt asigurate cu finanțare de la bugetul de stat proporțional numărului de elevi înmatriculați la programele respective.

În aceste sens, elevii din învățământul dual beneficiază de bursă de studii acordată de către instituția de învățământ profesional tehnic în acord cu cuantumul stabilit de către Guvern [26], precum și beneficiază de remunerație acordată de către unitatea economică în

mărime egală cu cuantumul salariului minim pe țară, raportat la timpul efectiv destinat activităților de muncă și de instruire practică a elevului.

Este de menționat că cadru normativ în domeniu [2,7] stabilește unităților economice un mecanism de compensare a costurilor pentru realizarea învățământului dual. În acord cu acesta, preponderent sunt compensate costurile unităților economice pentru remunerarea elevilor și salariului maiștrilor-instrucitori.

Mecanismul de compensarea [7] prevede că fiecare unitate economică, la finele anului de studii completează electronic o cerere cu atașarea documentelor confirmative, iar ulterior le sunt transferate mijloace financiare în mărime de până la 50% din cheltuielile admisibile pentru compensare. Acest mecanism este implementat din anul 2023, astfel în primul an de implementare au fost compensate circa 3,5 mln de lei pentru 26 de unități economice, iar în anul 2024 au fost compensate circa 5,37 mln lei pentru 43 de unități economice.

Din perspectiva accesării mecanismului de compensarea a costurilor unităților economice se constată că pentru anul 2023 doar 18,5 % din unități economice au beneficiat de compensarea costurilor pentru realizarea învățământului dual, iar în anul 2024 această rată a crescut până la 25,2%. Astfel se constată că peste 75 % din unitățile economice nu au manifestat interes pentru a solicita compensarea costurilor pentru realizarea învățământului dual.

Cadrul de politici

Deși, cadrul de politici pe dimensiunea învățământului dual a fost elaborat și aprobat preponderent în perioada anilor 2022-2023, în anul 2024 au fost efectuate unele ajustări ale acestora din perspectiva sporirii atractivității învățământului dual.

În acest sens menționăm despre modificarea Metodologiei de finanțare bugetară a instituțiilor de învățământ profesional tehnic [10] prin care a fost modificat coeficientul per program în învățământul profesional tehnic secundar de la 0,55 la 1,0 și în învățământul profesional tehnic postsecundar de la 0,7 la 1,0. Această modificare urmează să ofere instituțiilor de învățământ profesional tehnic o mai mare finanțare, contribuind astfel la sporirea atractivității învățământului dual.

Din perspectiva responsabilităților instituțiilor de învățământ profesional tehnic menționăm că în mare măsură acestea sunt realizate în parteneriat cu unitatea economică. În acest sens scoatem în evidență următoarele aspecte:

Tabelul 3

Analiza comparativă învățământului dual vs învățământul profesional tehnic clasic		
Criteriul	Învățământul dual	Învățământul clasic
Ponderea timpului realizării învățământului profesional tehnic secundar dual	70% la unitatea economică	30% la instituția de învățământ
Ponderea timpului realizării învățământului profesional tehnic postsecundar dual	50% la unitatea economică	50% la instituția de învățământ
Modul de organizare a instruirii	Instruire practică în atelierele, secțiile de producere ale unității	Instruire teoretică în sălile de clasă ale instituției de învățământ
Numărul de elevi în grupe	12-15 elevi	25-30 elevi

O altă măsură menită să sporească atractivitatea unităților economice de a se implica în învățământul dual a fost actualizarea Regulamentului privind modul de compensare a cheltuielilor unității în învățământul dual [7] prin care a fost ajustat mecanismul de compensare a costurilor unităților economice.

Urmare a analizei cadrului de politici, se constată că învățământul dual este reglementat la nivel de (1) acte legislative aprobate de către Parlamentul Republicii Moldova, precum Legea învățământului dual, Codul educației, Codul muncii, Codul civil, Codul fiscal; (2) acte normative aprobate de către Guvernul Republicii Moldova – care se referă preponderent la aspectele cu caracter financiar ale învățământului dual; (3) acte normative aprobate de autorități cu atribuții în domeniu pentru punerea în aplicare a modului de realizare a învățământului dual.

4. Concluzii

În mod evident formarea profesională prin învățământ dual reprezintă cea mai eficientă formă de a înzestra elevii cu competențe profesionale în acord cu necesitățile pieței muncii. Anume în cadrul învățământului dual elevul are posibilitatea de a exersa și învăța în condiții reale de muncă, creând astfel premieze suficiente pentru angajarea ulterioară a acestora în câmpul muncii.

În cadrul lucrării au fost prezentate principalele rezultate ale accelerării implementării învățământului dual: creșterea cu 60% a numărului de elevi înmatriculați în învățământul dual, majorarea cu 36% numărului de instituții de învățământ care realizează învățământul dual și cu 21% a numărului de unități economice.

Din punct de vedere sistemic s-a scos în evidență că învățământul dual este fundamentat pe un cadru de politici reglementat la toate nivelurile Parlament, Guvern, autorități publice; beneficiază de un sistem de finanțare sustenabil, având ca sursă primară bugetul de stat și bugetele unităților economice. La nivel de instituții, învățământul dual este concentrat pe parteneriatele dintre instituțiile de învățământ profesional tehnic și unitățile economice, iar la nivel central acestea sunt coordonate de către Ministerul Educației și Cercetării și de către Camera de Comerț și Industrie. Din punct de vedere al resurselor umane constatăm că elevii au acces liber la învățământul dual, iar unitățile economice pot să participe la selectarea lor. Totodată maiștri-instrucitori care nu dețin competențe psihopedagogice au posibilitatea de a și le dezvolta în cadrul unui program de formare psihopedagogică de 20 de credite.

În concluzie, remarcăm că deși învățământul dual din Republica Moldova este implementat de doar 11 ani, rezultatele înregistrate la această perioadă sunt net superioare oricăror alte modele de formare profesională care să corespundă necesităților pieței muncii.

Mulțumire. Articolul dat este elaborat ca urmare a implementării acțiunilor de accelerare a implementării învățământului dual. În vederea realizării atribuțiilor sale autoritățile implicate au beneficiat de suport din partea proiectului „Întreprinderi și Comune Puternice pentru Moldova” finanțat de Ministerul German pentru Cooperare Economică și Dezvoltare și Guvernul Elveției, implementat de Agenția de Cooperare Internațională a Germaniei; Fundației Liechtenstein Development Service; proiectului COOP-NET | Rețele de cooperare a centrelor de excelență din Moldova | Faza II, proiect finanțat și implementat cu sprijinul Biroului de Cooperare al Agenției Austriece pentru Cooperare Internațională în Educație și Cercetare.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Programul de implementare a Strategiei de dezvoltare „Educația 2030” pentru anii 2023-2025, aprobată prin Hotărârea Guvernului nr. 114/2023. În: Monitorul Oficial al Republicii Moldova, 2023 nr. 134-137 art. 289.
2. Legea nr. 110/2022 cu privire la învățământul dual. În : Monitorul Oficial al Republicii Moldova, 2022 nr. 151-157 art. 273.
3. European Commission: Directorate-General for Education, Youth, Sport and Culture, Education and training, Disponibil online: <https://data.europa.eu/doi/10.2766/01478> (accesat la 24.12.2024).
4. OECD Reviews of Evaluation and Assessment in Education: Bulgaria 2022, Disponibil online: <https://doi.org/10.1787/57f2fb43-en> (accesat la 30.12.2024).
5. OECD Reviews of Evaluation and Assessment in Education Romania 2017, <https://doi.org/10.1787/9789264274051-en> (accesat la 30.12.2024).
6. OECD Reviews of Evaluation and Assessment in Education: Serbia 2020, Disponibil online: <https://doi.org/10.1787/225350d9-en> (accesat la 30.12.2024).
7. Hotărârea Guvernului nr. 97/2023 pentru punerea în aplicare a prevederilor Legii nr. 110/2022 cu privire la învățământul dual. În: Monitorul Oficial al Republicii Moldova, 2023 nr. 79-81 art. 151.
8. Planul-cadru pentru învățământul profesional tehnic, aprobat prin Ordinul Ministrului Educației și Cercetării nr. 1003/2024, Disponibil online: https://mecc.gov.md/sites/default/files/planul_-cadru_0.pdf (accesat la 24.12.2024).
9. Regulamentul de organizare și desfășurare a admiterii la programele de formare profesională tehnică, aprobat prin Ordinul Ministrului Educației și Cercetării nr. 648/2022, cu modificările ulterioare, Disponibil online: https://mecc.gov.md/sites/default/files/regulament_de_admitere_actualizat_2_0.pdf (accesat la 24.12.2024).
10. Hotărârea Guvernului nr. 628/2023 cu privire la aprobarea Metodologiei de finanțare bugetară a instituțiilor publice de învățământ profesional tehnic. În: Monitorul Oficial al Republicii Moldova, 2023 nr. 362-363 art. 812.
11. Hotărârea Guvernului nr. 693/2018 cu privire la determinarea obligațiilor fiscale aferente impozitului pe venit, În: Monitorul Oficial al Republicii Moldova, 2018 nr. 295-308 art. 834.
12. Metodologia de verificare a conformității unității, aprobată prin Decizia Biroului Executiv al Camerei de Comerț și Industrie nr. 8/2 din 30 martie 2023. Disponibil online: <https://chamber.md/wp-content/uploads/2023/04/Metodologia-de-verificare-a-conformit%C4%83%C8%9Bii-unit%C4%83%C8%9Bii.pdf> (accesat la 24.12.2024).
13. Curriculum de formare profesională continuă a programului de formare psihopedagogică a maiștrilor-instructori, 2022; Disponibil online: <https://chamber.md/wp-content/uploads/2023/01/CURRICUL.pdf> (accesat la 24.12.2024).
14. Gîncu, S. The role of cooperation agreement in dual education. *Journal of Social Sciences* 2023, 6 (2), pp. 80-88. [https://doi.org/10.52326/jss.utm.2023.6\(2\).07](https://doi.org/10.52326/jss.utm.2023.6(2).07)
15. Gîncu S.; Moldovanu R. Implementation of dual vocational educational and training (VET) în Republic of Moldova. *Univers pedagogic* 2019, 3(63), pp. 34-44.
16. Gremalschi, A.; Gîncu, S. Dezvoltarea curriculară în învățământul dual. In: *Materialele Conferinței științifice internaționale, Curriculumul școlar: provocări și oportunități de dezvoltare*, 7-8 decembrie 2018, Chișinău, Republica Moldova, 2018, pp. 604 – 608.
17. Fürstenau, B.; Pilz, M.; Gonon, P. The dual system of vocational education and training in Germany. What can be learnt about education for (other) professions. Disponibil online: https://link.springer.com/chapter/10.1007/978-94-017-8902-8_16 (accesat la 26.11.2024).
18. Gessler, M. Educational transfer as transformation: A case study about the emergence and implementation of dual apprenticeship structures in a German automotive transplant in the United States. *Vocations and Learning* 2017, 10(1), pp. 71–99.
19. Jansen, A.; Pineda-Herrero, P. Dual apprenticeship in Spain–Catalonia: The firms’ perspective. *Vocations and Learning* 2019, 12(1), pp. 129–154.
20. Neyt, B.; Verhaest, D.; Baert, S. The impact of dual apprenticeship programmes on early labour market outcomes: A dynamic approach. *Economics of Education Review* 2020, 78, 102022.
21. Protsch, P.; Solga, H. The social stratification of the German VET system. *Journal of Education and Work* 2016, 29(6), pp. 637–661.

22. Concluziile Consiliului European din 23-24 iunie 2022, Disponibil online: <https://www.consilium.europa.eu/media/57467/2022-06-2324-euco-conclusions-ro.pdf> (accesat la 26.11.2024).
23. Comunicatul de la Bruges privind o cooperare europeană consolidată în domeniul educației și formării profesionale pentru perioada 2011-2020, Disponibil online: <https://eur-lex.europa.eu/RO/legal-content/summary/priorities-for-vocational-education-and-training-2011-2020.html> (accesat la 27.12.2024).
24. Rezoluția Parlamentului European din 14 septembrie 2017 referitoare la Noua agendă pentru competențe în Europa (2017/2002(INI)), Disponibil online: <https://eur-lex.europa.eu/legal-content/RO/TXT/PDF/?uri=CELEX:52017IP0360&from=SV> (accesat la 27.12.2024).
25. Rapoartele anuale de activitate ale Ministerului Educației și Cercetării (2020-2024). Disponibil online: <https://mecc.gov.md/ro/content/planuri-si-rapoarte-de-activitate> (accesat la 04.01.2025).
26. Hotărârea Guvernului nr. 1009/2006 cu privire la cuantumurile burselor, soldele lunare altor forme de ajutoare sociale pentru studenții din instituțiile de învățământ superior, elevii din instituțiile de învățământ profesional tehnic postsecundar și postsecundar nonterțiar, profesional tehnic secundar și persoanele care studiază în învățământul postuniversitar În: Monitorul Oficial al Republicii Moldova, 2006 nr. 142-145 art. 1092.

Citation: Gîncu, S; Movileanu E. The impact of the accelerating the implementation of dual education. *Journal of Social Sciences* 2025, 8 (2), pp. 57-69. [https://doi.org/10.52326/jss.utm.2025.8\(2\).05](https://doi.org/10.52326/jss.utm.2025.8(2).05).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).06](https://doi.org/10.52326/jss.utm.2025.8(2).06)
UDC 365:332.8(669)



SECURITY FACTORS AND HOUSING NEEDS MANAGEMENT IN DEVELOPING COMMUNITIES IN OYO STATE, NIGERIA

Musediq Olufemi Lawal ^{1*}, ORCID: 0000-0002-3667-2533,
Ridwan Olabisi Yusuff ², ORCID: 0009-0008-9777-9052,
Obasanjo Solomon Balogun ², ORCID: 0009-0006-2130-3539,
Habib Abdulrauf Salihu ², ORCID: 0000-0002-6049-5143,
Monsurat Isiaka ², ORCID: 0000-0003-1250-222X

¹ Osun State University, Osogbo, 210001, Nigeria

² University of Ilorin, 240003, Nigeria

* Corresponding Author: Musediq Olufemi Lawal, musediq.lawal@uniosun.edu.ng

Received: 03. 10. 2025

Accepted: 05. 04. 2025

Abstract. This study explores Nigeria's housing trends, focusing on individuals' shelter needs and management. This study finds it interesting that despite widespread insecurity, people were residing in partially constructed buildings in relatively new neighborhoods. This therefore reflects poverty and inadequacies in housing policy, as it falls below the World Health Organization's standard for healthful living. This study therefore interrogates the life among these people and the emerging challenges being experienced in the areas. Security and associated matters as well as respondents' coping mechanisms were explored. The study utilized a mixed-methods approach, incorporating quantitative surveys and qualitative interviews, and based its arguments on Berger and Luckmann's theory of the Social Construction of Reality. The study revealed that inflation and rising house rents led respondents to opt for partially completed houses due to economic insolvency. In anticipation of security challenges, they moved in without valuable property to curb such trends and kept a low social profile to prevent undue attention to the bad elements. The commonly identified challenges experienced included health matters, the absence of potable water, and occasional fear of the antics of the men of the underworld. This position informs the recommendations for healthy and sustainable development in this work.

Keywords: *security, poverty, policy failure, housing need, developing communities.*

Rezumat. Acest studiu explorează tendințele în gestionarea locului de trai din Nigeria, concentrându-se pe nevoile și gestionarea locuințelor individuale. Studiul consideră interesant faptul că, în ciuda insecurității larg răspândite, oamenii locuiau în clădiri parțial construite în cartiere relativ noi. Prin urmare, acest lucru reflectă sărăcia și insuficiențele politicii locuințelor, deoarece se situează sub standardul Organizației Mondiale a Sănătății pentru un trai sănătos. Studiul interoghează viața în rândul acestor oameni și provocările emergente cu care se confruntă aceste zone. Au fost explorate securitatea și aspectele

conexe, precum și mecanismele de adaptare ale respondenților. Studiul a utilizat o abordare cu metode mixte, încorporând sondaje cantitative și interviuri calitative și și-a bazat argumentele pe teoria lui Berger și Luckmann despre Construcția Socială a Realității. Studiul a arătat că inflația și creșterea chiriilor i-au determinat pe respondenți să opteze pentru case parțial construite din cauza insolvenței economice. Anticipând provocările de securitate, aceștia s-au mutat fără proprietăți valoroase pentru a reduce astfel de tendințe și au menținut un profil social scăzut pentru a preveni o atenție excesivă acordată elementelor negative. Printre provocările identificate în mod obișnuit s-au numărat problemele de sănătate, absența apei potabile și teama ocazională de jocul oamenilor din lumea interlopă. Această poziție stă la baza recomandărilor pentru o dezvoltare sănătoasă și durabilă din această lucrare.

Cuvinte cheie: *securitate, sărăcie, eșecul politicilor, nevoie de locuințe, comunități în curs de dezvoltare.*

1. Introduction

Over the years, a renewed commitment to reducing poverty has been the core objective of international development discussions and policies, yet significant progress toward this end has been lacking [1]. Africa boasts an abundance of natural resources, but it struggles with slow growth and underdevelopment. Africa remains the world's poorest continent despite possessing more resources, including material and people advantages. In both relative and absolute terms, poverty is considered severe when an individual is unable to meet their basic needs or fundamental human necessities. This includes clothing, food, and meeting social and economic obligations. Being without access to gainful employment, lacking essential skills, resources, and self-assurance; limited access to economic and social infrastructure, and a decent place to reside equally fall within this [2]. The intricate nature of poverty on the continent reveals the underlying barriers to lasting development. This thus perpetuates cycles of hardship and limits opportunities for social and economic advancement throughout. This is also a reflection of African sociocultural housing trends.

Shelter is crucial to the survival of the human species, which is why it regularly attracts scholarly discussion. Its accessibility is essential for both physical and mental health as well as for overall social and economic stability. International human rights law recognizes this as a universal entitlement to a satisfactory standard of living, encompassing access to suitable housing. To this end, adequate housing was recognized as part of the right to an adequate standard of living in the 1948 Universal Declaration of Human Rights and the 1966 International Covenant on Economic, Social, and Cultural Rights [3]. Consequently, international human rights treaties have since recognized or referred to the right to adequate housing or some elements, such as protecting one's home and privacy [4-7]. This right to adequate housing covers measures needed to prevent homelessness, prohibit forced evictions, address discrimination, and focus on the most vulnerable and marginalized groups. All these aim at ensuring the security of tenure for all and guarantee that everyone's housing is adequate [8,9]. Despite the necessity of housing as enumerated above, a substantial proportion of the world's population particularly in Sub-Saharan Africa lacks shelter and sanitation and, in many cases, a shortage of substantial residences leads people to take refuge in partially constructed buildings that often lack basic amenities.

The composition of the household determines housing needs [10]. Families' life cycles change housing needs rapidly, with early years requiring increased space and increased sensitivity to the physical and social environment of their dwelling [11]. In developing

countries, rapid urbanization is being experienced as a result of decades of rapid economic growth and industrialization [12]. Nigeria for example is plagued by housing issues in both rural and urban locations [13]. As a result, governments in these countries have provided or facilitated various types of houses for different income groups.

In Nigeria, problems with housing in urban areas are linked to numerical inadequacies, whereas qualitative inadequacies such as location, level of quality, and house value are the case in rural locations. Scholars [14] noted that social services cannot be sufficiently connected to rural housing, making it incomplete. They also argued that transportation, water, and power are social services that must be provided along with housing. In rural dwellings, each is inadequate. Conversely, overpopulation, slum living, homelessness, and squatting are examples of urban housing issues. Although housing projects are in place in several of Nigeria's major towns and cities, they are insufficient to satisfy the demand. Even though the government has spent a lot of money on National Housing programmes to increase the supply of homes, the efforts have had little to no impact [15].

Decent housing remains inadequate and continues to be of insufficient quality and does not meet the demand of some parts of the population in developing nations and poor parts of developed countries [16]. In Nigeria, the situation is not different. The number of migrants in the cities daily is higher than the rate of houses being constructed [17,18]. The attendant manifestations of what is on the ground show a sharp contrast to the international standard in terms of ensuring decent livelihood among the people. This demonstrates the country's failed policies and how the government has failed to fulfill its obligations to ensure that its citizens have a good standard of living. According to Moore [8], the housing situation in Nigeria puts the existing housing stock at 23 per 1000 inhabitants. These are indications of overcrowding that are associated with the prevalence of health problems like tuberculosis, meningitis, and influenza [8,19]. Nigeria's housing deficit is over 16 million units, with a low 4% annual Gross Domestic contribution [14].

The housing crisis is worsened by the high cost of building materials and inaccessibility to urban land ownership due to increasing inflation in the country. The immediate result of this problem is homelessness on the part of the very poor and environmental health-degrading shelters for the not-too-poor [20,21]. Coping strategies of varying degrees have been employed by Nigerians in the past two decades in the course of meeting the backlog of unmet housing needs [22]. According to Ekpo [23], Nigerians are coping by living anywhere they can find shelter not necessarily a house. They live in overcrowded areas and makeshift buildings or settlements in what the government and planners call slums.

Very prevalent in this era (of economic predicament at domestic and international levels) is the practice of families moving into partially completed buildings. The practice involves laying the foundation, completing a room, roofing, and moving into a house, or completing the entire building, flooring a room, and occupying it. In some instances, houses become habitable immediately when roofing, flooring, windows, and plastering are not fully completed. The aforementioned thus demonstrates the failure of the policy and the government's breach of its obligations to the people in terms of providing a good standard of living for the populace. The emergence of structures of this nature is a common sight in developing neighbourhoods of big cities and their suburbs, such as Ibadan, Abeokuta, Osogbo, Akure, and so on. Despite the widespread of this, academic research on it remains relatively underdeveloped. Building on the previous discussion, this research focuses on the suburbs of

Ibadan, with a particular emphasis on the rapidly developing residential districts within the Akinyele Local Government of Oyo State. Alongside exploring other pressing issues to enhance the paper's overall quality, the research aims to uncover how the study's target demographic considers security issues in their daily routines.

Theoretical Framework. This study anchored its theoretical base on Berger and Luckmann's theory of the Social Construction of Reality. It is a framework adopted for addressing the security factors and housing needs management in the study area. Social reality is not concrete. The notion that events are subject to interpretation is the foundation of the Social Construction of Reality theory. It is necessary to establish a consistent foundation of communication because interpretation can vary. The most widely accepted understanding of physical reality in a society serves as the foundation for this shared foundation, which is referred to as social reality [24]. It deals with an interpretation of the physical reality and is not necessarily shared between societies. In contrast to laws arising from nature or divine will, social constructions are typically regarded as the byproducts (sometimes inadvertent or unconscious) of innumerable human choices. However, this does not typically entail strong anti-determinism. While essentialism characterizes specific phenomena in terms of transhistorical essences that are independent of conscious beings that establish the categorical structure of reality, social constructionism typically opposes essentialism. Social constructionism examines how individuals and groups shape their social reality, focusing on how they create, institutionalize, and establish traditions for social phenomena [25].

Berger and Luckmann [26] argued that all knowledge, including common sense understanding of everyday life, is produced and sustained by social interactions. People negotiate commonsense knowledge, presenting human typifications, significations, and institutions as components of objective reality, thereby arguing that reality is socially produced [27]. The main premise was that when actors interact with one another, they gradually develop mental images of each other's behavior, or typifications, which eventually become ingrained in the actors' reciprocal roles with one another. Social reality is thus referred to as socially constructed because its meaning is ingrained and institutionalized into the people and society during this process. Knowledge and people's conceptions of (and thus beliefs about) what reality "is" are incorporated into the institutional fabric and structure of society.

In line with this study, high trends of people moving into partially completed buildings in areas that have sparse presence of security outfits form a social reality that calls for social inquiry. The reality here is the current drift in the people's occupation of partially completed buildings in the face of budding security challenges; the perceived benefits of such action, are manifestations of societal institutionalization. It implies that society appreciates the need for personal housing and the associated benefits therein specifically in the face of unstable adjustment in house rents. As a result, people are becoming stuck by the practice of occupying partially complemented buildings hence the increase in the trends. The accompanied sense of self-esteem and self-actualization among those who have engaged in this practice earlier on must have justified the practice. This is an indication of what Berger and Luckmann had in mind with their assertion that the stereotyped reciprocal interactions become institutionalized when reciprocal roles become routine.

2. Materials and Methods

As noted above, the occupiers of partially completed buildings are the study population in this work, while the locations of the buildings are classified as developing

neighborhoods. These neighbourhood included Mele-Coker, Olorisaoko, Iroko, and Ijaye Orile, Ajibade, Ijaye Ojutaye communities in Akinyele Local Government, Oyo State, Nigeria. Three research instruments adopted for this work are a Questionnaire, an In-depth interview, and an observation method. The first two instruments were employed for eliciting information from the target population, while the third was employed by researchers to record events on the field. The first step involved selecting sites from the identified developing neighbourhoods for data collection. After this, the respondents were met and informed about the purpose of this study which is purely for academic advancement; their cooperation with the researchers and the field assistants during data gathering was sought. During the exercise, questionnaires were distributed to the occupiers of the identified partially completed buildings in the above-stipulated communities within the Moniya suburb, Ibadan in Oyo State, Nigeria.

A total number of 100 respondents were selected for this study through this process (20 from *Iroko*, 22 from Olorisaoko, 18 from Mele-Coker, 16 from Ijaye Orile, 14 from Ajibade, and 10 from Ijaye Ojutaye). Two individuals from each of the six (6) identified neighbourhoods were engaged in in-depth interviews making 12 altogether (IDI). These participants were among the earlier settlers in the study sites. They had completed their houses but had previously moved into the areas when their houses were partially completed. This was supplemented by 5 Mortgage Experts/Consultants whose views were sought for the key informant interview (KII) for a better appreciation of the policy and implications of this challenge. With this, the sample size of the study amounted to 117 respondents. To reach out to the participants for the IDI, inquiry was made within the neighborhood to identify the people that met the criteria laid down for inclusion. Snowball sampling was used to select the KII participants and complemented with a telephone interview. The respondents were selected based on their willingness to partake in the study. The data obtained from the Questionnaire (quantitative) were analyzed using Statistical Package for Social Science (SPSS), while an Open code computer software package was utilized in analyzing data from In-depth interviews. The data generated from the use of the questionnaire were expressed in frequency and simple percentages and interpreted accordingly. Verbatim quotations were employed to illustrate issues being discussed in the in-depth interview.

3. Results

All the respondents in this work are male and married. The data revealed that the respondents who are within the age cohort of 30 – 50 years constituted 96% while the remaining respondents were above 50 years of age (4%). The majority of them have one wife (54%); those with two wives constituted 30% while the remaining 16% have more than two wives. The respondents with less than 3 children are 46%, those with 3–5 children are 32% and those with more than 5 children are 22%. The monthly income of these respondents and their frequencies include: Less than N30000 (38%); between N30000 – N40000 (34%), while those with a monthly income of above N41000 constituted 28%.

Occupational status includes servants which include teachers and local government council employees (30%), Traders (34%), and Artisans (36%). Only 10% of the respondents have Primary education; those with secondary education (50%); a National Diploma/Nigeria Certificate of Education (32%) while those with a Higher National Diploma and Bachelor education formed 8%. Most of the respondents have spent less than 2 years in their houses (48%). Others have spent between 2–4 years in the area (32%) and 5–6 years (20%). The households from which the respondents were drawn consisted of Boys' Quarters, Brazilian

Quarters types (popularly referred to as face-to-face); and 3-bedroom flats. Most of these buildings were partially completed as stated earlier. Some have not been plastered, while others were plastered. Only 4 households where Key Informants were selected have completed their dwellings, the remaining houses have old corrugated iron sheets as windows. Some have empty bags of cement nailed to the window frames to protect their privacy. Others covered their window with synthetic cement Nylon sacks. Only 6 households have their doorways fixed with new wood structures, others utilized rough woods commonly gotten from sawmills as their door.

4. Discussion

4.1 Emerging Facts in Realizing Housing Needs

The facts discussed here include the rationale behind the decision to move into partially completed buildings; common problems and challenges being confronted after such movement; crime and security problems as well as the fear of crime and the determining factors. Inflation (26%), a hike in house rents (30%), and inflation and a hike in house rents (44%) were listed as factors that prompted the people to pack into their partially completed buildings. All the Key Informants agreed that economic instability in Nigeria accounted for the decision of the people to pack into their partially completed buildings. Contributing further to this, one of the Key informants recounted his experience on why the practice is becoming rampant. According to him, “the idea has become a recurring phenomenon since the time of structural adjustment programme in Nigeria. The existence of cooperative societies in every organization has now made things easier, this is because these cooperative societies often provide initial capital for the people planning to own a house of their own. During our own time, it is not easy at all. There was somebody who resorted to using planks to construct his building when his landlord was pestering him for an increase in house rent and he could not afford the cement and service of the bricklayer. Incessant increase of building materials and cement surely make a significant contribution to the number of people taking the risk of moving into the partly completed house that is located in the dense bush” (IDI, Ijaye Orile, Ibadan/50 years old).

Common problems noted by the respondents as affecting them in their new areas include lack of basic utilities such as inaccessibility to health facilities (52%), lack of electricity (12%), and lack of pipe-borne water (31%). Another Informant stressed common problems and noted the risk of snake bites, attacks from mosquitoes, and widespread malaria fever. His idea of basic utilities revealed thus, at the time when we moved to this area in the late 80s, some people felt I was mad; my friends complained bitterly that I was subjecting my family to unnecessary hardship. However, what I cherished was the peaceful nature of this area. To make matters worse at that time, the situation in terms of utilities like pipe-borne water was precarious, though electricity was better than what was obtained presently. Pipe-borne water seems more of a luxury than a necessity in this part of the state. Relief in terms of water supply came only from well water dug by some Landlords and reliance on water from nearby streams. In present circumstances, though precarious, electricity is being supplemented by those who can afford electric generating machines. In terms of security, we hardly notice any because of community consciousness of strange faces” (IDI, Iroko community/45 years old). Another respondent submitted that “it was fun living here in the 80s and 90s, however, we are now having an influx of people coming to build their structures

here. Electricity then was perfect, but very erratic now; however, the almost zero crime level is something we are still enjoying till today” (Female IDI, Ijaye Ojutaye/65 years old).

4.2 Crime and Security Management Strategies

The entire respondents affirmed that they do entertain fear of possible attack by the criminals but have no alternative; 20% of them maintained that the only option left for them was to pack into their partly completed buildings. The remaining respondents revealed further that the strategies adopted by them to weather the situation include moving into the apartment without their valuable properties (22%); regular clearing of bushes around them to prevent possible hideouts (18%); moderation in whatever social activities they are engaging in to prevent undue attention from possible intruders (21%), and resolve to get themselves involved in neighbourhood activities that pertain to maintenance of security over lives and properties (19%). In the words of a Key Informant, “the existence of Landlord Association is a big relief for everybody in developing areas when it comes to security issues. What matters is for every Landlord whether having a completed or a partly-completed apartment to join this Association. Through the association, the issue of security becomes a combined effort, and nobody has been regretting it in terms of positive outcome” (IDI, Mele-Coker community/58 years old).

Another Informant revealed that “precautionary measures that are known to everybody moving into the partly completed building is to take active parts in Landlord Association’s activities on one part. On the other, one should not come with any valuable properties to the areas except things of necessity like cooking utensils and so on. At the time I moved into this area which was in the late 80s, I distributed all valuable properties among my friends at Moniya which is the headquarters of this local government area. The basic things we moved in with are beds, utensils, and transistor radio. We only introduced video, television and what have you when we realized that the neighborhood has grown and is no longer surrounded by bush” (IDI, Olorisaoko community/49 years old).

4.3 Fear of Crime and its Determining Factors

It was revealed that the location of an area and the socio-economic status of the residents determine the fear of residents’ vulnerability to crime. The respondents stressed that the criminally minded people are well informed about the thinking of people who decided to move into a partially completed building located within a bush as a very hopeless situation. In a situation like this, no criminal will waste his precious time on this except those kidnapping for rituals. In the words of a respondent, “nursing fear of unknown is normal in every mortal, but what experience has impacted in everybody is that a prosperous person will never live in a partially completed building not to talk of having one in the middle of a bush. It is only people who have nowhere to turn to and are no longer afraid of death who usually undertake such adventures. Because of the hardship we are facing, most of us who are taking the risk of staying in partially completed buildings in very remote areas are resting our case in the hands of God. If we did not, the shylock landlords that abound within the cities will throw us out when we find it difficult to pay our house rent and we will thereby become destitute. The embarrassment that is likely to come up in that process is often too frightening hence the need to venture into the bush. To many people they hardly distinguish between mad people are we that are taking such risks” (Male IDI, Ijaye Orile, Ibadan/50 years old).

Another informant submitted thus, “it is just like the inevitable choice between death by the fire or the deep blue sea. If we were financially solvent, we would have had the choice

of building houses in the city or Government Reservation Area but since we were not, this was the most plausible solution to the nagging problems of housing. Most of us have sold our valuables to get money for our house. Those who still have what could be classified as valuables have kept them with friends and families in the big cities before coming to this area building. There is a neighbour who lives about 5 buildings to mine on this street; when he moved into this area, he had his structure built with planks. That was how bad the situation was, but today he had replaced this with concrete blocks and cements. Except somebody told you, nobody could tell what was there before. Now, what do you think would have happened to that person if he had not made that choice? Desperately poor people like us will always see risk-taking as the last resort; though the outcome may be positive as it is now for us or maybe contrary. Still, it was a worthwhile game since there was no option left. If one is a rich person, one will always dream of Government Reservation Areas with necessary security appliances fitted to the house of his dream for full security over life and properties" (Male IDI, Iroko community/45 years old).

4.4 Policy Implications of the Findings

Interestingly, the participants in this study hardly see their resolve to live in partially completed buildings as a manifestation of poverty and policy failure. In their opinion, economic incapacitation being experienced in the country influenced their decision to move into the partly completed house where little or no supporting utilities are found. The study thus noted that the respondents were mindful of the inevitability of attacks by the men of the underworld and this has been carefully prepared for before setting out in the first instance. Strategies adopted to mitigate the problem of unforeseen circumstances despite dire needs for accommodation include a low-profile lifestyle to prevent unnecessary attention from the men of the underworld. According to the data made available by the respondents are their ideas of maximizing the little they have to make their lives comfortable and enjoyable.

While the adverse effects of economic doldrums on the citizenry remain constant in the information provided by the respondents, new ways of life were seen emerging as people strive to adjust to the prevailing situation. However, such emerging ways of life seem to fall below the standards required by the World Health Organization for individuals to have reasonable healthful living. This was made clearer through the idea of people living in a house without windows and/or doors. Children in such dwellings will be prone to health problems like colds, catarrh, pneumonia, malaria, and so on. It also revealed that the government still has lots to do to bail people out of their present problems of inadequate housing and to make the environment conducive for them through the provision of basic utilities like electricity and pipe-borne water. Since the provision of these is an indicator of the developmental status of every country, there is an urgent need for the government to act appropriately.

The foregoing thus pointed out the shortage of affordable housing for citizens. It also corroborated that the widely cited positions about housing shortages in the Global South (of which Nigeria is inclusive) are a manifestation of the failure of national housing policies, delivery systems, laws, and urban policies [28]. Lending credence to this, a key informant submitted that, "most of the housing policies are superficially perfect but not implementable. The reasons for this revolve around the fact that they were not products of adequate research on what is obtainable. Such research would have been an adequate guide during the

formulation and execution of such policies for positive outcomes and ability to meet up with vision and mission behind their creation” (KII/Male/Consultant/Mortgage Expert/Felele Rab, Ibadan).

Linking this with the literature, housing policies in Nigeria were noted as not achieving their targets due to inadequate mechanisms for the evaluation of the policy and the housing sector in general [29, 30]. In another submission, Ibimilua and Ibitoye [22], noted other constraints to the development, maintenance, and provision of housing as lack of effective planning, ineffective government programmes and policies, uncontrolled private sector participation, weak institutional framework, and weak research and development activities in the housing sector.

In the words of another Consultant, “most of the housing finance institutions are not viable. Low-income earners cannot access the requisite funding due to the inability to meet up with conditions attached. Poor economic status often made people patronize less skilled labor for the construction of houses and at times improvised to have a dwelling to lay their heads. In most cases such dwellings are always short of the standard that could bequeath sustainable livelihood” (KII/Female/Consultant/Mortgage Expert/Bodija Awolowo Road, Ibadan). Meanwhile, good and affordable housing is part of fundamental human rights, which the Government of the day is duty-bound to enforce for healthful living. Unfortunately, these are not forthcoming. Even in places where enough new housing is being created to keep up with job growth, low-income households still struggle to afford market-rate housing. The incomes of many lower-paid workers have not kept pace with rising rents. Aside from this, the burden of high housing costs continues to force many households to cut back on spending on food, health care, transportation, and other necessities, while hindering their ability to save for a rainy day (Male KII/Consultant/Mortgage Expert/Ring Road, Ibadan).

5. Conclusions

The Nigerian government has fallen short of expectations regarding the country's housing status since the acceptance of 64 "Recommendations for National Actions" at the United Nations Conference on Human Settlements (Habitat) in Vancouver, Canada in 1976 alongside other 131 nations. The six aspects of human settlement such as institutions and administration, land use, housing, infrastructure and services, and public engagement addressed by the recommendations are still in hazardous conditions. Access to affordable housing has remained a critical challenge that has not been resolved substantially.

Although numerous policies and programmes have been put in place by various administrations to address the housing crisis in Nigeria, their effective execution remains a difficulty. The lack of adequate housing to meet the demands of a population that is growing rapidly continues to be the main problem in Nigeria's housing sector on one hand. A sizable number of currently built houses on the other hand fall short of established standards thereby rendering them unsuitable for decent living. As a result of the foregoing and the inability of the current policies to meet the demands of the majority of people who were left behind in society, the numerous scenarios that are the subject of this study continue to escalate.

Such developing neighborhoods frequently turn into slums where a variety of activities that are harmful to sustainable development are prospering as they are neglected and not given the proper regulatory attention. However, this stands in contrast to the Nigerian housing policy, which acknowledges the essential nature of housing. The Policy equally recognizes that the provision of adequate housing that is safe, secure, accessible, affordable,

and sanitary is a fundamental human right (as enshrined in the United Nations Habitat agenda) but still failed to deliver. This therefore affirmed that the government is unable to develop and sustain political will for the provision of housing for Nigerians. From the viewpoint of this study, the following are the possible ways out:

- a) Nigerians are underpaid and wages are not increasing as fast as construction materials and foreign exchange costs. Governments should also implement subsidized social housing policies.
- b) Empowering the Cooperative Societies to enable them to include real estate development in their activities to make the acquisition of houses possible and easier for their members.
- c) Local production of building materials to forestall skyrocketing prices of these materials. This will make them affordable and prevent gypsy lifestyle inherent in people living in partially completed buildings.
- d) The government should be committed to its slogan of providing a house for every willing individual in the country. The issue here is that within the auspices of the inability to own a decent house in the country and in the spirit of being one's brother's keeper, there is a likelihood of more than the conventionally required number of people residing within an apartment. This will lead to greater overcrowding in houses, particularly in the cities with the attendant increases in the frequency of sicknesses and diseases and the cost of medical care. As a result of this, there is a need for the government and private stakeholders to build more houses affordable to the citizenry for decent living and sustainable development.

Conflicts of Interest: The authors declare their lack of financial ties to any organization or institution involved in the topics discussed in this article, which could potentially lead to potential issues.

References

1. Dodds, F.; Donoghue, A.D.; Roesch, J.L. *Negotiating the Sustainable Development Goals: A Transformational Agenda for an Insecure World*. Routledge, Taylor & Francis, London, England, 2017, 215 p.
2. Addae-Korankye, A. Causes of Poverty in Africa: A Review of Literature. *American International Journal of Social Science*, 2014, 3(7): pp. 147-150.
3. D'cruz, M.; Banerjee, D. 'An invisible human rights crisis': The Marginalization of Older Adults during the COVID-19 pandemic—An Advocacy Review. *Psychiatry Research* 2020, 292, 113369.
4. Donnelly, J.; Whelan, D.J. *International Human Rights*. Routledge, New York, USA, 2020, 392 p.
5. Leiiten, I.; de Bel, K. Facing Financialization in the Housing Sector: A Human Right to Adequate Housing for All. *Netherlands Quarterly of Human Rights*, 2020. 38(2): pp. 94-114.
6. Wijnburg, G.; Aalbers, M.B.; Heeg, S. The Financialisation of Rental Housing 2.0: Releasing Housing into the Privatised Mainstream of Capital Accumulation. *Antipode* 2018, 50(4), pp. 1098-1119.
7. Latonero, M. Governing Artificial Intelligence: Upholding human rights & dignity. *Data & Society* 2018, 38.
8. Moore, E.A. Addressing Housing Deficit in Nigeria: Issues, Challenges and Prospects. *Central Bank of Nigeria Economic and Financial Review* 2019, 57(4), pp. 201-217.
9. Bah, E.H.M.; Faye, I.; Geh, Z.F. *Housing Market Dynamics in Africa*. Palgrave/Springer Nature, London, England, 2018, 272 p.
10. Hareven, T.K. The Life Course and Aging in Historical Perspective. In: *Life Course*, Routledge, New York, USA, 2019, pp. 9-25.
11. Engemann, K.; Pedersen, C.B.; Arge, L.; Tsirogiannis, C.; Mortensen, P.B.; Svenning, J.C. Residential Green Space in Childhood is associated with a Lower Risk of Psychiatric Disorders from Adolescence into Adulthood. *Proceedings of the National Academy of Sciences* 2019, 116(11), pp. 5188-5193.
12. Kuznets, S. Economic Growth and Income Inequality. In: *The Gap between Rich and Poor*, Seligson, M.A. (Ed.) Routledge, New York, USA, 2019, pp. 25-37.

13. Van Noorloos, F.; Kloosterboer, M. Africa's new cities: The contested future of urbanisation. *Urban Studies* 2018, 55(6), pp. 1223-1241.
14. Abubakar, I.; DalGLISH, S.L.; Angell, B.; Sanuade, O.; Abimbola, S.; Adamu, A.L.; Adetifa, I.M.; Colbourn, T.; Ogunlesi, A.O.; Onwujekwe, O.; Owoaje, E.T. The Lancet Nigeria Commission: Investing in Health and the Future of the Nation. *The Lancet* 2022, 399(10330), pp. 1155-1200.
15. Saidu, A.I.; Yeom, C. Success Criteria Evaluation for a Sustainable and Affordable Housing Model: A Case for Improving Household Welfare in Nigeria Cities. *Sustainability* 2020, 12(2), 656.
16. Adabre, M.A.; Chan, A.P. Critical Success Factors (CSFs) for Sustainable Affordable Housing. *Building and Environment* 2019, 156, pp. 203-214.
17. Wolpe, H. *Urban Politics in Nigeria: A Study of Port Harcourt*. University of California Press, Berkeley, USA, 2022, 328 p.
18. Streule, M.; Karaman, O.; Sawyer, L.; Schmid, C. Popular urbanization: Conceptualizing urbanization processes beyond informality. *International Journal of Urban and Regional Research*, 2020, 44(4): pp. 652-672.
19. Swope, C.B.; Hernández, D. Housing as a Determinant of Health Equity: A Conceptual Model. *Social Science & Medicine*, 2019, 243: p. 112571.
20. Raimi, M.O.; Odubo, T.V.; Omidiji, A.O. Creating the Healthiest Nation: Climate Change and Environmental Health Impacts in Nigeria: A Narrative Review. *Scholink Sustainability in Environment* 2021, 6, pp. 61-122.
21. Wirth, T.; Mente, J.; Prill, J.; Harth, V.; Nienhaus, A. Working conditions, mental health and coping of staff in Social Work with Refugees and Homeless Individuals: A scoping review. *Health & Social care in the Community* 2019, 27(4), pp. e257-e269.
22. Ibimilua, A.F.; Ibitoye, O.A. Housing Policy in Nigeria: An Overview. *American International Journal of Contemporary Research* 2015, 5(2): pp. 1-7.
23. Ekpo, A. Housing Deficit in Nigeria: Issues, Challenges and Prospects. *Central Bank of Nigeria Economic and Financial Review* 2019, 57(4), pp. 177-187.
24. McLeod, J.M.; Chaffee, S.R. The Construction of Social Reality. In: *The Social Influence Processes*, Routledge, New York, USA, 2017, pp. 50-99.
25. Ingram, H.; Schneider, A.L.; DeLeon, P. Social construction and policy design. In: *Theories of the Policy Process, Second Edition*. Routledge, New York, USA, 2019, pp. 93-126.
26. Berger, P.; Luckmann, T. The Social Construction of Reality. In: *Social Theory Re-wired*. Routledge, New York, USA. 2016, pp. 110-122.
27. Hall, S. Deviance, Politics, and the Media. In *Deviance and Social Control*. Routledge, London, England, 2018, pp. 261-306.
28. Abubakar, I.R.; Aina, Y.A. The prospects and challenges of developing more inclusive, safe, resilient and sustainable cities in Nigeria. *Land Use Policy* 2019, 87, 104105.
29. Odoyi, E.J.; Riekkinen, K. Housing Policy: An Analysis of Public Housing Policy Strategies for Low-Income Earners in Nigeria. *Sustainability* 2022, 14(4), 2258.
30. Oni-Jimoh, T.; Liyanage, C. Urbanization and Meeting the Need for Affordable Housing in Nigeria. *IntechOpen*. 2018, doi: 10.5772/intechopen.78576.

Citation: Lawal, M.O.; Yusuff, R.O.; Balogun, O.S.; Salihu, H.A.; Isiaka, M. Security Factors and Housing Needs Management in Developing Communities in Oyo State, Nigeria. *Journal of Social Sciences* 2025, 8 (2), pp. 70-80. [https://doi.org/10.52326/jss.utm.2025.8\(2\).06](https://doi.org/10.52326/jss.utm.2025.8(2).06).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).07](https://doi.org/10.52326/jss.utm.2025.8(2).07)
UDC 364:614:001.89 (669)



THE ROLE OF SOCIAL WORKERS IN FOSTERING POSITIVE PSYCHOLOGICAL OUTCOMES AMONG THE WOMEN INVOLVED IN CAESAREAN CHILDBIRTH

Salihu Zakariya Abdulbaqi *, ORCID: 0009-0001-2630-6273

University of Ilorin, 240003, Nigeria

* Corresponding Author: Salihu Zakariya Abdulbaqi, salbaq@unilorin.edu.ng

Received: 03.12.2025

Accepted: 04.26.2025

Abstract. Globally, Caesarean section (CS) is one of the most performed surgical operations in obstetrics, and the numbers are on the increase. As the number of caesarean births has risen, so too have rates of hysterectomy, blood transfusions, adhesions, and surgical damages. This study therefore explored the role of social workers in fostering positive psychological outcomes of women involved in caesarean childbirth in Ilorin metropolis. The study employed Health Belief Model to explain utilization of the caesarean services and its determinants. The population of the study comprised social workers in Ilorin metropolis. A descriptive method of survey was used for this research, and purposive sampling technique was adopted to select 160 social workers in Ilorin metropolis. A structured questionnaire was adopted to extract information from the respondents. Summary statistic such as count and percentage were used and, inferential statistics of multiple regression to test the hypotheses. The research revealed that; counselling service; childbirth education; discharge planner; and assessing/prevention of a traumatic birth are the professional measures employed by the social workers for positive psychological outcomes among the women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria. This study thus justified the significance roles of the social workers in rehabilitation processes for women involved in caesarean childbirth.

Keywords: *caesarean, childbirth, psychological outcomes, roles, social workers.*

Rezumat. La nivel global, operația cezariană este una dintre cele mai frecvente intervenții chirurgicale în obstetrică. Odată cu creșterea numărului de nașteri prin cezariană, au crescut și ratele de histerectomie, transfuzii de sânge, aderențe și leziuni chirurgicale. Prin urmare, acest studiu a explorat rolul asistenților sociali în promovarea rezultatelor psihologice pozitive ale femeilor implicate în nașteri prin cezariană în metropola Ilorin. Studiul a utilizat Modelul Convingerilor în Domeniul Sănătății pentru a explica utilizarea serviciilor de cezariană și factorii determinanți ai acestora. Populația studiului a fost formată din asistenți sociali din metropola Ilorin. Pentru această cercetare a fost utilizată o metodă descriptivă de sondaj, iar s-a adoptat o tehnică de eșantionare cu scop precis pentru a selecta 160 de asistenți sociali din metropola Ilorin. A fost adoptat un chestionar structurat pentru a extrage informații de la respondenți. Au fost utilizate statistici sumare, cum ar fi numărul și procentul,

precum și statistici inferențiale de regresie multiplă pentru a testa ipotezele. Cercetarea a relevat următoarele: serviciu de consiliere; educație la naștere; planificator de externare; și evaluarea/prevenirea unei nașteri traumatice sunt măsurile profesionale utilizate de asistenții sociali pentru rezultate psihologice pozitive în rândul femeilor implicate în nașteri prin cezariană în Metropola Ilorin, statul Kwara, Nigeria. Astfel, acest studiu a justificat rolurile semnificative ale asistenților sociali în procesele de reabilitare pentru femeile implicate în nașteri prin cezariană.

Cuvinte cheie: *cezariană, naștere, rezultate psihologice, roluri, asistenți sociali.*

1. Introduction

Problems during pregnancy and delivery continue to be a significant global public health concern [1]. The global health agenda has lately changed its focus from guaranteeing the survival of women and their infants to ensuring their flourishing and attainment of their full potential in terms of health and well-being [2]. Meanwhile, about 810 women die each day from complications related to pregnancy and childbirth [3]. Equally worthy of note is the fact that more than 211 deaths per 100000 live births, or 94% of all deaths globally occur in developing countries, according to data [4,5]. With almost 500 maternal deaths for every 100000 live births, Sub-Saharan Africa accounts for half of all maternal deaths globally [6,7]. The scholars [8,9] thus stressed the need for the timing of labour for both the women and the newborn given that complications may significantly raise the risk of morbidity and death.

Enhancing women's independence in healthcare decisions is an important step towards improving the lives of the mother and child [10]. However, in many African societies, the responsibility for seeking healthcare, including the type of care received, traditionally lies with men [11]. Meanwhile, the percentage of women with good birth preparedness and complication readiness ranged from as low as 22% to as much as 87% [12,13]. Recently in Nigeria, the rate of maternal death is about 630 per 100000 live births, revealing significant shortcomings in women's healthcare [6,14].

Caesarean section (CS), which is a procedure which involves delivering a baby through a surgical cut made on the front surface of the uterine wall remains the constant approach to solving this problem [15]. CS is becoming more common in both developed and developing nations [16]. Data from over 150 countries on CS procedure accounts for 18.6% of all births, with varying rates from 1.4 to 56.4%. Also, the Caribbean, Latin America jointly recorded 40.5%. Others are North America (32.3%), Oceania (31.1%), Europe (25%), Asia (19.2%), and Africa (7.3%) [17-19]. A recent study from about 121 countries found that by average, globally, CS rates were almost 4 times between 1990 and 2014 (6.7% to 19.1%), with an average of 4.4% annually. Significant absolute increases were seen in Latin America, and Caribbean (22.8% to 42.2%), Asia (4.4% to 19.5%), Oceania (18.5% to 32.6%), Europe (11.2% to 25%), North America (22.3% to 32.3%), and Africa (2.9% to 7.4%) [20,21]. From first-third world nations, CS adoption is on the rise. Several health authorities throughout the world have made lowering the procedure a goal, which may have contributed to its stable rate in several countries [22].

Despite its positive impact at enhancing safe delivery, healing from a C-section takes much time to recover when compared to recovering from vaginal birth, a CS surgery was noted as having risks that can persist for long time, and consequently impeding the mother, child's health, and subsequent conceptions, and delivery. It was equally revealed that infant respiratory distress, blood transfusion, anaesthetic problems, thromboembolic illness, and so

on are always exacerbated by CS procedure [23,24]. The CS delivered infants are also known to be prone to asthma and obesity on the one hand. On the other hand, uterine rupture, placenta accreta, praevia, ectopic pregnancy, infertility, hysterectomy, and intra-abdominal adhesions have been known to be the associated with the aftermath of CS procedure [25]. Substantial proportion of literature showcasing these was western world based while those from sub-Saharan Africa did not give adequate attention to Nigerian situation. This study is therefore striving to complement the existing literature with its focus on Ilorin Metropolis, Nigeria. At the same time, it is trying to examine the role of social workers in fostering Positive Psychological Outcomes among the Women involved in Caesarean Childbirth in Ilorin Metropolis, Nigeria.

Hypotheses

The study hypothesis that:

- a) Counselling service is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.
- b) Childbirth education is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.
- c) Discharge planner is not a significant responsibility of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.
- d) Assessing/prevention of a traumatic birth is not a major responsibility of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.

Framework: Health Belief Model (HBM)

The HBM was initially proposed, and revised by famous researchers [26] with the aims to elucidate health-related behaviours. The two fundamental propositions of the Health Belief Model are that individuals vary in how they perceive the personal benefits of a cure or the effectiveness of a healthcare delivery system, as well as the value they place on avoiding illness or recovering. Additionally, there are further doubts that a particular step to avert illness. The model assumes that people's beliefs and attitudes play crucial roles in determining their health-related behaviour [27]. It includes four key assumptions of perceived susceptibility, perceived severity, perceived benefits, and perceived barriers.

a) **Perceived Susceptibility.** This is seen as subjective belief on being prone to contracting an illness. On one extreme, there is the individual who completely denies any risk, while on the other, there is certainty they are in danger. Between both, there are people who acknowledges the chance of being exposed to an illness but doubt such can happen to them.

b) **Perceived Severity.** Talks about subjective belief effect of health condition. Examples of perceived severity include beliefs that an illness can cause pain, debilitation, social stigma, or death.

c) **Perceived Benefits.** The alternatives available to an individual and their confidence in the effectiveness of these alternatives influence their choice of action. Consequently, acting depends on having at least one viable course of action to prevent disease and believing that it will yield satisfactory results.

d) **Perceived Barriers.** Even if a specific course of action is believed to reduce health concerns, hesitation may arise. Barriers are created to prevent action if preparedness is low, and the unfavourable aspects of the action are perceived as significant.

Health Belief Model and Caesarean Section

The significance of Health Belief Model on the study cannot be underestimated because the study is a health-related issue. It could be deducted that HBM has two (2) basic propositions: (a) that individuals differ in the way they perceive the personal benefits or effectiveness of health behaviour or the value of avoiding illness, and (b) that specific action is significant in determining their health behaviour. Therefore, for cases of pregnant women during childbirth or delivery, there are measures towards ensuring that they give birth naturally or through surgery.

The first assumption, perceived susceptibility, refers to people's perception of the likelihood of getting a condition, such as during childbirth, and their view of their vulnerability to the associated risks. Additionally, this can be interpreted as whether she feels she is as whether she feels she is afraid of the risks involved in delivering through the vaginal and whether she has little knowledge of the risks or the consequences of not being able to give birth through the vaginal.

The second assumption, perceived seriousness, focuses on different views regarding the severity of the medical, social, or financial constraints pertaining health behaviours. This explains the differing beliefs about the seriousness of the risks associated with childbirth through Caesarean Section (CS). In most cases, this may be defined in terms of the risks (medical risks) involved in adopting health-related behaviour.

The third assumption 'perceived benefits' peoples' view on the advantages of actions taken to mitigate the severity of health condition that influences their behaviour pertaining it. This could occur in situations when an individual weighs what she could be risk whilst associating with behaviours such as the normal/safe delivery. For instance, a woman who got pregnant and visits an antenatal care centre during pregnancy will likely benefit from having a safe delivery (pregnancy outcome) if she follows strictly the advice given to her during antenatal, but the reverse is the case if there are complications during pregnancy or if she has prolonged labour.

The final assumption, perceived barriers, also centered on the effects of engaging in new health practices (such as the cost associated with a CS operation, psychological effects, etc.). A person's assessment of obstacles influences the decision on proceeding with the health practices.

2. Methodology

This study is being carried out to examine the role of social workers toward caesarean childbirth and psychological outcome in Ilorin Metropolis, Kwara State, Nigeria. The study employed a survey research design. The survey method provides a detailed description of the research situation and ensures the collection of reliable data. The population of the study includes social workers in Ilorin metropolis. The target population for this study revolved around the male and female respondents in the study area with common characteristics to which the researcher wants to generalize the findings. A total of 160 study participants were purposefully picked from hospitals equipped with caesarean section facilities. Criteria for participants' inclusion included (a) having experience or currently experiencing CS and (b) utilization of the services of social workers. A researcher-administered questionnaire was

used to sample the study participants, responses gathered, organized, coded, and then subjected to appropriate statistical analysis. The research question was addressed using descriptive statistics, including frequency counts and percentages. Multiple regression, an inferential statistical method, was employed to test the stated hypotheses using SPSS 22.

3. Results and Interpretation

Research Question. The Table below presents results on the roles of social work in caesarean childbirth and psychological outcomes. The Table revealed the responses of the study participants on caesarean childbirth and psychological outcome. The statement 'social workers offer counselling services', 36 (22.5%) of the respondents strongly agree to the statement, 70 (43.7%) also accepted, 31 (19.4%) were against, and 23 (14.4%) strongly objected. For statement 'social worker offers childbirth education', 32 (20.0%) strongly consented with the statement, 92 (57.5%) also agree, 25 (15.6%) disagree, and finally 11 (6.9%) strongly disagree with the statement. Also, the 'statement 'social worker acts as discharge planner', 35 (21.9%) strongly agree with the statement, 63 (39.4%) agree, 44 (27.5%) disagree, finally and 18 (11.3%) strongly disagree the statement. Finally, the statement 'social workers help in assessing/prevention of a traumatic birth', 34 (21.2%) strongly supported the statement, 67 (41.9%) consented, 38 (23.8%) disagree, and 21 (13.1%) strongly against to the statement.

Table 1

Role of Social Worker in Caesarean Childbirth						
S/N	Items	SA	A	D	SD	Total
1	Social workers offer counselling services	36 (22.5%)	70 (43.7%)	31 (19.4%)	23 (14.4%)	160
2	Social workers offer Childbirth education	32 (20.0%)	92 (57.5%)	25 (15.6%)	11 (6.9%)	160
3	Social workers act as discharge planner	35 (21.9%)	63 (39.4%)	44 (27.5%)	18 (11.3%)	160
4	Social workers help in assessing/prevention of a traumatic birth	34 (21.2%)	67 (41.9%)	38 (23.8%)	21 (13.1%)	160

Note: SA - strongly agree, A - agree, D – disagree; SD - strongly disagree. Source: Researcher's Fields Work (2024)

3.1 Analysis of the Hypotheses Tested

The analysis of the hypotheses tested in this study focuses on understanding the important effects of social workers' roles on caesarean childbirth and psychological endings. By assessing the regression outcomes, the study aim to evaluate how social workers' involvement influences these results. The data analysis discovers the connections between social work interventions and both childbirth and psychological well-being.

Table 2

Regression results on the significant impacts of the roles social workers toward caesarean childbirth and psychological outcome

Model	Unstandardized		Standardized	T	Significant Value
	B	Standard error	Beta		
Constant	0.042	0.054		0.771	0.000

Continuation Table 2

Counselling services	0.321	0.082	0.367	3.912	0.000
Childbirth education	0.445	0.055	0.417	8.076	0.000
Discharge planner	0.211	0.116	0.233	1.828	0.000
Assessing/prevention of a traumatic birth	0.24	0.112	0.027	0.216	0.000

Note: B represents symbol in the regression which is the beta (B); T - the t-value which measures the size of the difference relative to the variation in the sample data. Source: Researcher's Fields Work, (2024)

The Table above is used to create an equation that assesses how each independent variable impacts the statistical significance of the dependent variable.

$$CCPO = 0.042 + 0.321CS + 0.445CE + 0.211DP + 0.24APT_B, \quad (1)$$

where: CCPO - caesarean childbirth and psychological outcome; CS - counseling services; CE - childbirth education; DP - discharge planner; APTB - assessing/prevention of traumatic birth.

The linear equation above shows that counselling services, childbirth education, discharge planner, and assessing/prevention of a traumatic birth are significant roles of social workers toward caesarean childbirth and psychological outcome ($p < 0.05$).

Based on the findings, childbirth education ($\beta = 0.417$) emerges as the most significant role of social workers in influencing outcomes related to caesarean childbirth and psychological well-being. This can be interpreted as for every unit increase in childbirth education, there is a corresponding increase of 0.417 units in caesarean childbirth and psychological outcomes, with other variables held constant. Following this, counselling services ($\beta = 0.367$) represent the second most influential role of social workers, followed by discharge planners ($\beta = 0.233$). In contrast, assessing/prevention of a traumatic birth ($\beta = 0.027$) is the most insignificant role of social workers toward caesarean childbirth and psychological outcome whereby caesarean childbirth and psychological outcome only increase 0.027 units for every unit increase in assessing/prevention of a traumatic birth.

3.2 Discussion of Findings

The socio-demographic data in this study shows that 63% are married and 37% are not married. On the age category, 23% are less than 30 years. Those between 30 – 35 years of age are 58%, followed by those who are between 36-40 years (19%). Religious affiliation of the respondents reveals that 31% of them are Christians, the Muslims constituted 45% while the remaining 24% did not disclose their religion. Educational qualifications of the respondents reveal 57% Secondary school certificate holders, and 25% National Diploma/Nigeria Certificate in Education graduates. The holders of Higher National Diploma and University Degree are 7%. Substantial proportions of these respondents are from the informal economic sector. The breakdown of the respondents includes traders (47%), students (8%), civil servants (22%) and teachers (23%).

The study shows that 74% of the participants involved in CS procedure for the first time in their lifetime; 18% of them had done it twice, while the event that took the remaining 8% to the hospital at the time of this data collection was the third episode in their lifetime.

All the participants are being attended to by the Social Workers attached to their respective hospitals where the data for this study was collected. Some of the participants who have had CS for more than once opened up about their engagement of outpatient social

workers for continuity of the services after discharge from the hospital. Data collected from this study revealed that the outpatient social workers have assisted to expand on the effective discharge planning from earlier levels of care. Issues pertaining to prescribed drugs, durable medical equipment, or anticipated healthcare services were resolved with the help of the social workers. According to the participants, social workers provided counseling and education to help them and their families deal with the realities of the CS operation and its aftermath.

Complementing the foregoing, all hypotheses tested for the assessment of the role of social workers in fostering positive psychological outcomes among the women involved in caesarean childbirth in Ilorin metropolis, Nigeria. These were as indicated hereunder.

Hypothesis One

Counselling service is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.

There is sufficient evidence to conclude that Counselling service is a significant role of social workers in caesarean childbirth and psychological outcomes in Ilorin Metropolis, Kwara State, Nigeria ($p < 0.05$). This finding indicates that counselling service is a role of social workers in caesarean childbirth and psychological outcomes. The results align with Judd and Sheffield's (2010) findings, which emphasize that social workers fulfil various crucial roles.

Hypothesis Two

Childbirth education is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.

There is sufficient evidence to conclude that childbirth education is a significant role of social workers in caesarean childbirth and psychological outcomes in Ilorin Metropolis, Kwara State, Nigeria ($p < 0.05$). This finding indicates that childbirth education is a role of social workers in caesarean childbirth and psychological outcomes. Women with inadequate childbirth education are at a higher risk of undergoing Caesarean deliveries [27]. In contrast, childbirth education may offer psychological benefits to expectant women who commonly experience anxiety about childbirth. Research indicates that fear of delivery is significantly associated with Caesarean births [28].

Hypothesis Three

Discharge planner is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.

There is sufficient evidence to conclude that discharge planner is a significant role of social workers in caesarean childbirth and psychological outcomes in Ilorin Metropolis, Kwara State, Nigeria ($p < 0.05$). This finding indicates that discharge planner is the role of social workers in caesarean childbirth and psychological outcomes. The findings are consistent with assertion that the position of the medical social worker is getting more complex [29].

Hypothesis Four

Assessing/prevention of a traumatic birth is not a significant role of social workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria.

There is sufficient evidence to conclude that assessing/prevention of a traumatic birth is a significant role of social workers in caesarean childbirth and psychological outcomes in

Ilorin Metropolis, Kwara State, Nigeria ($p < 0.05$). This finding indicates that assessing/prevention of a traumatic birth is a role of social workers in fostering positive **psychological outcomes among the women involved in caesarean childbirth**. The potential long-term effects of negative childbirth experiences on both mothers and babies were explored. This has led to a heightened focus on preventing traumatic births, a responsibility that social workers are increasingly involved in.

4. Conclusion

On the basis of study, it is obvious that cesarean sections carry risks and psychological implications thereby necessitating the application of the services of social works. The study affirmed the positive roles of social workers towards fostering psychological outcomes in women involved in caesarean childbirth in the study area. It specifically spelt out the significance of counselling service, childbirth education, discharge planner, and assessment/prevention of a traumatic birth in post-CS activities.

This indicated the necessity of compassionate patient centered care in the course of alleviating stress for the patients during pre and postoperative rehabilitation technique. The findings therefore corroborated the position of a notable study which claimed that in the facets of treatment, such as case management, counseling, crisis intervention, outpatient care, and advocacy, social workers will continue to be essential.

5. Recommendations

Based on the findings of this study, the following recommendations were suggested.

- 1) Introduce a Social Work Department within the healthcare system and ensure that all hospitals are staffed with professional social workers.
- 2) Clearly define the responsibilities of social workers to improve efficiency and judicious use of resources, thereby enhancing patient care.
- 3) Educate other healthcare professionals about the role of social workers and advocate for their profession in collaboration with hospital management.
- 4) Encourage further research on the roles of social workers in relation to caesarean childbirth.

Conflicts of Interest: The author declares no conflict of interest, lack of financial ties to any organization or institution involved in the topics discussed in this article, which could potentially lead to potential issues.

References

1. Goldenberg, R.L.; McClure, E.M.; Saleem, S. Improving pregnancy outcomes in low-and middle-income countries. *Reproductive Health* 2018, 15(1), pp. 7-14.
2. Lake, L.; Shung-King, M.; Hendricks, M.; Heywood, M.; Nannan, N.; Laubscher, R.; Bradshaw, D.; Mathews, C.; Goga, A.; Ramraj, T.; Chirinda, W. Prioritising Child and Adolescent Health: A human rights imperative. *South African Child Gauge* 2019, pp. 32-36.
3. Dickson, K.S. Women Empowerment and Skilled Birth Attendants among Women in Rural Ghana. *Biomedical Research International* 2021, 1, 9914027.
4. Rosa-Mangeret, F.; Benski, A.C.; Golaz, A.; Zala, P.Z.; Kyokan, M.; Wagner, N.; Muhe, L.M.; Pfister, R.E. 2.5 Million Annual Deaths - Are Neonates in Low-and Middle-income Countries too small to be seen? A Bottom-up overview on Neonatal morbi-mortality. *Tropical Medicine and Infectious Disease* 2022, 7(5), 64.
5. Kurjak, A.; Stanojević, M.; Dudenhausen, J. Why Maternal Mortality in the World remains tragedy in Low-income Countries and Shame for High-income ones: Will Sustainable Development Goals (SDG) help? *Journal of Perinatal Medicine* 2023, 51(2), pp. 170-181.

6. Olonade, O.; Olawande, T.I.; Alabi, O.J.; Imhonopi, D. Maternal mortality and maternal health care in Nigeria: Implications for Socio-economic Development. *Open Access Macedonian Journal of Medical Sciences* 2019, 7(5), 849.
7. Mlambo, C.; Bongekile, M.; Bhekabantu, N. Determinants of Maternal Mortality in Southern Africa: A Macro-Level Analysis. *Women* 2023, 3(1), pp. 132-151.
8. Tanoto, D.W.; Lee, J.W.; Chong, Y.K.; Lani, R.; Hassandarvish, P.; Oo, A. Raising the Bar: Advancing therapeutic strategies for fighting communicable and noncommunicable diseases. *Frontiers in Pharmacology* 2024, 15, 1486889.
9. Cavazos-Rehg, P.A.; Krauss, M.J.; Spitznagel, E.L.; Bommarito, K.; Madden, T.; Olsen, M.A.; Subramaniam, H.; Peipert, J.F.; Bierut, L.J. Maternal Age and Risk of Labor and Delivery Complications. *Maternal and Child Health Journal* 2015, 19, pp. 1202-1211.
10. Kennedy, H.P.; Cheyney, M.; Dahlen, H.G.; Downe, S.; Foureur, M.J.; Homer, C.S.; Jefford, E.; McFadden, A.; Michel-Schuldt, M.; Sandall, J.; Soltani, H. Asking Different Questions: A call to action for research to improve the Quality of Care for Every Woman, Every Child. *Birth* 2018, 45(3), pp. 222-231.
11. Fantaye, A.W.; Okonofua, F.; Ntoimo, L.; Yaya, S. A Qualitative Study of Community Elders' Perceptions about the Underutilization of Formal Maternal care and Maternal Death in Rural Nigeria. *Reproductive Health* 2019, 16, pp. 1-7.
12. Abd Elmoniem, S.O.; Ramadan, E.A.; Sarhan, A.E. Effect of Health Educational Program on Knowledge, Attitude, and Reaction of Pregnant Women Regarding Obstetric and Newborn Danger Signs. *Evidence-Based Nursing Research* 2020, 2(4), pp. 1-14.
13. Olowokere, A.E.; Oyedele, A.T.; Komolafe, A.O.; Olajubu A.O. Birth preparedness, utilization of skilled birth attendants and delivery outcomes among pregnant women in Ogun State, Nigeria. *European Journal of Midwifery* 2020, 4, pp. 1-9.
14. Ambe, J.R. Understanding Maternal Health Care Behaviors: Pregnancy and Childbirth Experiences in Nigeria. PhD Dissertation. Capella University, 2022.
15. Mackeen, A.D.; Schuster, M. *Cesarean Delivery: Obstetric Evidence-based Guidelines*. CRC Press, Boca Raton, FL, USA, 2022, 422 p.
16. Justin, D.; McCarthy, N.; O'Connor, M. The role of Entrepreneurship in stimulating Economic Growth in Developed and Developing Countries. *Cogent Economics & Finance* 2018, 6(1), 1442093.
17. Lundgren, I.; Morano, S.; Nilsson, C.; Sinclair, M.; Begley, C. Cultural Perspectives on Vaginal Birth after Previous Caesarean Section in Countries with High and Low rates - A Hermeneutic Study. *Women and Birth* 2020, 33(4), pp. e339-e347.
18. Onuminya D.S. A Review of Caesarean Delivery at the Kogi State Specialist Hospital, Lokoja, Nigeria. *Open Journal of Obstetrics and Gynecology* 2023, 13(4), pp. 728-736.
19. Diema, K.K.; Baku, E.K.; Japiong, M.; Dodam, K.K.; Amoah, R.M. Reasons for Women's Choice of Elective Caesarian Section in Duayaw Nkwanta Hospital. *Journal of pregnancy* 2019, 1, 2320743.
20. Sharma A.; Acharya, R.; Pehal, Y.; Sharma, B. Elective versus Emergency Caesarean Section: Differences in Maternal Outcome. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 2019, 8(8), pp. 3207-3213.
21. Jaiyesimi, R.A.; Ojo, O.E.; Awe, A.F. Caesarean Delivery and Peripartum Hysterectomy. *Contemporary Obstetrics and Gynecology for Developing Countries* 2021, pp. 203-221.
22. Khatri, R.B.; Wolka, E.; Nigatu, F.; Zewdie, A.; Erku, D.; Endalamaw, A.; Assefa, Y. People-centred Primary Health Care: A Scoping Review. *BMC Primary Care* 2023, 24(1), 236.
23. Niyigena, A.; Gato, S.; Alayande, B.; Miranda, E.; Hedt-Gauthier, B.; Goodman, A.S.; Nkurunziza, T.; Mazimpaka, C.; Hakizimana, S.; Bgamiye, P.; Kateera, F.; Riviello, R.; Boatina, A.A. Functional Recovery after Cesarean Delivery: A Prospective Cohort Study in rural Rwanda. *BMC Pregnancy Childbirth* 2023, 23, 858.
24. Meyer, N.J.; Gattinoni, L.; Calfee, C.S. Acute Respiratory Distress Syndrome. *Lancet* 2021, 398(10300), pp. 622-637.
25. Zhang, S.; Qin, X.; Li, P.; Huang, K. Effect of Elective Cesarean Section on Children's Obesity from Birth to Adolescence: A Systematic Review and Meta-Analysis. *Frontiers of Pediatrics* 2022, 9, 793400.
26. Jones, C.L.; Jensen, J.D.; Scherr, C.L.; Brown, N.R.; Christy, K.; Weaver, J. The Health Belief Model as an explanatory framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication* 2015, 30(6), pp. 566-576.

27. Yunitawati, D.; Latifah, L.; Suryaputri, I.Y.; Laksono, A.D. A Higher Maternal Education Level Could Be a Critical Factor in the Exceeded Cesarean Section Delivery in Indonesia. *Iran Journal of Public Health* 2024, 53(1), pp. 219-227.
28. Alizadeh-Dibazari, Z.; Abdolalipour, S.; Mirghafourvand, M. The Effect of Prenatal Education on Fear of Childbirth, Pain intensity during Labour and Childbirth Experience: A Scoping Review using Systematic Approach and Meta-analysis. *BMC Pregnancy Childbirth* 2023, 23(1), 541. doi: 10.1186/s12884-023-05867-0.
29. Dhiman, V.; Bharti, A. The Role of Medical Social Worker in Cardiovascular Thoracic Surgery. *Aquademia* 2021, 5(1), ep21004.

Citation: Abdulbaqi, S.Z. The Role of Social Workers in fostering positive psychological outcomes in women involved in caesarean childbirth in Ilorin Metropolis, Kwara State, Nigeria. *Journal of Social Sciences* 2025, 8 (2), pp. 81-90. [https://doi.org/10.52326/jss.utm.2025.8\(2\).07](https://doi.org/10.52326/jss.utm.2025.8(2).07).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).08](https://doi.org/10.52326/jss.utm.2025.8(2).08)
UDC 364.632:343.54:330.16



ECONOMIC VIOLENCE – A SILENT THREAT TO SOCIAL SUSTAINABILITY: APPROACHES, INTERNATIONAL COMPARISONS, AND PUBLIC PERCEPTIONS

Viorica Ursu *, ORCID: 0000-0003-4194-4799,
Daniela Pojar, ORCID: 0000-0001-8894-9445,
Iurie Ivanov, ORCID: 0000-0002-1083-9657,
Maria Pozdîrca, ORCID: 0009-0009-0651-054X

Technical University of Moldova, 168, Ștefan cel Mare Blvd., Chisinau, Republic of Moldova

* Corresponding author: Viorica Ursu, viorica.ursu@dp.utm.md

Received: 05.26.2025

Accepted: 06.20.2025

Abstract. In the context in which the concept of sustainable development has become a global priority, it is essential to understand that sustainability involves ensuring a balance between economic progress, social inclusion and respect for fundamental human rights. In this sense, the social pillar of sustainability involves combating all forms of inequality, discrimination or abuse. Economic violence is a subtle but deeply destructive form of discrimination, which undermines sustainable social development. This article aims to analyze economic violence both from a conceptual and historical perspective, as well as in its practical dimension, through a survey conducted among UTM respondents. Through a comparative analysis between the Republic of Moldova, the European Union, the United States and other countries, the research aims to highlight the determinants, characteristics and institutional responses to this phenomenon. The paper demonstrates that the prevention and elimination of economic violence presents not only problems of social justice, but also essential conditions for building a sustainable society based on equality, solidarity and mutual respect.

Keywords: *economic violence, domestic violence, guilt, resource control, personal autonomy, protection policies, comparative study.*

Rezumat. În contextul în care conceptul de dezvoltare durabilă a devenit o prioritate globală, este esențial să înțelegem că sustenabilitatea implică asigurarea unui echilibru între progresul economic, incluziunea socială și respectarea drepturilor fundamentale ale omului. În acest sens, pilonul social al sustenabilității implică combaterea tuturor formelor de inegalitate, discriminare sau abuz. Violența economică este o formă subtilă, dar profund distructivă de discriminare, care subminează dezvoltarea socială durabilă. Prezentul articol își propune să analizeze violența economică atât din perspectivă conceptuală și istorică, cât și în dimensiunea sa practică, printr-un sondaj realizat în rândul respondenților UTM. Prin intermediul unei analize comparative între Republica Moldova, Uniunea Europeană, Statele Unite și alte țări, cercetarea își propune să evidențieze factorii determinanți,

caracteristicile și răspunsurile instituționale la acest fenomen. Lucrarea demonstrează, că prevenirea și eliminarea violenței economice prezintă nu doar probleme de justiție socială, dar și condiții esențiale pentru construirea unei societăți durabile bazate pe egalitate, solidaritate și respect reciproc.

Cuvinte cheie: *violență economică, violență domestică, vinovăție, controlul resurselor, autonomie personală, politici de protecție, studiu comparativ.*

1. Introducere

În pofida funcției esențiale pe care familia o are în stabilitatea socială și dezvoltarea umană, aceasta poate deveni, paradoxal, cadrul în care se manifestă forme complexe și greu de detectat de violență. Printre acestea, violența economică este una dintre cele mai puțin vizibile, dar cu efecte profund destabilizatoare, afectând autonomia și siguranța victimei [1, 2, pp. 8-9]. Spre deosebire de formele directe și fizice ale abuzului, controlul financiar se manifestă prin restrângerea accesului la resurse economice, limitarea oportunităților profesionale sau educaționale și manipularea veniturilor comune.

Violența economică nu este un fenomen izolat sau marginal. Studiile recente, inclusiv cele realizate în Republica Moldova și în alte state ale Uniunii Europene, indică o prezență crescândă a acestui tip de abuz în relațiile intime. În ciuda recunoașterii sale în cadrul Convenției de la Istanbul și în legislațiile naționale, violența economică continuă să fie greu de identificat, întrucât nu lasă urme fizice și este adesea confundată cu simple „disensiuni financiare” în familie.

Această cercetare își propune să analizeze violența economică în contextul domestic, cu accent pe originile sale sociale și juridice, pe factorii de risc și pe impactul asupra victimelor, inclusiv asupra copiilor. Vom examina caracteristicile sale definitorii, legătura cu vinovăția domestică și natura sa ciclică, dar și modalitățile prin care poate fi prevenită și combătută prin politici publice, intervenții sociale și măsuri legislative.

În același timp, vom realiza o analiză comparativă între Republica Moldova, Uniunea Europeană, Statele Unite și alte state relevante, în vederea identificării bunelor practici în recunoașterea și combaterea acestei forme de abuz. Studiul va integra și o cercetare sociologică aplicată, desfășurată în rândul tinerilor din mediul universitar, pentru a evidenția percepțiile și experiențele directe sau indirecte legate de acest fenomen.

Această abordare interdisciplinară va permite o înțelegere mai profundă a violenței economice, nu doar ca formă de abuz, ci ca un simptom al dezechilibrelor de putere și al normelor sociale încă dominante în societățile contemporane.

2. Materiale și Metode

Prezenta cercetare are la bază o abordare mixtă, care îmbină metode calitative și cantitative pentru a analiza complexitatea fenomenului violenței economice ca formă de abuz domestic și impactul său asupra sustenabilității sociale, ca:

1. analiza documentară - a fost realizată o revizuire sistematică a literaturii științifice și juridice, naționale și internaționale, relevante pentru tema abordată. Sursele includ acte normative internaționale (ex. „*Agenda 2030*” [3], „*Convenția de la Istanbul*” [4]), documente programatice europene (ex. „*Strategia privind egalitatea de gen 2020–2025*” [5]), acte legislative naționale (ex. „*Legea nr. 45/2007*” republicată [6]), rapoarte de specialitate (ex. Anais din 2024 [7]) și contribuții doctrinare.

2. **metoda comparativă** - a fost utilizată pentru a evidenția diferențele și similitudinile în recunoașterea și sancționarea violenței economice în diferite state (ex. Franța, Suedia, Marea Britanie, SUA), corelate cu gradul de integrare a dimensiunii sociale în politicile de dezvoltare durabilă.

3. **cercetarea de teren** (sondaj de opinie). Pentru obținerea unor date actuale și relevante din perspectiva percepției publice, a fost aplicat un chestionar anonim unui eșantion de peste 100 persoane peste 18 ani, studenți și salariați ai Universității Tehnice a Moldovei, Chestionarul a cuprins întrebări închise și deschise privind înțelegerea noțiunii de violență economică, identificarea formelor acesteia, recunoașterea experiențelor personale sau indirecte, opinia privind protecția legală și instituțională. Datele colectate au fost centralizate și analizate statistic, punând în evidență tendințele generale și diferențele de percepție în funcție de gen, vârstă și statut ocupațional.

4. **metoda analizei critice** - rezultatele au fost interpretate prin prisma teoriilor despre sustenabilitate socială și echitate economică, relevând modul în care fenomenul investigat afectează incluziunea, participarea și justiția socială – factori esențiali ai dezvoltării durabile.

3. Rezultate

3.1. **Violența economică – obstacol sistemic în calea sustenabilității sociale**

Violența economică reprezintă o formă insidioasă de control și dominare în cadrul relațiilor personale, care afectează profund capacitatea victimei de a participa activ în viața economică și socială, de a avea acces la resurse și de a lua decizii autonome. Această formă de abuz subminează în mod direct sustenabilitatea socială, una dintre cele trei dimensiuni fundamentale ale dezvoltării durabile (alături de dimensiunea economică și cea ecologică). Potrivit “*Agendei 2030 pentru Dezvoltare Durabilă*” adoptată de Organizația Națiunilor Unite, obiectivul de dezvoltare durabilă nr. 5 vizează „*egalitatea de gen și abilitarea tuturor femeilor și fetelor*”, iar sub-obiectivul 5.2 solicită statelor să „*elimine toate formele de violență împotriva femeilor și fetelor, în public și în privat, inclusiv traficul, exploatarea și violența economică*” [3].

Această abordare este consolidată prin “*Convenția Consiliului Europei privind prevenirea și combaterea violenței împotriva femeilor și a violenței domestice*” (Convenția de la Istanbul) [4], ratificată de Republica Moldova prin “*Legea nr. 126 din 28.07.2021, publicată în Monitorul Oficial nr. 207–214/189 din 20.08.2021*”. Art. 3 lit. a) definește violența împotriva femeilor ca „*o încălcare a drepturilor omului și o formă de discriminare împotriva femeilor și va însemna toate acțiunile de violență de gen care rezultă în, sau care sunt probabile a rezulta în, vătămarea sau suferința fizică, sexuală, psihologică sau **economică cauzată femeilor**, inclusiv amenințările cu asemenea acțiuni, coerciția sau deprivarea arbitrară de libertate, indiferent dacă survine în public sau în viața privată*” [4].

În Republica Moldova, cadrul normativ relevant este “*Legea nr. 45 din 1 martie 2007 privind prevenirea și combaterea violenței față de femei și a violenței în familie*”, care recunoaște la art. 2, lit. d) violența economică, definită ca „*privare de mijloace economice, inclusiv lipsire de mijloace de existență primară, cum ar fi hrană, medicamente, obiecte de primă necesitate; abuz de variate situații de superioritate pentru a sustrage bunurile persoanei; interzicere a dreptului de a poseda, folosi și dispune de bunurile comune; control inechitabil asupra bunurilor și resurselor comune; refuz de a susține familia; impunere la munci grele și nocive în detrimentul sănătății, inclusiv a unui membru de familie minor; alte acțiuni cu efect similar*” [6].

La nivel european, “*Strategia privind egalitatea de gen 2020–2025*” [5] adoptată de Comisia Europeană afirmă că „*violența împotriva femeilor și fetelor constituie o manifestare*

extremă a inegalității de gen și o încălcare gravă a drepturilor fundamentale”, iar eliminarea acesteia este importantă pentru incluziunea și coeziunea socială durabilă.

În literatura de specialitate, Stratan Andrei observă că *„deseori atestăm situații în care membrul/membrii familiei abuzează de poziția economică dominantă exercitând presiune asupra celorlalți membri. Aceste fapte iau forma unor acte de violență financiară/economică, care sunt sancționate conform legislației”*. Raportul *„Violența financiară în relațiile de cuplu”* publicat de Asociația Anais din 2024 atrage atenția că victimele violenței economice sunt *„excluse din circuitul decizional familial și social, cu efecte directe asupra echilibrului dintre indivizi și comunitate”* [7].

3.2. Evoluția recunoașterii violenței economice ca formă de abuz

Deși violența economică a existat din cele mai vechi timpuri în relațiile de putere inegale din familie, recunoașterea sa juridică este relativ recentă.

Primele referințe la violența economică apar în literatura feminist [9, 10] din SUA și Canada, în care cercetătoarele au început să analizeze inegalitățile economice din cadrul căsătoriei și dependența financiară ca formă de control.

Termenul a fost folosit pentru a descrie situațiile în care femeile nu aveau acces la conturi bancare, nu puteau lucra sau erau forțate să ceară bani pentru nevoile de bază.

În anii 1990, violența economică începe să fie definită ca o componentă a violenței domestice în cercetările academice, în special în reviste precum Journal of Family Violence [11].

Se dezvoltă instrumente de măsurare a abuzului economic, cum ar fi Scale of Economic Abuse, care *“este o măsură cu 28 de itemi a experienței individuale de abuz economic, împărțită în două domenii: control economic și exploatare economică. Diferite aspecte ale abuzului economic surprinse de scală includ împiedicarea de a munci sau utilizarea involuntară a banilor de către un partener intim”* [12].

Consiliul Europei recunoaște oficial violența economică în *“Convenția privind prevenirea și combaterea violenței împotriva femeilor și a violenței domestice”* [4]. Adoptarea Convenției de la Istanbul în 2011 a marcat un moment decisiv, prin includerea explicită a dimensiunii economice în definirea violenței domestice.

Mai multe state au început să includă violența economică în legislația penală sau în politicile de protecție a victimelor:

➤ **Franța** a recunoscut în Codul penal forme de abuz precum controlul financiar coercitiv, în special în contextul violenței conjugale, în urma reformelor legislative din 2019 și 2020. În 2019, Franța a introdus conceptul de „emprise” (control psihologic și financiar) în contextul violenței conjugale [13].

➤ **Suedia** nu are o infracțiune separată pentru „violență economică”, dar aceasta este inclusă în conceptul de „violență repetitivă” (repetitive abuse) în cadrul relațiilor apropiate. Legea privind protecția împotriva violenței domestice permite sancționarea privării de autonomie economică ca parte a unui comportament coercitiv [14].

➤ **În Regatul Unit**, legislația privind violența domestică a evoluat semnificativ în ultimii ani, în direcția recunoașterii explicite a abuzului economic ca o manifestare distinctă a controlului coercitiv. Domestic Abuse Act 2021 [15], un instrument legislativ de referință adoptat recent, introduce o abordare inovatoare, prin care violența economică nu mai este tratată doar ca o componentă implicită a abuzului conjugal, ci ca o realitate juridică autonomă. Conform dispozițiilor acestui act, sunt considerate forme de abuz economic toate acțiunile care afectează negativ capacitatea unei persoane de a gestiona resurse financiare,

de a accesa venituri proprii sau de a dispune de bunuri și servicii fără constrângere. În mod concret, legea descrie situații precum:

- *restricționarea accesului la fonduri necesare traiului zilnic,*
- *împiedicarea exercitării unei activități profesionale,*
- *prejudicierea deliberată a patrimoniului personal (distrugerea bunurilor, asumarea de datorii în numele altei persoane).*

De o importanță specială este distincția operată în lege între abuzul economic (care privește limitarea accesului la resurse) și abuzul financiar (care implică acte directe de fraudă, înșelăciune sau manipulare economică). Spre exemplu, utilizarea neautorizată a cardurilor bancare sau impunerea unor obligații contractuale fără acordul victimei intră în sfera abuzului financiar și sunt tratate, de asemenea, în legislația penală, în baza Serious Crime Act 2015 [16].

În ceea ce privește dimensiunea punitivă, sancțiunile prevăzute de legislația britanică ating până la cinci ani de închisoare, dublând pragul stabilit anterior în dreptul moldovenesc, unde pedeapsa era de maximum trei ani. Notabil este faptul că Republica Moldova a adoptat, la rândul său, o reformă recentă, prin Legea nr. 316/2022, care majorează limita maximă de pedeapsă pentru formele neagravate de violență economică la patru ani [8].

O altă inovație a sistemului britanic este crearea funcției de Comisar pentru Violența Domestică, reglementată printr-o lege specială adoptată în anul 2019 [17]. Această instituție are rolul de a promova politici publice eficiente în domeniul prevenirii violenței și de a monitoriza reacția autorităților în fața sesizărilor privind abuzul în familie, inclusiv cel de natură economică.

➤ **Statele Unite ale Americii** adoptă o viziune amplă asupra violenței domestice, incluzând în mod explicit violența economică în cadrul fenomenului cunoscut sub denumirea de intimate partner violence – violența în relațiile de cuplu. Această formă de abuz este abordată în mod activ în politicile publice și programele federale de sprijin pentru victime, prin intermediul instituțiilor specializate, precum Office on Violence Against Women, structură aflată în subordinea Departamentului Justiției.

Conform cadrului conceptual promovat de Office on Violence Against Women, violența economică este definită drept: „*restricționarea accesului la resurse economice, manipularea financiară, controlul veniturilor și sabotarea independenței financiare*” [18].

La nivel legislativ, unul dintre pilonii esențiali ai protecției victimelor este reprezentat de Violence Against Women Act, adoptat în 1994 [19], care a stat la baza unei serii de reforme în dreptul penal și în sistemele de asistență socială, introducând măsuri de sprijin economic, juridic și psihologic pentru victimele violenței domestice. Deși este un act normativ federal, Violence Against Women Act oferă un cadru flexibil, lăsând statelor membre posibilitatea de a-și elabora propriile mecanisme legislative adaptate.

Astfel, unele state americane au adoptat norme explicite care recunosc și sancționează abuzul economic ca infracțiune distinctă. Un exemplu semnificativ este Legea nr. 1795 din 14 noiembrie 2019, prin care a fost revizuită definiția legală a victimei violenței domestice, pentru a include comportamentele coercitive ce afectează capacitatea de a obține, folosi sau administra mijloace financiare proprii. Aceste modificări vizează în special forme de constrângere financiară, înșelăciune și control economic sistematic [20].

În statul California, reglementările sunt detaliate în art. 273.5 din Codul Penal, care stabilește sancțiuni diferențiate în funcție de gravitatea faptei: pentru infracțiuni grave, pedeapsa poate ajunge până la 5 ani de închisoare și amendă de 10000 USD, iar pentru faptele de o gravitate redusă, până la 1 an de închisoare și/sau 2000 USD amendă [8,21,22].

Prin comparație cu alte sisteme legislative, se remarcă o coerență în privința severității sancțiunilor, similară cu cea prevăzută de legislația Marii Britanii. Ambele sisteme tratează violența economică ca pe un instrument de dominare și vulnerabilizare economică, cu efecte grave asupra libertății personale și a incluziunii sociale.

O caracteristică notabilă a modelului american este accentul pus pe colaborarea între instituții federale și locale, pe finanțarea centrelor de criză și pe integrarea dimensiunii economice a abuzului în strategii multisectoriale de prevenire și intervenție. Această abordare permite nu doar sancționarea abuzatorilor, ci și recuperarea socio-economică a victimelor, ca parte a unui model sustenabil de protecție și reintegrare.

➤ Organizații internaționale precum Organizația Națiunilor Unite și Organizația Mondială a Sănătății au început să includă această formă de abuz în rapoartele privind violența de gen și impactul asupra sănătății mentale și economice.

În Republica Moldova, violența economică a fost recunoscută legislativ începând cu revizuirea *“Legii nr. 45/2007 privind prevenirea și combaterea violenței în familie”* [6]. Aceasta a fost consolidată prin ratificarea Convenției de la Istanbul în 2021, ceea ce a impus statului obligația de a combate activ toate formele de violență împotriva femeilor, inclusiv cea economică.

3.3. Legătura cu vinovăția domestică și relațiile de putere

Violența economică nu este o simplă dispută financiară, ci o formă de control coercitiv care se manifestă în cadrul relațiilor de putere inegale. Ea este adesea însoțită de vinovăție domestică – un proces psihologic prin care victima este constant culpabilizată pentru situația sa, ceea ce justifică și normalizează abuzul.

Un raport realizat de Asociația Anais în 2024 [7] arată că femeile victime ale violenței economice sunt frecvent supuse unor forme de manipulare financiară, precum:

- *acces restricționat la conturi bancare,*
- *impunerea de datorii,*
- *sabotarea locului de muncă,*
- *inducerea în eroare privind deciziile financiare.*

Abuzatorul nu doar că controlează resursele financiare, dar și alimentează ideea că victima nu merită acces la bani, muncă sau educație, invocând motive precum *„cheltuieli prea multe”* sau *„nu contribuie suficient”*. Acest tip de manipulare emoțională este o formă de *„gaslighting”* economic, care afectează profund autonomia și încrederea în sine a victimei.

Această vinovăție impusă face parte dintr-un ciclu mai larg de violență, în care controlul economic devine o armă eficientă pentru că:

- *blochează autonomia personală,*
- *reduce capacitatea de a părăsi relația abuzivă,*
- *perpetuează dependența financiară și emoțională.*

O serie de teorii identifică factorii culturali și religioși drept surse profunde ale violenței domestice, în special în societățile tradiționaliste. Astfel, se remarcă faptul că percepția asupra comportamentelor acceptabile în cadrul relațiilor de gen poate varia semnificativ în funcție de contextul cultural. În anumite culturi, ceea ce este considerat un comportament normal de autoritate masculină poate fi perceput în alte societăți drept comportament abuziv.

În ceea ce privește influența religiei, contextul Republicii Moldova este relevant, întrucât, în trecutul recent, în special în mediul rural, normele și rolurile de gen erau profund

influențate de prescripțiile tradiționale promovate de Biserica Ortodoxă, care susțineau ierarhia familială și supunerea femeii. Deși această influență a scăzut în ultimele decenii, reminiscentele patriarhale continuă să modeleze atitudini și comportamente, inclusiv în ceea ce privește toleranța față de violența economică și fizică.

Totodată, persistența stereotipurilor de gen și a normelor sociale inechitabile contribuie la reproducerea discriminării structurale între bărbați și femei. Aceste norme, adesea internalizate încă din copilărie, pot legitima comportamente abuzive și pot determina percepția acestora ca fiind „firești” în cadrul unei relații. În acest sens, există o legătură directă între normele culturale tradiționaliste, discriminarea de gen și riscul de violență [23].

“Acest tip de violență aduce chiar cu sine deseori credința în superioritatea bărbaților față de femei și este prezent în toate zonele și părțile lumii” [24].

În ceea ce privește obstacolele care determină femeile să nu denunțe actele de violență suferite, cercetările [23] evidențiază un spectru larg de factori emoționali, sociali și culturali, care acționează cumulativ. Printre cele mai frecvent invocate motive se numără sentimentul de rușine, teama de a fi stigmatizate și frica de represalii nu doar asupra propriei persoane, ci și asupra copiilor sau altor membri ai familiei.

Un alt factor determinant este vulnerabilitatea psihologică și lipsa de încredere în propriile resurse, care se accentuează în cazul în care victima este deja într-o stare de fragilitate emoțională și percepe procedurile legale ca fiind prea complexe, solicitante sau chiar ostile. În multe cazuri, dependența economică și emoțională față de agresor reprezintă o barieră majoră în luarea deciziei de a se desprinde din contextul abuziv – mai ales în absența unui sprijin familial sau instituțional consistent.

Se adaugă și percepția că inițierea unei plângeri poate avea consecințe negative, precum pierderea locuinței, marginalizarea socială sau dificultatea de a proba faptele. Multe victime resimt povara de a „demonstra” veridicitatea celor trăite într-un sistem juridic perceput ca fiind reticent sau insuficient de receptiv.

Pe lângă aceste dimensiuni individuale, există și o componentă culturală profund înrădăcinată, în virtutea căreia unele femei nu identifică anumite comportamente ca fiind violente, ci le consideră „acceptabile” sau „normale” în cadrul relației de cuplu. În astfel de situații, comportamentul agresiv este adesea minimalizat, justificat sau internalizat ca parte a rolului tradițional de gen [23].

3.4. Forme de manifestare și caracteristici specific

Violența economică, ca formă distinctă de abuz domestic, se caracterizează printr-o serie de acțiuni și omisiuni deliberate care vizează limitarea accesului victimei la resursele financiare proprii sau comune, în scopul menținerii unei stări de dependență și control. Aceasta poate lua forme directe sau indirecte, manifeste sau subtile, în funcție de contextul familial, social și cultural în care se produce.

Printre cele mai frecvente forme directe ale violenței economice se regăsesc:

- privarea de mijloace financiare esențiale (de ex. refuzul de a oferi bani pentru hrană, medicamente, igienă personală sau locuință);
- interzicerea accesului la muncă sau studii care ar putea asigura victimei independență economică;
- constrângerea transferului de venituri sau a bunurilor în contul agresorului, fără consimțământ liber exprimat;

- îndatorarea forțată a victimei, utilizarea cardurilor sau semnarea documentelor financiare în numele acesteia;
- refuzul de a contribui la cheltuieli comune, punând întreaga responsabilitate financiară pe victimă, în timp ce agresorul își păstrează controlul asupra veniturilor familiei.

Pe lângă aceste forme, există manifestări indirecte sau mascate, cum ar fi:

- monitorizarea excesivă a cheltuielilor zilnice (de ex. „de ce ai cumpărat asta?”, „unde ai pus bonul?”);
- acordarea unei sume fixe săptămânale („alocație”) fără transparență financiară reciprocă;
- deciziile unilaterale privind investiții, bunuri sau vânzări ale patrimoniului comun;
- culpabilizarea constantă a victimei pentru „cheltuieli exagerate” sau „lipsa contribuției”.

Raportul Anais [7] identifică suplimentar forme mai puțin evidente, dar totuși dăunătoare, precum: retragerea accesului la conturile bancare comune, obligarea victimei să renunțe la carieră sau la surse de venit, ascunderea veniturilor reale ale agresorului și utilizarea poziției dominante pentru a o convinge pe victimă că „nu este în stare” să gestioneze banii. Aceste acțiuni contribuie la instituirea unei dependențe economice sistemice, în care victima își pierde treptat capacitatea de decizie și inițiativă.

Violența economică poate fi, de asemenea, strâns corelată cu alte forme de abuz, precum cel psihologic și emoțional. Abuzatorul utilizează resursele financiare ca mijloc de sancționare sau recompensare: oferă sau refuză bani în funcție de comportamentul victimei, impunând astfel un climat de frică și incertitudine. Această strategie afectează profund stima de sine, libertatea de alegere și capacitatea victimei de a ieși din relația toxică.

Caracteristicile definitorii ale violenței economice includ:

- *invizibilitatea inițială (este percepută mai târziu decât alte forme de abuz);*
- *gradul ridicat de justificare socială („într-o familie e normal ca bărbatul să țină banii”);*
- *impactul cumulativ (afectează profund autonomia personală, pe termen lung);*
- *dificultatea de probare legală în lipsa unor documente sau martori;*
- *interdependența cu alte tipuri de violență (fizică, psihologică, sexuală).*

3.5. Factori favorizanți și vulnerabilități în cazul violenței economice

3.5.1. Factori individuali și de cuplu

Violența economică nu apare în mod izolat, ci este influențată de o serie de factori personali, interpersonali și structurali. La nivel individual, un rol important îl joacă nivelul de educație, gradul de autonomie financiară și modelele familiale învățate. Persoanele care provin din medii în care controlul financiar a fost normalizat sau care nu au avut acces la educație financiară pot fi mai vulnerabile în fața acestui tip de abuz.

În cuplu, dezechilibrul de putere este un factor-cheie. Relațiile în care unul dintre parteneri deține controlul exclusiv asupra resurselor economice, iar celălalt este lipsit de venituri proprii sau de acces liber la finanțe, creează un teren fertil pentru apariția violenței economice. De asemenea, lipsa comunicării financiare, mentalitatea patriarhală și dependența afectivă accentuează riscurile de control economic abuziv.

3.5.2. Factori socio-culturali și economici

În multe societăți, inclusiv în Republica Moldova, persistă stereotipuri de gen conform cărora bărbatul este „purătorul de venit” iar femeia „gestionara cheltuielilor gospodărești”.

Aceste percepții adâncesc legitimitatea informală a dominării financiare a femeii în familie. În același timp, în contexte cu niveluri ridicate de sărăcie, tensiunile legate de bani devin mai frecvente, iar abuzul economic poate fi folosit ca metodă de compensare a nesiguranței materiale.

Conform raportului Anais din 2024 [7], izolarea socială, lipsa sprijinului instituțional, dar și dependența legală (în cazul căsătoriei sau partajului inegal) sunt factori care cresc riscul menținerii în relații abuzive din punct de vedere economic.

3.5.3. Vulnerabilități specifice ale anumitor categorii de persoane

Anumite grupuri sunt mai expuse la violența economică, printre care:

- femeile casnice, fără venit propriu;
- persoanele cu dizabilități, care depind financiar de partener;
- victimele migrației economice, care pierd conexiunile cu rețeaua de sprijin;
- mamele singure, care suportă în întregime cheltuielile familiale;
- tinerii aflați în relații de coabitare fără statut juridic clar;
- persoanele vârstnice, care pot fi abuzate economic de rude apropiate (ex. nepoți, copii majori).

3.6. Rezultatele cercetării empirice - Sondaj privind percepția și experiențele legate de violența economică în relațiile de cuplu (creat personal de echipa coautorilor)

Chestionarul sociologic, elaborat sub forma unui formular online anonim a fost distribuit în rândul studenților și tinerilor angajați de la Universitatea Tehnică a Moldovei. Acesta a fost structurat în mai multe secțiuni:

- date demografice (vârstă, sex, mediu de rezidență, statut civil);
- întrebări închise și semideschise privind:
- experiențele directe sau indirecte cu violența economică;
- sursa veniturilor și autonomia financiară;
- frecvența controlului asupra cheltuielilor și veniturilor;
- percepția asupra limitării accesului la resurse în context relațional.

Pentru o interpretare coerentă a datelor, s-au utilizat procente, corelații simple și categorii tematice, fără a apela la analize statistice avansate, dat fiind caracterul exploratoriu al cercetării.

Sondajul a fost realizat în perioada martie–aprilie 2024, în rândul unui eșantion neprobabilistic, compus din persoane cu vârsta între 18–55 ani, cu o pondere majoritară în segmentul 18–24 ani (76,9%), predominant din mediul urban (81,2%). Numărul total de respondenți validați a fost de 117.

Sondajul a fost realizat cu respectarea principiilor etice fundamentale: participare voluntară și anonimă; consimțământ informat exprimat la începutul chestionarului; absența întrebărilor intruzive sau traumatizante; utilizarea exclusiv academică a datelor colectate.

Scopul nu a fost investigarea unor cazuri individuale de victimă/agresor, ci înțelegerea nivelului de conștientizare și a percepției riscului în rândul tinerilor cu privire la violența economică, ca formă distinctă de abuz domestic.

În continuare sunt prezentate rezultatele sondajului:

Distribuția pe vârstă și mediu de rezidență (Figurile 1 și 2)

–în urma răspunsurilor la sondaj, majoritatea respondenților aparțin intervalului de vârstă 18-24 ani (76,9%), cu prezențe ocazionale în alte intervale (25-34 ani – 2,6%, 35-44 ani – 5,1%, 45-54 ani – 12% și peste 55 ani – 3,4%).

–totodată, numărul mai mare de respondenți provine din mediul urban (81,2%), în timp ce o parte mai mică provine din mediul rural (18,8%). Acest lucru se explică prin faptul că aria de raspândire a sondajului este mun. Chișinău.

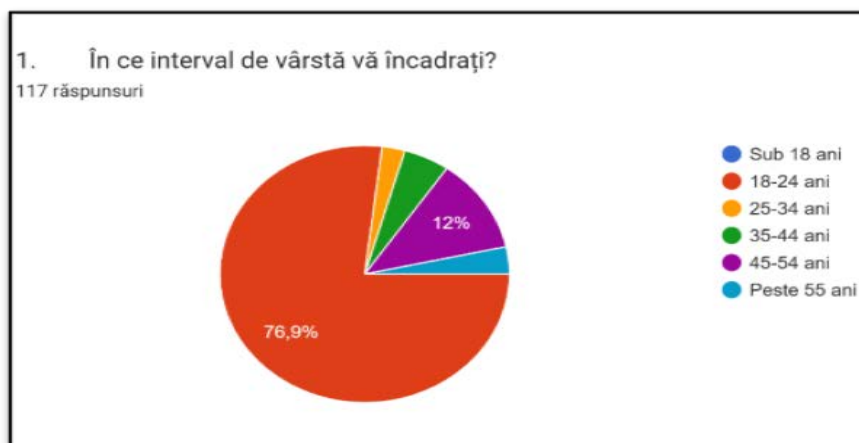


Figura 1. Vârsta respondenților.

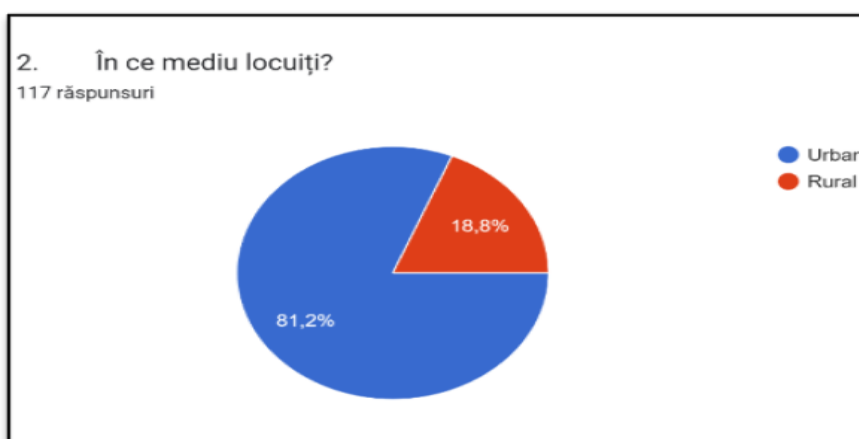


Figura 2. Mediu de rezidență.

Situația civilă (Figura 3)

–făcând referire la statutul civil, majoritatea respondenților sunt necăsătoriți (70,9%). De asemenea, un procent notabil este căsătorit (22,2%), iar un număr mai mic sunt în relații de concubinaj (5,1%), văduvi (0,9%) sau divorțați (0,9%).

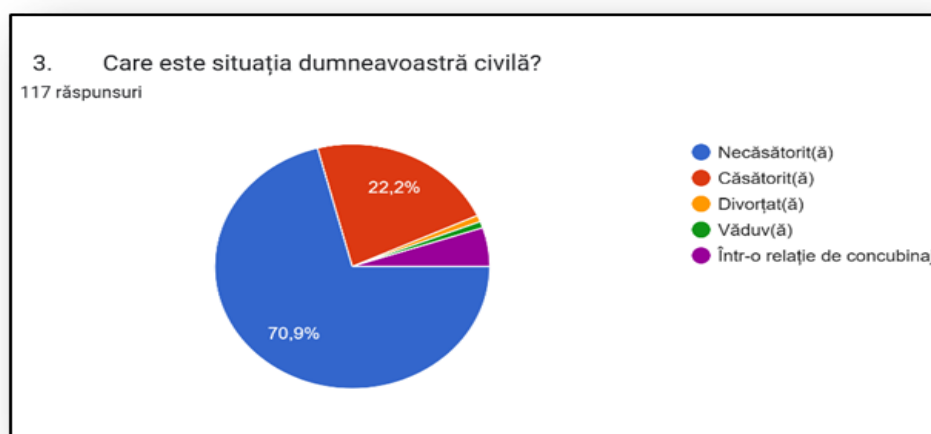


Figura 3. Situația civilă a respondenților.

– datele sugerează că persoanele căsătorite și cele în concubinaj au raportat unele forme de control economic.

Frecvența violenței economice (Figura 4)

–majoritatea respondenților au raportat că nu au experimentat violență economică („niciodată”) - (70,1%), dar există cazuri care au indicat o frecvență „ocazională” - (24,8%), „frecventă” - (4,3%) sau chiar „foarte des” - (0,9%).

–este important de notat că un număr mic, dar semnificativ, a indicat o frecvență de violență economică ce merită atenție.

–la fel, majoritatea respondenților au raportat că nu le sunt monitorizate cheltuielile - („niciodată”) - (66,7%), dar există cazuri care au indicat o frecvență „rareori” - (28,2%), „des” - (2,6%) sau chiar „foarte des” - (2,6%).

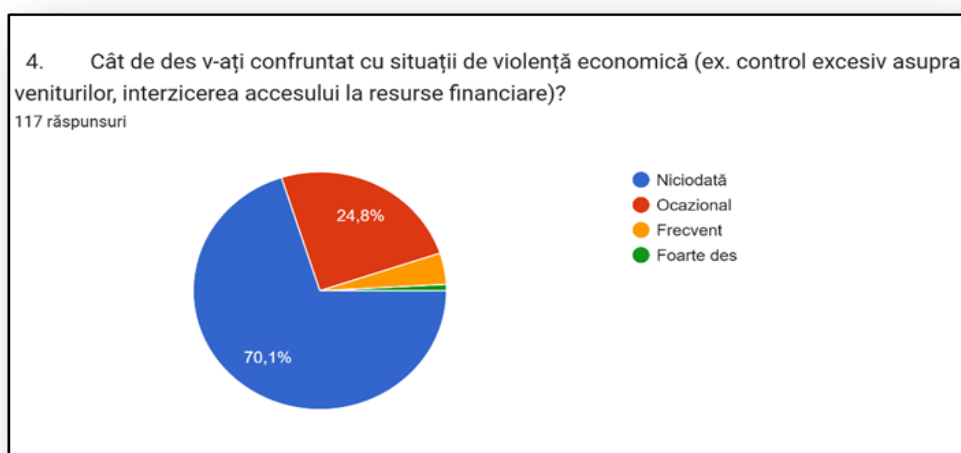


Figura 4. Frecvența violenței economice.

Sursa principală a veniturilor (Figura 5)

–cele mai frecvent menționate surse sunt salariul propriu - (46,6 %) și alte surse de venit (fără specificare) - (65,3%). Unii respondenți au menționat și salariul partenerului - (11,1%), ajutor social - (6,8%), pensia - (4,2%) sau veniturile din afaceri - (5,1%).

–În urma analizării răspunsurilor, respondenții care depind de venitul partenerului au raportat mai frecvent control economic, ceea ce poate sugera o vulnerabilitate sporită la astfel de comportamente.

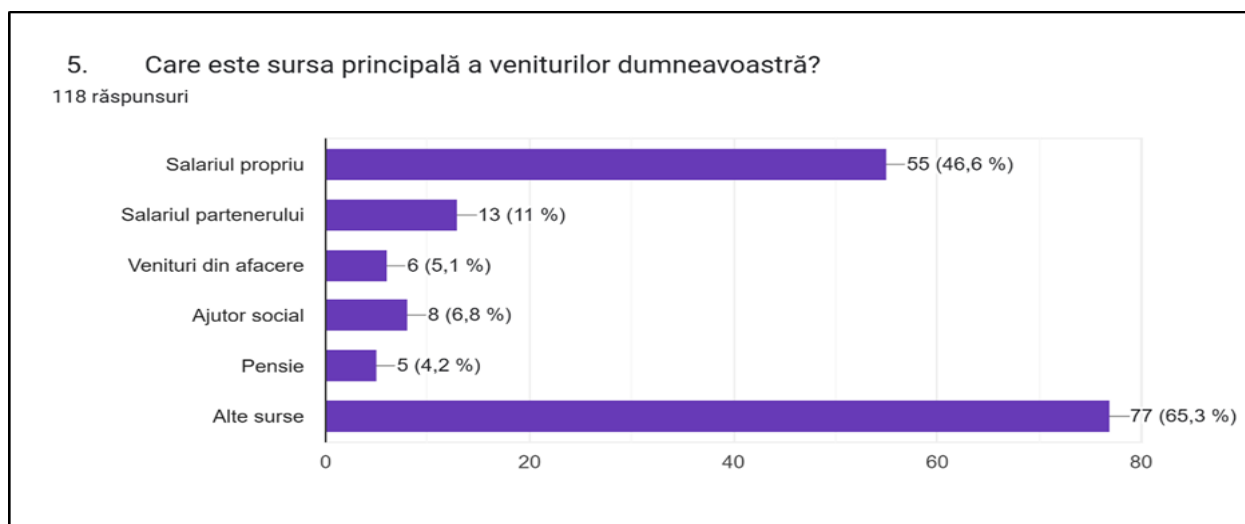


Figura 5. Sursa principală a veniturilor.

Controlul veniturilor și cheltuielilor (Figurile 6-9)

- răspunsurile indică că un procent mic, dar notabil, se confruntă cu monitorizarea cheltuielilor de către partener sau utilizarea veniturilor fără acordul lor – (9,6%), pe lângă celelalte 90,4% care au afirmat că partenerul nu utilizează veniturile respondenților fără acordul acestora.
- 9,3% din respondenți au fost împiedicați de partener ca să se angajeze sau să urmeze o cariera. Acest procentaj nu trebuie neglijat, întrucât în acest mod partenerii agresori manifestă o influență negativă pentru psihicul emoțional al partenerului agresat.
- există cazuri în care partenerii impun respondenților să-și transfere veniturile sau să urmeze o „alocație” prestabilită, o formă clară de control economic – 6%.
- totuși sunt și 2,5 % de respondenți, care foarte des sunt monitorizați la cheltuieli de către partener; 2,5 % - des, rareori – 28,2% și niciodată – 66,7%.



Figura 6. Utilizarea veniturilor personale de către partener fără consimțământ.



Figura 7. Interzicerea de angajare sau de continuare a unei cariere.

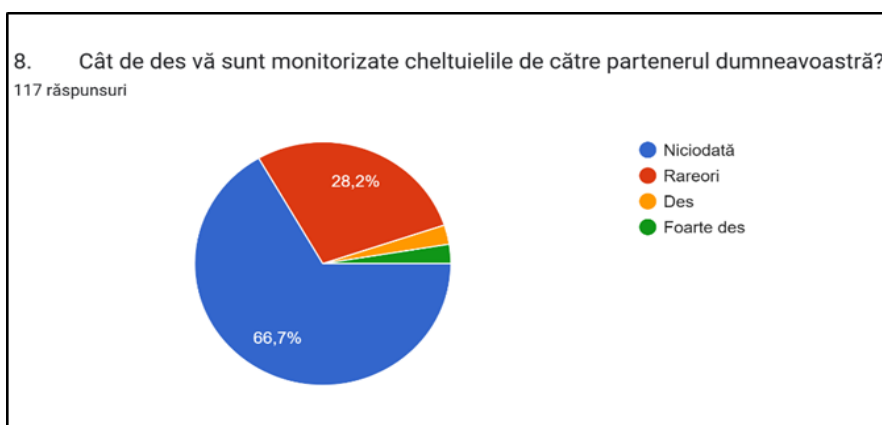


Figura 8. Monitorizarea cheltuielilor de către partener.

9. Ați simțit vreodată că partenerul vă controlează prin mijloace financiare (ex. limitează accesul la bani sau vă oferă o „alocație“)?

117 răspunsuri

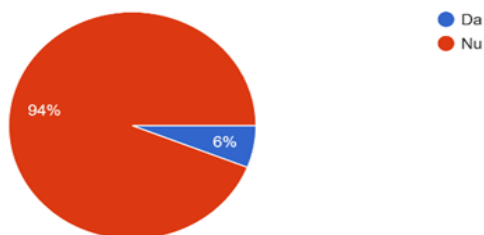


Figura 9. Controlul din partea partenerului prin mijloacele financiare.

Impactul asupra independenței financiare (Figurile 10-12)

- 13,7% din respondenți au expus că partenerul le-a impus să transfere veniturile sau o parte din ele în contul acestuia.
- o parte dintre respondenți consideră că relația lor le limitează accesul la independență financiară – 5,2%. Aceasta este o formă de violență economică ce contribuie la vulnerabilitatea financiară în relație.
- răspunsurile indică că 7,7% se simt vulnerabili în privința faptului că sunt amenințați din partea partenerului, care menționează că vor pierde resursele financiare ca urmare a unei despărțiri.

10. Vi s-a impus vreodată să transferați veniturile sau o parte din ele în contul partenerului?

117 răspunsuri

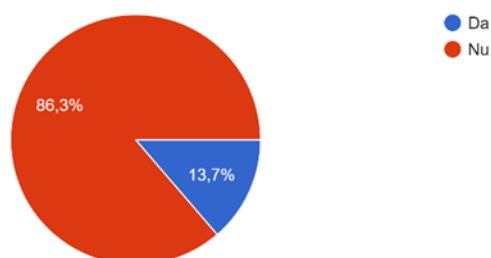


Figura 10. Impunerea transferului de venituri pe contul partenerului.

11. Considerați că relația în care vă aflați vă limitează accesul la independență financiară?

117 răspunsuri

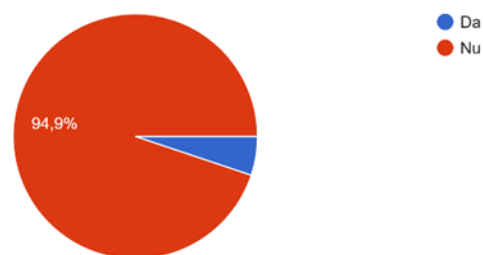


Figura 11. Impactul asupra independenței financiare.



Figura 12. Amenințări de ordin financiar din partea partenerului, în caz de despărțire.

Analiza datelor colectate prin sondajul desfășurat în rândul studenților și angajaților Universității Tehnice a Moldovei evidențiază faptul că violența economică este recunoscută ca un fenomen real, chiar dacă parțial vizibil și adesea dificil de definit de către cei afectați. Chiar și în absența experiențelor directe, mulți respondenți au manifestat un nivel ridicat de conștientizare asupra formelor subtile de control financiar în relațiile de cuplu.

În rândul tinerilor, percepția asupra violenței economice variază în funcție de nivelul de autonomie financiară și de rolul jucat în gestionarea resurselor comune. Această percepție este puternic influențată de factori precum dependența economică, modelul familial, precum și de prezența sau absența sprijinului emoțional și social în viața personală.

Răspunsurile indică o corelație clară între lipsa de venit propriu și vulnerabilitatea la forme de abuz economic, precum și o toleranță mai ridicată în contexte în care relațiile tradiționale de gen sunt percepute ca normale. De asemenea, unele practici de control financiar sunt minimizate sau percepute ca fiind „acceptabile” în relațiile intime, ceea ce confirmă normalizarea abuzului economic în imaginarul colectiv.

Cercetarea evidențiază, totodată, nevoia urgentă de educație în domeniul drepturilor financiare personale, recunoașterea timpurie a comportamentelor coercitive și intervenții adaptate contextului tineretului urban. Fără aceste măsuri, există riscul ca formele invizibile ale violenței economice să rămână nesancționate și să perpetueze cicluri de dependență și inegalitate.

4. Concluzii

Violența economică este o realitate adesea ignorată în spațiul public și subevaluată în politicile de protecție a victimelor, deși efectele sale sunt deosebit de grave, afectând direct autonomia financiară, echilibrul psihologic și capacitatea de autodeterminare a persoanei. Studiul de față demonstrează că această formă de abuz este strâns legată de dinamici culturale, relaționale și instituționale, fiind adesea normalizată prin stereotipuri și mecanisme de vinovăție subtilă.

Din perspectiva drepturilor omului și a dezvoltării durabile, violența economică reprezintă un obstacol serios în realizarea egalității de gen și a participării sociale echitabile, punând în pericol pilonul social al sustenabilității.

Rezultatele sondajului realizat în rândul tinerilor din mediul universitar din Republica Moldova (respondenții fiind de la UTM) confirmă existența unor forme variate de control economic, inclusiv printre persoanele tinere, în aparență autonome. Frecvența cazurilor

raportate, chiar dacă moderată, sugerează o nevoie urgentă de educație financiară, intervenție instituțională și campanii de conștientizare adaptate grupurilor vulnerabile.

Pentru a combate eficient acest fenomen, sunt necesare:

- clarificarea legală și sancționarea distinctă a violenței economice în legislațiile naționale,
- consolidarea mecanismelor de suport social și juridic pentru victime,
- formarea specialiștilor în domeniul asistenței sociale, psihologiei și dreptului în spiritul recunoașterii acestei forme de abuz (autorii nu neagă lipsa lor, doar că consideră că formări suplimentare anume la această formă de violență ar fi binevenită),
- dezvoltarea de strategii multisectoriale care să integreze dimensiunea economică a violenței în politicile de gen, educație și incluziune socială.

Doar printr-o abordare comprehensivă, bazată pe cercetare și intervenție interdisciplinară, se poate construi o societate cu adevărat sustenabilă – una în care accesul la resurse și autonomie personală nu sunt privilegii, ci drepturi fundamentale garantate tuturor.

Conflicts of Interest: The authors declare no conflict of interest.

Acknowledgments: The article was made within the research project no. 020408 „Research on Ensuring Sustainable Development and Increasing Competitiveness of the Republic of Moldova in the European Context”.

Bibliografie

1. Ursu, V.; Ivanov, I.; Pozdîrcă (Slobozeanu), M. Economic Violence - a Form of Domestic Violence. In: *The 3rd International Conference Creativity and Innovation in Digital Economy*, Ploiești, Romania, November 14-15, 2024, p. 123.
2. Bodrug-Lungu, V.; Zmuncila, L. *Violența domestică: aspecte sociale și legislative*. Tipografia Centrală, Chișinău, Republica Moldova, 2005, pp. 8-9.
3. ONU. Transforming our world: the 2030 Agenda for Sustainable Development, Department of Economic and Social Affairs, Sustainable Development. Disponibil online: <https://sdgs.un.org/2030agenda>. (accesat la 23.03.2025).
4. Convenția Consiliului Europei privind prevenirea și combaterea violenței împotriva femeilor și a violenței domestice” (STCE nr. 210). Disponibil online: <https://www.coe.int/en/web/conventions/full-list?module=treaty-detail&treatynum=210> (accesat la 22.03.2025).
5. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A Union of Equality: Gender Equality Strategy 2020-2025. Disponibil online: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0152> (accesat la 23.03.2025).
6. Legea nr. 45 din 1 martie 2007 privind prevenirea și combaterea violenței față de femei și a violenței în familie. *Monitorul Oficial* 2008 55-56 art. 178. Disponibil online: https://www.legis.md/cautare/getResults?doc_id=144821&lang=ro# (accesat la 22.03.2025).
7. Cercetare despre violență economică împotriva femeilor. Disponibil online: https://asociatia-anais.ro/wp-content/uploads/2024/06/raport_anais_violenta_financiara-final-final-2.pdf (accesat la 22.03.2025).
8. Stratan A. Unele aspecte juridice privind violența economică în familie prin prisma legislației RM și SUA. Disponibil online: https://conferinte.stiu.md/sites/default/files/evenimente/Culegere_integral_Conferinta_decembrie_2022.pdf (accesat la 23.03.2025).
9. Federici, S. Witches, Witch-Hunting and Women. Disponibil online: <https://www.jstor.org/stable/27115806> (accesat la 21.03.2025).

10. Introduction: Economic Empowerment Between Feminism and Neoliberalism. Disponibil online: https://link.springer.com/chapter/10.1007/978-3-030-89281-4_1 (accesat la 21.03.2025).
11. Journal of Family Violence. Disponibil online: <https://link.springer.com/journal/10896> (accesat la 21.03.2025).
12. Scale of Economic Abuse (SEA). Disponibil online: https://emerge.ucsd.edu/r_24ofnbt6kjm5gib/ (accesat la 23.03.2025).
13. Les infractions pénales. Disponibil online: <https://www.justice.gouv.fr/justice-france/justice-penale/infractions-penales> (accesat la 21.03.2025).
14. The Swedish Fiscal Policy Framework. Disponibil online: <https://www.regeringen.se/globalassets/government/dokument/finansdepartementet/the-swedish-fiscal-policy-framework.pdf> (accesat la 23.03.2025).
15. Domestic Abuse Act 2021 (UK Public General Acts). Disponibil online: <https://www.legislation.gov.uk/ukpga/2021/17/contents/enacted> (accesat la 23.03.2025).
16. Serious Crime Act 2015 (UK Public General Acts). Disponibil online: <https://www.legislation.gov.uk/ukpga/2015/9/section/76/enacted> (accesat la 23.03.2025).
17. Domestic Abuse Bill 2020. Disponibil online: <https://www.gov.uk/government/collections/domestic-abuse-bill> (accesat la 23.04.2025).
18. Domestic Violence. Disponibil online: <https://www.justice.gov/ovw/domestic-violence> (accesat la 21.03.2025).
19. Violence Against Women Act of 1994. Disponibil online: <https://www.congress.gov/bill/103rd-congress/senate-bill/11> (accesat la 23.03.2025).
20. Law on expanding protections for victims of domestic violence to include economic abuse, no. 1795. Disponibil online: <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4230045&GUID=86E31956-6F86-4DE9-81E6-B882DF2F586A&Options=&Search=> (accesat la 21.03.2025).
21. Legea nr. 1795 din 14 noiembrie 2019 privind includerea abuzului economic în calitate de formă a violenței domestice. Disponibil online: <https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4230045&GUID=86E31956-6F86-4DE9-81E6-B882DF2F586A> (accesat la 23.03.2025).
22. California domestic abuse law (Penal code 273.5). Disponibil online: <https://www.justice.gov/ovw/domestic-violence> (accesat la 23.03.2025).
23. Roșca, T.; Gonța, S., Violența de gen: percepție și intervenție socială. In: *Conferința științifică națională cu participare internațională „Integrare prin Cercetare și Inovare” dedicată Zilei internaționale a Științei pentru Pace și Dezvoltare*, Chișinău, 7-8 noiembrie 2024. Disponibil online: https://ibn.idsi.md/sites/default/files/imag_file/419-433.pdf (accesat la 23.03.2025).
24. Danna, D. Genocidio. La violenza contro le donne nell'era globale. Eleuthera, Milano, Italy, 2006. p. 7.

Citation: Ursu, V.; Pojar, D.; Ivanov, Iu.; Pozdârca, M. Economic violence – a silent threat to social sustainability: approaches, international comparisons, and public perceptions in the Republic of Moldova. *Journal of Social Sciences* 2025, 8 (2), pp. 91-106. [https://doi.org/10.52326/jss.utm.2025.8\(2\).08](https://doi.org/10.52326/jss.utm.2025.8(2).08).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).09](https://doi.org/10.52326/jss.utm.2025.8(2).09)
UDC 615.851:159.9.07:616.853



EXPLORING COGNITIVE IMPAIRMENTS IN DRUG-RESISTANT EPILEPSY: INSIGHTS FROM A COMPARATIVE ANALYSIS

Natalia Doten ^{1,2,3*}, ORCID: 0000-0002-6073-866X

¹ "Nicolae Testemitanu" State University of Medicine and Pharmacy, 1 Toma Ciorba Str., Chisinau, Republic of Moldova

² Institute of Emergency Medicine, 1 Toma Ciorba Str., Chisinau, Republic of Moldova

³ Moldova State University, 60 Alexei Mateevici Str., Chisinau, Republic of Moldova

* Corresponding author: Natalia Doțen, dotenatalia@yahoo.com

Received: 04.19.2025

Accepted: 05.24.2025

Abstract. This article explores the cognitive impairments in individuals with drug-resistant epilepsy compared to those with well-controlled epilepsy. The research involves 102 subjects (62 with drug-resistant epilepsy and 40 with well-controlled epilepsy), and examines cognitive functions such as verbal and visual memory, attention and language. Subjects were assessed with the MoCA test; the Rey Auditory Verbal Test; the Rey-Osterrieth Complex Figure; the Trail Making Test (parts A and B) and the F-A-S language test. Results show that cognitive deficits are three times more frequent in the drug-resistant epilepsy group, with significant impairments in verbal memory, visual memory, attention and semantic fluency. Additionally, drug-resistant epilepsy individuals, particularly those aged 50-59, with lower education, and more frequent seizures, exhibit more pronounced cognitive issues. These findings align with international research, confirming the strong correlation between seizure frequency and cognitive decline in epilepsy. The study highlights the need for personalized cognitive assessments and interventions for individuals with drug-resistant epilepsy.

Keywords: *cognitive impairments, drug-resistant epilepsy, well-controlled epilepsy.*

Rezumat. Articolul explorează particularitățile cognitive ale pacienților cu epilepsie farmacorezistentă, comparativ cu cei cu epilepsie medicamentos controlată. Cercetarea a inclus 102 subiecți, dintre care 62 au fost diagnosticați cu epilepsie farmacorezistentă și 40 cu epilepsie controlată medicamentos. Procesele cognitive evaluate au inclus memoria verbală, memoria vizuală, atenția și limbajul, utilizând teste standardizate precum MoCA, Test de memorie auditiv-verbală Rey, Figura Complexă Rey-Osterrieth, Testul Trail Making (părțile A și B) și testul de fluentă verbală F-A-S. Rezultatele studiului au evidențiat că tulburările cognitive au fost de trei ori mai frecvente în grupul cu epilepsie farmacorezistentă, cu deficite semnificative în domeniile memoriei verbale, memoriei vizuale, atenției și fluentei semantice. Totodată, subiecții cu epilepsie farmacorezistentă, în mod particular cei cu vârste cuprinse între 50 și 59 de ani, cu nivel de educație mediu și cu o frecvență mai mare a crizelor, au prezentat tulburări cognitive mai severe. Studiul a subliniat necesitatea implementării unor evaluări cognitive detaliate și intervenții terapeutice personalizate pentru pacienții cu epilepsie farmacorezistentă, în vederea gestionării eficiente a tulburărilor cognitive asociate.

Cuvinte cheie: *tulburări cognitive, epilepsie farmacorezistentă, epilepsie medicamentos controlată.*

1. Introduction

According to data from the World Health Organization, approximately 50 million people worldwide suffer from epilepsy, with 30% of them being diagnosed with drug-resistant epilepsy [1]. The globally accepted definition, as established by the International League Against Epilepsy (ILAE), is that epilepsy is a brain disorder characterized by a long-standing predisposition to generate epileptic seizures, along with the neurobiological, cognitive, psychological, and social consequences of the condition. ILAE defines drug-resistant epilepsy as "the therapeutic failure of two or more correctly chosen antiepileptic drugs administered at adequate doses with the aim of achieving sustained seizure freedom" [2]. On the other hand, well-controlled epilepsy is defined as a response to treatment where patients are seizure-free or experience fewer than one seizure per year.

Cognitive disorders are the most common comorbidities associated with epilepsy [3, 4]. Recent studies indicate that cognitive deficits are already present at the onset of epilepsy [5-7]. While in cases of well-controlled epilepsy, cognitive impairments are more subtle, in drug-resistant epilepsy, cognitive deficits are observed in 70-80% of individuals [3]. There is growing awareness of the relevance of these comorbidities, as they significantly affect the prognosis of epilepsy, social life, and the overall quality of life of individuals living with epilepsy.

Epilepsy varies in terms of etiology, genetic factors, severity, chronicity, and treatment response. The relationship between seizures and cognitive dysfunction is complex and can be influenced by factors such as age, electroencephalographic abnormalities, disease onset and duration, seizure type, and frequency. In some cases, these factors can be more disabling than the seizures themselves [6, 8]. Depending on these variables and with advancing age, the impact on cognitive development differs. Altered cognitive abilities and performance in individuals with epilepsy often occur alongside ongoing seizures, as epilepsy and cognition are closely interconnected. These impairments may emerge simultaneously due to a shared pathological process or could exist in a bidirectional relationship. Recent studies indicate that cognitive deficits frequently precede the onset of epileptic seizures. The cognitive deficits observed at the onset of epilepsy typically include reduced memory, attention, processing speed, visual-spatial abilities, and executive function. Additional risk factors that may trigger or exacerbate cognitive impairment include repetitive brain trauma, episodes of status epilepticus, frequent seizures, and advancing age [6, 9]. Most studies suggest that the earlier the onset of epilepsy, the more pronounced the cognitive deficits [6].

The aim of this study is to investigate the cognitive characteristics of patients with drug-resistant epilepsy.

Objectives of the research: (1) to identify the cognitive characteristics associated with drug-resistant epilepsy, and (2) to compare the cognitive profiles of patients with drug-resistant epilepsy to those of patients with well-controlled epilepsy.

2. Materials and Methods

The research was conducted at the Institute of Emergency Medicine, National Centre of Epileptology. It involved 102 epilepsy patients aged 18-62, including 62 with drug-resistant epilepsy and 40 with well-controlled epilepsy, all diagnosed by an epileptologist. Individuals with dementia or severe cognitive impairment were excluded. The general characteristics of the experimental subjects are reflected in table 1.

Table 1

Presentation of general data of experimental subjects

General dates		Drug-resistant		Well-controlled	
		Number	%	Number	%
1. Number	Total subjects -102	62	62	40	38
2. Gender	Men	30	48	20	50
	Women	32	52	20	50
3.Age (years)	18-19	2	3	1	3
	20-29	18	29	16	40
	30-39	23	37	13	33
	40-49	15	24	7	18
	50-59	2	3	3	8
	60-69	2	3	0	0
4. Education	Secondary education	29	47	10	25
	Professional technical studies	18	29	6	15
	Higher education	15	24	24	60
5. Professional status	Employed	17	27	32	80
	Unemployed	43	69	6	15
	Pensioner	1	2	0	0
	Student	1	2	2	5
6.Marital status	Married	23	37	14	35
	Single	29	47	24	60
	Divorced	10	16	2	5
7. Living environment	Urban	33	53	21	53
	Rural	29	47	19	48
8. Disease duration (years)	0-9	3	5	15	38
	10-19	24	39	15	38
	20-29	26	42	6	15
	30-39	5	8	3	8
	40-49	3	5	1	3
	50-59	1	2	0	0
9. Etiology of epilepsy	Structural	43	69	25	63
	Unknown	13	21	12	30
	Genetic	6	10	3	8
10. Frequency of seizures	1 – 10/month	43	69	-	-
	11 – 20/month	5	8	-	-
	More than 20/month	14	23	-	-

To achieve the objectives proposed in this research, the methodology applied in the research included:

- *empirical methods*: 1) Montreal Cognitive Assessment Test (MoCA); 2) Rey Auditory Verbal Test (RAVLT); 3) Rey-Osterrieth complex figure (ROCFT); 4) Trail Making Test (TMT); 5) F-A-S language Test (phonemic and semantic fluency).

- *statistical methods*: analysis of frequencies and percentage values, comparison of means by descriptive statistics, difference of means by independent *T-test*.

3. Results and discussions

Results of the MoCA test

The MoCA test results categorize subjects into those with cognitive impairment and without cognitive impairment. As shown in Figure 1, cognitive impairment was found in 20% of subjects with well-controlled epilepsy and 61% of those with drug-resistant epilepsy. The average MoCA score for subjects with drug-resistant epilepsy ($m = 23.40$, $SD = 4.01$) was 3.28 points lower than for those with well-controlled epilepsy ($m = 26.68$, $SD = 2.35$). A *t*-test confirmed this difference is statistically significant, indicating that individuals with drug-resistant epilepsy exhibit more cognitive impairment than those with well-controlled epilepsy.

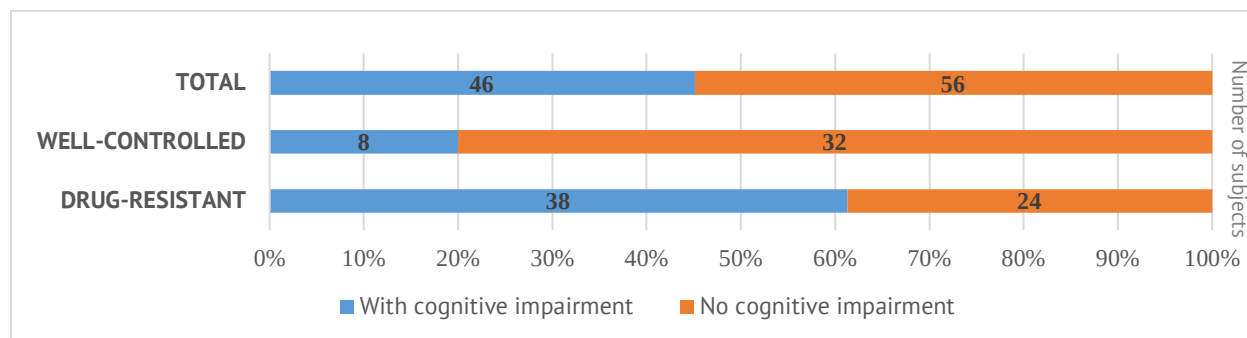


Figure 1. Distribution of subjects according to the MoCA CognitiveTest.

Cognitive impairment by demographic and clinical factors

Cognitive impairment by gender. The analysis reveals that cognitive impairment is more prevalent in women, both in subjects with drug-resistant epilepsy (65% of women vs. 60% of men) and in those with well-controlled epilepsy (25% of women vs. 15% of men).

Cognitive impairment by age: Cognitive impairment is more pronounced in individuals with drug-resistant epilepsy across all age groups, with the highest prevalence (100%) observed in the 50-59-year age group, compared to 33% in well-controlled epilepsy patients of the same age.

Cognitive impairment by educational level: The highest rates of cognitive impairment were found in individuals with secondary education: 79% in drug-resistant epilepsy and 60% in well-controlled epilepsy. Among those with professional-technical education, cognitive impairment was observed in 50% of drug-resistant cases and 40% of higher education subjects. In well-controlled epilepsy, cognitive impairment in these groups was minimal.

Cognitive impairment by professional status: Cognitive impairment was more prevalent in unemployed individuals with drug-resistant epilepsy (70%) compared to employed subjects (47%). Similarly, in well-controlled epilepsy, 50% of unemployed subjects had cognitive disorders, versus 16% of employed subjects. Statistical analysis showed a significant difference ($t = 5.77$, $p = 0.000$), with employed subjects scoring higher on cognitive tests ($m = 26.54$, $SD = 2.36$) than the unemployed ($m = 22.76$, $SD = 4.06$).

Cognitive impairment by marital status: Cognitive impairment was more common in married (59%), single (65%), and divorced (60%) individuals with drug-resistant epilepsy, while only divorced individuals with well-controlled epilepsy (50%) showed significant cognitive impairment. No significant cognitive differences were found between marital statuses ($t = 0.82$, $p = 0.44$).

Cognitive impairment by living environment: Cognitive impairment was similarly prevalent in drug-resistant epilepsy subjects from both urban (61%) and rural (62%) areas, compared to well-controlled epilepsy subjects (10% urban, 32% rural).

Cognitive impairment by etiology: Cognitive impairment was most pronounced in individuals with structural epilepsy: 65% in drug-resistant cases vs. 24% in well-controlled cases. In those with unknown epilepsy, 62% of drug-resistant cases had cognitive deficits, compared to 8% in well-controlled cases. For genetic epilepsy, impairment was equally present in both groups (33%). Statistical analysis showed no significant differences across etiologies ($t = 1.49$, $p = 0.23$).

Cognitive impairment by duration of disease: Cognitive impairment was significantly more common in drug-resistant epilepsy subjects (61%) compared to well-controlled subjects (20%). In the 0–9-year range, cognitive impairment was observed in 67% of drug-resistant cases, while only 13% of well-controlled epilepsy subjects showed impairment. The prevalence of cognitive disorders in well-controlled subjects increased with disease duration, reaching 33% in the 30–39-year range, while drug-resistant subjects remained at 67%.

Cognitive impairment by seizure frequency: Higher seizure frequency correlated with more pronounced cognitive deficits. Among drug-resistant subjects, cognitive impairment was found in 56% of those with 1-10 seizures per month, 60% with 11-20 seizures, and 79% with more than 20 seizures per month. Well-controlled subjects had either no seizures or very rare occurrences (1 per 1-2 years).

Table 2 summarizes the MoCA test results for subjects with drug-resistant epilepsy and well-controlled epilepsy, stratified by gender, age, education, professional status, marital status, living environment, disease duration, epilepsy etiology, and seizure frequency.

Table 2

Presentation of MoCA Test results in subjects with drug-resistant epilepsy and subjects with well-controlled epilepsy

MoCA Test		Drug-resistant epilepsy		Well-controlled epilepsy	
		with cognitive impairment, %	no cognitive impairment, %	with cognitive impairment, %	no cognitive impairment, %
1. Number	Subjects (102)	61	39	20	80
2. Gender	Men	60	40	15	85
	Women	63	37	25	75
3. Age (years)	18-19	50	50	0	100
	20-29	44	56	19	81
	30-39	70	30	23	77
	40-49	67	33	14	86
	50-59	100	0	33	67
	60-69	50	50	0	0
4. Education	Secondary education	79	21	60	40
	Professional technical studies	50	50	0	100
	Higher education	40	60	8	92
5. Professional status	Employed	47	53	16	84
	Unemployed	70	30	50	50

Continuation Table 2

	Pensioner	0	100	0	0
	Student	0	100	0	100
6. Marital status	Married	59	41	17	83
	Single	65	35	21	79
	Divorces	60	40	50	50
7. Living environment	Urban	61	39	9	91
	Rural	62	38	32	68
8. Disease duration (years)	0-9	67	33	13	87
	10-19	54	46	27	73
	20-29	69	31	17	83
	30-39	60	40	33	67
	40-49	67	33	0	100
	50-59	0	100	0	0
9. Etiology of epilepsy	Structural	65	35	24	76
	Unknown	62	38	8	92
	Genetic	33	67	33	67
10. Frequency of seizures	1 – 10 / month	56	44	-	-
	11 – 20 /month	60	40	-	-
	> 20 / month	79	21	-	-

The statistical findings of our research align with the results of several international studies. For example, a study by Gavrilovic et al. (2019) on the impact of drug-resistant epilepsy duration on cognitive processes found significantly lower MoCA scores in individuals with drug-resistant epilepsy compared to those with well-controlled epilepsy. This study also demonstrated a negative correlation between disease duration and cognitive status, while seizure control positively correlated with MoCA performance [10]. Similarly, Wang et al. (2020) identified that higher education levels, seizure control, the use of a single antiepileptic drug, and emotional stability serve as protective factors for cognitive function, whereas low education, high seizure frequency, polytherapy, and depression negatively affect cognitive performance [11]. Furthermore, Montaña-Lozada et al. (2021) also using the MoCA test, concluded that people with epilepsy experience more pronounced cognitive impairments, particularly in memory and attention, compared to a control group without epilepsy [12].

Results of the RAVLT Verbal Memory Test

Significant differences were observed between subjects with drug-resistant epilepsy and those with well-controlled epilepsy on the RAVLT verbal memory test. In trials 1 to 6 and proactive interference (List B), the mean scores of subjects with well-controlled epilepsy were consistently higher than those with drug-resistant epilepsy, indicating better verbal memory performance in the former group. However, *t-test* results showed no significant differences for trials 1 ($t = -1.4$, $p = 0.15$), 2 ($t = -1.5$, $p = 0.12$), and 6 ($t = -1.98$, $p = 0.051$). In contrast, significant differences were found in trials 3 ($t = -2.1$, $p = 0.04$), 4 ($t = -2.16$, $p = 0.03$), 5 ($t = -3.36$, $p = 0.001$), and proactive interference (List B) ($t = -3.08$, $p = 0.003$). For recall (7), retention (8), and total RAVLT scores, subjects with well-controlled epilepsy again performed better, with significant differences confirmed by *t-test* values for recall ($t = -2.6$, $p = 0.01$), retention ($t = -2.06$, $p = 0.042$), and total RAVLT ($t = -2.14$, $p = 0.035$). The results suggest that verbal memory is more significantly impaired in individuals with drug-resistant epilepsy

compared to those with well-controlled epilepsy. This is reflected in lower performance and efficiency in both initial reproduction and subsequent attempts to retain verbal material. Our findings on immediate verbal memory align with international research. For instance, I. Cano-López et al. (2018) identified verbal memory deficits in individuals with drug-resistant epilepsy [13], while M.G. Vaccaro et al. (2018) reported a distinct neurocognitive profile in these individuals, characterized by deficits in immediate verbal memory and recall [14].

Results on visual memory in individuals with epilepsy (ROCFT)

In the first phase of the figure-copying task, 30% of participants from both groups reached the 100th percentile, with 48% from the well-controlled epilepsy group and 19% from the drug-resistant epilepsy group. At the 90th percentile, 32% of subjects scored at this level, with 35% from the drug-resistant epilepsy group and 28% from the well-controlled epilepsy group. At the 80th percentile, only 18% of subjects achieved this level, with 10% from the well-controlled group and 23% from the drug-resistant group. Notably, the lowest performance (10th percentile) was observed in 10% of subjects, all of whom were from the drug-resistant epilepsy group (Figure 2).

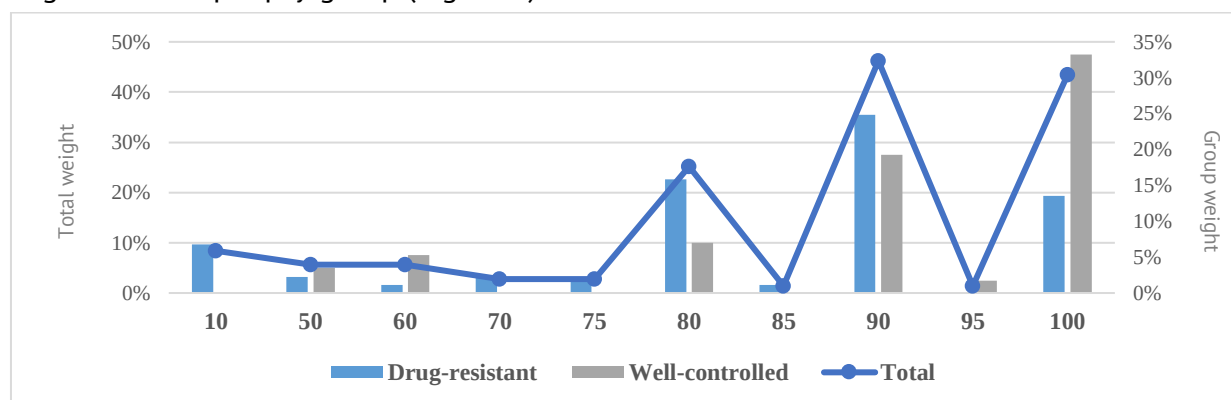


Figure 2. Rey-Osterrieth Complex Figure, phase I - Copying.

The mean score for figure copying in phase I was higher in subjects with well-controlled epilepsy ($m = 89.63$, $SD = 14.52$) compared to those with drug-resistant epilepsy ($m = 78.95$, $SD = 25.22$), with a difference of 10.68. The t -test value ($t = -2.43$, $p = 0.017$) indicates a statistically significant difference between the two groups. These results suggest that individuals with drug-resistant epilepsy face greater difficulties in planning, organizing, and accurately copying the figure, likely due to mental slowness, as well as deficits in concentration and attention.

In Phase II of the test, the reproduction of the Rey-Osterrieth complex figure from memory, only 2% of participants reached the 100th percentile, with 3% from the well-controlled epilepsy group and 2% from the drug-resistant epilepsy group. The majority (30%) scored at the 10th percentile, with 42% from the drug-resistant group and 13% from the well-controlled group. These findings indicate visual memory difficulties in both groups, with more pronounced deficits in the drug-resistant epilepsy group (Figure 3).

The mean score for figure reproduction in Phase II was significantly higher in subjects with well-controlled epilepsy ($m = 56.25$, $SD = 26.55$) compared to those with drug-resistant epilepsy ($m = 32.18$, $SD = 25.44$), with a difference of 24.07. The t -test value ($t = -4.6$, $p = 0.00$) indicates a statistically significant difference between the two groups. These results suggest that reproduction of the Rey-Osterrieth Complex Figure requires greater cognitive effort, involving visual-constructive skills, executive function, planning, abstraction, and sustained attention.

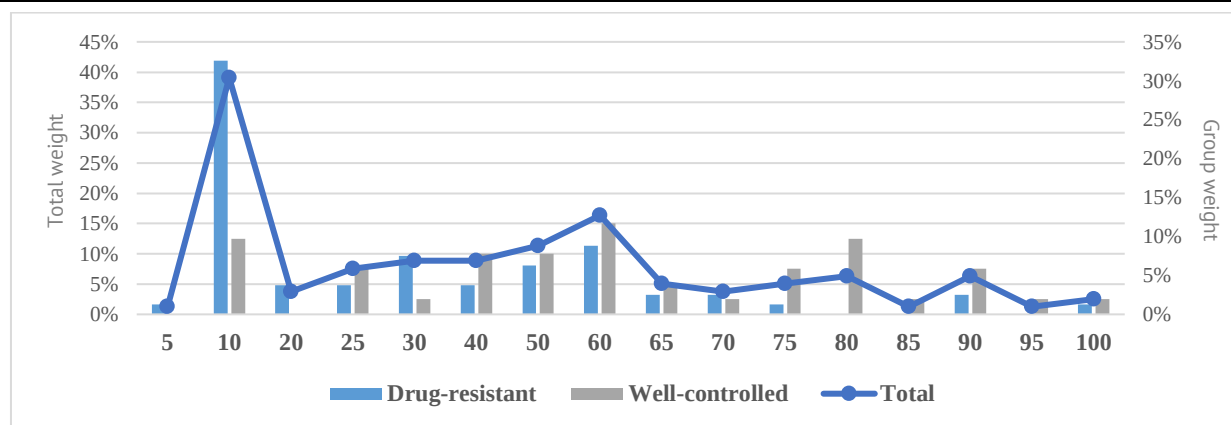


Figure 3. Rey-Osterrieth Complex Figure Test, phase II – Reproduction.

However, in the phase involving reproduction from memory, no significant differences were observed between the groups ($t = 2.34$, $p = 0.102$). This indicates that visual memory is similarly impaired in both the drug-resistant and well-controlled epilepsy groups.

The results of our research align with findings from international studies on this topic. For instance, B. Mathon et al. (2020) used the ROCFT to assess visual memory and psychomotor functions in individuals with drug-resistant epilepsy compared to healthy controls. Their study found that individuals with drug-resistant epilepsy performed worse in visuospatial memory, psychomotor functions, sustained concentration, and visual figure scanning. These cognitive deficits were linked to the severity of epilepsy, high seizure frequency, and antiepileptic medication use [15].

Attention results in individuals with epilepsy (Trail Making Test)

In the TMT part A, 45% of all subjects demonstrated a low level of attention, scoring at or below the 10th percentile. This was predominantly observed in the drug-resistant epilepsy group (50%) compared to the well-controlled group (38%). Only 8% of the total subjects reached the 80th percentile, with the majority being from the well-controlled epilepsy group (10%) (Figure 4).

In TMT part B, performance was significantly lower overall, with 74% of subjects scoring at or below the 10th percentile. This was notably higher in the drug-resistant epilepsy group (81%) compared to the well-controlled group (63%). Only 6% of subjects reached the 80th percentile (Figure 4).

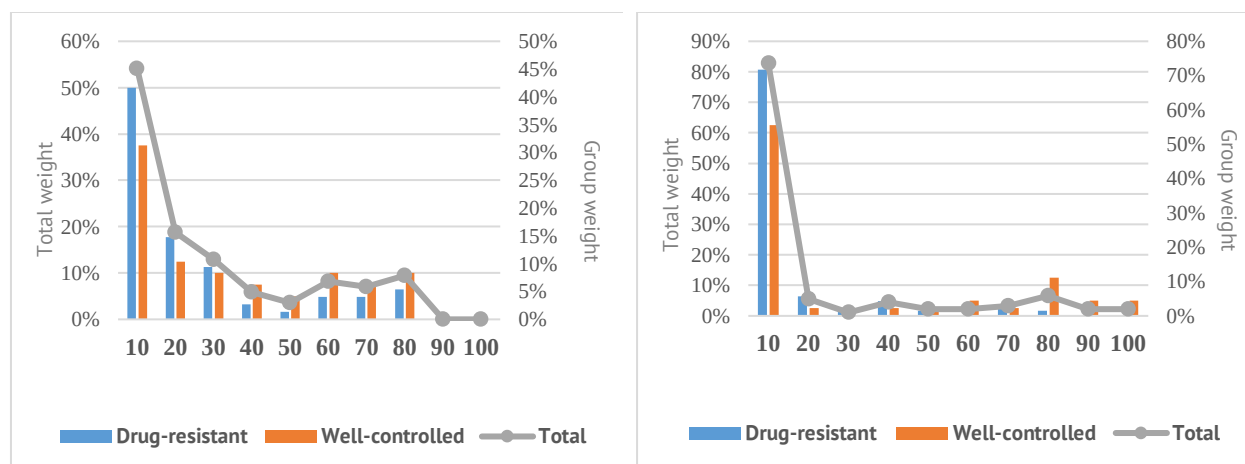


Figure 4. TMT Test (Part A and B).

In TMT part A, the mean score for subjects with drug-resistant epilepsy ($m = 51.44$, $SD = 35.39$) was 13.16 higher than that of subjects with well-controlled epilepsy ($m = 38.28$, $SD = 18.08$). The t -test results ($t = 2.4$, $p = 0.015$) indicate a statistically significant difference between the two groups.

In TMT part B, a larger difference of 72.07 was observed between the groups, with subjects with well-controlled epilepsy scoring lower ($m = 115.08$, $SD = 75.00$) compared to those with drug-resistant epilepsy ($m = 187.15$, $SD = 116.46$). The t -test value ($t = 3.8$, $p = 0.00$) confirmed this as a statistically significant difference.

These findings suggest that subjects with drug-resistant epilepsy exhibit poorer attention performance, likely due to uncontrolled seizures, the use of multiple antiepileptic drugs, and the impact of these factors on cognitive processes and reaction speed. Additionally, low attention may correlate with factors such as lack of motivation, sleep disturbances, and depression, which were present in 56% of subjects with drug-resistant epilepsy, as we will further discuss.

Language performance in individuals with epilepsy (F-A-S test)

In the *phonemic fluency test*, 49% of all subjects presented low phonemic fluency, with 50% of drug-resistant epilepsy subjects and 48% of well-controlled epilepsy subjects scoring at this level.

Regarding the *semantic fluency test*, both groups showed low verbal fluency, with 89% of drug-resistant and 88% of well-controlled subjects scoring at or below the 10th percentile. Only 10% of the total subjects reached the 50th percentile, and just 1% reached the 90th percentile (Figure 5).

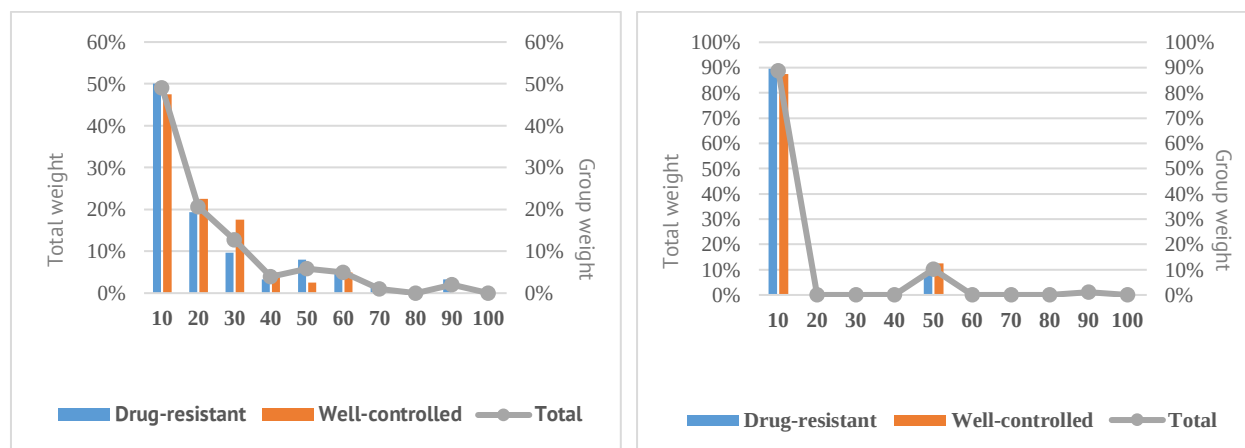


Figure 5. Phonemic and semantic fluency (F-A-S test).

In subjects with well-controlled epilepsy, mean scores for both phonemic fluency and semantic fluency were higher by 1.35 and 2.37 points, respectively, compared to subjects with drug-resistant epilepsy. The t -test for phonemic fluency revealed no significant difference between the groups ($t = -0.64$, $p = 0.5$). However, the t -test for semantic fluency indicated a significant difference, with subjects with well-controlled epilepsy performing better ($t = -2.87$, $p = 0.005$).

Recent studies on cognitive impairment in epilepsy provide valuable insights. A. B. Bjorke et al. (2021) examined cognitive deficits in adults with temporal lobe epilepsy without structural brain lesions, finding impairments in visual memory and executive function (TMT

and verbal fluency tests) at the onset of the disease. However, no significant differences were observed in verbal memory, attention, or processing speed [5].

C. Helmstaedter (2017) analyzed three studies involving 500 adults with drug-resistant epilepsy, revealing that over 70% exhibited cognitive deficits, particularly in memory, attention, and executive function. Key predictors of cognitive impairment included education level, epilepsy etiology, and the presence of generalized tonic-clonic seizures [3].

F. Tabibian et al. (2023) investigated the impact of structural brain lesions on cognitive performance in drug-resistant epilepsy. Their findings indicated that subjects with hippocampal sclerosis performed better on cognitive tests (including ROCFT, Verbal Fluency, RAVLT and TMT) than those with atrophic lesions or cortical dysplasia [16]. Additionally, retrospective studies indicate that prolonged epilepsy duration is associated with more pronounced cognitive decline [3,18].

A recent study by N. Doğan et al. (2021) at the National Centre for Epileptology in Chisinau identified several predictive factors for cognitive impairment in drug-resistant epilepsy, including low education level, polytherapy with more than four antiepileptic drugs, depression, and the absence of structural brain lesions [19]. Similarly, Novak et al. (2022) found that cognitive impairment in drug-resistant epilepsy is influenced by factors such as early onset of epilepsy, high seizure frequency, frequent interictal discharges, low education level, and polytherapy with antiepileptic drugs [9].

4. Conclusions

The results of our study highlight significant cognitive impairments in individuals with drug-resistant epilepsy, with these deficits occurring three times more frequently compared to those with well-controlled epilepsy. Statistically significant differences were found in verbal memory, visual memory, semantic fluency, attention, and executive function, whereas phonemic fluency did not show significant differences. Cognitive impairments were more pronounced in individuals with drug-resistant epilepsy who were aged 50-59 years, female, had secondary education, were unemployed, single, and had epilepsy of unknown or structural etiology. Additionally, most individuals with drug-resistant epilepsy with cognitive impairment experienced more than 20 seizures per month. Cognitive deficits were evident early in the disease course, although no significant differences were observed based on gender or living environment.

Conflict of interest: The author declares no conflict of interest.

References

1. World Health Organisation (WHO). *Epilepsy: A public health imperative*. Geneva, Switzerland: WHO. 2019. Available online: <https://apps.who.int/iris/handle/10665/325440> (accessed on 10 April 2025).
2. Kwan, P.; Arzimanoglou, A.; Berg, A. T.; Brodie, M. J.; Hauser, W.A.; Mathern, G.; Moshé, S.L.; Perucca, E.; Wiebe, S.; French, J. Definition of drug resistant epilepsy: consensus proposal by the ad hoc Task Force of the ILAE Commission on Therapeutic Strategies. *Epilepsia* 2020, 51(6), pp. 1069-1077.
3. Helmstaedter, C.; Witt, J. A. Epilepsy and cognition-a bidirectional relationship? *Seizure* 2017, 49, pp. 83-89. doi:10.1016/j.seizure.2017.02.017.
4. Kanner, A. M.; Helmstaedter, C.; Sadat-Hossieny, Z.; Meador, K. Cognitive disorders in epilepsy I: Clinical experience, real-world evidence and recommendations. *Seizure*, 2020, 83, pp. 216-222. doi:10.1016/j.seizure.2020.10.009.
5. Bjørke, A. B.; Østby, Y.; Grahl, S. G.; Larsson, P. G.; Olsen, K. B.; Nævera, M. C. J.; Heuser, K. Cognition in adult patients with newly diagnosed non-lesional temporal lobe epilepsy. *Epilepsy & Behavior* 2021, 116, 107771.
6. Stefan, H.; Pauli, E. Cognition and epilepsies. *Der Nervenarzt*, 2008, 79, pp. 77-92. doi:10.1007/s00115-008-2463-9.

7. Witt, J.A.; Helmstaedter, C. Cognition in the early stages of adult epilepsy. *Seizure* 2015, 26, pp. 65-68. doi.org/10.1016/j.seizure.2015.01.018.
8. Mula, M. Cognitive dysfunction in patients with epilepsy: focus on clinical variables. *Future Neurology* 2015, 10(1), pp. 41-48. doi:10.2217/fnl.14.65.
9. Novak, A.; Vizjak, K.; Rakusa, M. Cognitive impairment in people with epilepsy. *Journal of Clinical Medicine* 2022, 11(1), 267. doi: 10.3390/jcm11010267.
10. Gavrilovic, A.; Toncev, G.; Boskovic Matic, T.; Vesic, K.; Ilic Zivojinovic, J.; Gavrilovic, J. Impact of epilepsy duration, seizure control and EEG abnormalities on cognitive impairment in drug-resistant epilepsy patients. *Acta Neurologica Belgica* 2019, 119, pp. 403-410. doi:10.1007/s13760-019-01090-x.
11. Wang, L.; Chen, S.; Liu, C.; Lin, W.; Huang, H. Factors for cognitive impairment in adult epileptic patients. *Brain and behavior* 2020, 10(1), e01475. doi:10.1002/brb3.1475.
12. Montaña-Lozada, J. M.; López, N.; Espejo-Zapata, L. M.; Soto-Añari, M.; Ramos-Henderson, M.; Caldichoury-Obando, N.; Camargo, L. Cognitive changes in patients with epilepsy identified through the MoCA test during neurology outpatient consultation. *Epilepsy & Behavior* 2021, 122, 108158.
13. Cano-López, I.; Hampel, K. G.; Garcés, M.; Villanueva, V.; González-Bono, E. Quality of life in drug-resistant epilepsy: relationships with negative affectivity, memory, somatic symptoms and social support. *Journal of Psychosomatic Research* 2018, 114, pp. 31-37.
14. Vaccaro, M. G.; Trimboli, M.; Scarpazza, C.; Palermo, L.; Bruni, A.; Gambardella, A.; Labate, A. Neuropsychological profile of mild temporal lobe epilepsy. *Epilepsy & Behavior* 2018, 85, pp. 222-226. doi:10.1016/j.yebeh.2018.06.013.
15. Mathon, B.; Bordes, A.; Amelot, A.; Carpentier, A.; Méré, M.; Dupont, S.; Samson, S. Evaluation of psychomotor functions in patients with drug-resistant epilepsy. *Epilepsy & Behavior* 2020, 106, 106985. doi:10.1016/j.yebeh.2020.106985.
16. Tabibian, F.; Habibabadi, J.M.; Maracy, M.R.; Kahnouji, H.; Rahimi, M.; Rezaei, M. Evaluation of cognitive impairment in refractory temporal lobe epilepsy patients concerning structural brain lesions. *Basic and Clinical Neuroscience* 2023, 14(3), 385.
17. Elger, C. E.; Helmstaedter, C.; Kurthen, M. Chronic epilepsy and cognition. *The Lancet Neurology* 2004, 3(11), pp. 663-672. doi: 10.1016/S1474-4422(04)00906-8.
18. Jokeit, H.; Ebner, A. Effects of chronic epilepsy on intellectual functions. *Progress in brain research* 2002, 135, pp. 455-463. doi.org/10.1016/S0079-6123(02)35042-8.
19. Doțen, N.; Dragan, D. Predictors of cognitive impairments in drug resistant epilepsy. In: *Collection of abstracts of the annual scientific conference of the State University of Medicine and Pharmacy "Nicolae Testemițanu: Cercetarea în biomedicină și sănătate: calitate, excelență și performanță*, Chisinau, Republic of Moldova, October 20-22, 2021, 1, p. 215.

Citation: Doten, N. Exploring cognitive impairments in drug-resistant epilepsy: insight from a comparative analysis. *Journal of Social Sciences* 2025, 8 (2), pp. 107-117. [https://doi.org/10.52326/jss.utm.2025.8\(2\).09](https://doi.org/10.52326/jss.utm.2025.8(2).09).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jss@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).10](https://doi.org/10.52326/jss.utm.2025.8(2).10)
UDC 366.1.001.5:338.439(478)



THE PARTICULARITIES OF THE BEHAVIOR AND MOTIVATION OF THE CONSUMER OF ECOLOGICAL PRODUCTS IN THE REPUBLIC OF MOLDOVA

Sergiu Mîrza, ORCID: 0000-0003-4180-733X,
Lilia Chiriac *, ORCID: 0000-0002-4249-6871

Technical University of Moldova, 168 Stefan cel Mare Blvd., Chisinau, Republic of Moldova

* Corresponding author: Lilia Chiriac, lilia.chiriac@tem.utm.md

Received: 04.25.2025

Accepted: 06.03.2025

Abstract. The integration of the concept of sustainable development into the market economy is closely linked to a clear understanding of the motivations underlying the ecological behavior of consumers. The hypothesis of the study was that consumers in the Republic of Moldova are increasingly motivated to purchase ecological products, and their consumption behavior is influenced by factors such as awareness of health benefits, concern for environmental protection, income level, etc. The purpose of the study was to analyze the behavior and motivation of consumers of ecological products in the Republic of Moldova. To achieve this goal, the following tasks have been proposed: developing a questionnaire, conducting a survey and collecting data, analyzing the information obtained and formulating relevant conclusions. The methods used for the research consisted of studying domestic and foreign literature sources in the field, using the systemic approach method to study market phenomena and conducting a survey. Research results showed that in the current context, characterized by growing concerns about sustainability, climate change and the negative impact of industry on the environment, the behavior of consumers of organic products in the Republic of Moldova is becoming a topic of major interest, and the motivation for purchasing these products is constantly evolving. The initial hypothesis has largely come true. The analysis of the behavior and motivation of consumers in the Republic of Moldova showed that the orientation towards organic products is determined by factors such as awareness of health benefits, concern for environmental protection and social influences.

Keywords: *sustainable development, ecological behavior, consumer motivation, ecological products, ecological consumption.*

Rezumat. Integrarea conceptului de dezvoltare durabilă în economia de piață este strâns legată de o înțelegere clară a motivațiilor care stau la baza comportamentului ecologic al consumatorilor. Ipoteza studiului a fost că consumatorii din Republica Moldova sunt tot mai motivați să achiziționeze produse ecologice, iar comportamentul lor de consum este influențat de factori precum conștientizarea beneficiilor pentru sănătate, preocuparea pentru protecția mediului, nivelul veniturilor, etc. Studiul a avut drept scop analiza comportamentului și motivației consumatorului de produse ecologice din Republica Moldova. Pentru a atinge acest scop s-au propus următoarele sarcini: elaborarea unui chestionar, realizarea unui sondaj și colectarea datelor, analiza informațiilor obținute și formularea concluziilor relevante.

Metodele utilizate pentru cercetare au constatat în studierea surselor de literatură autohtonă și de peste hotare în domeniu, folosirea metodei abordării sistemice de studiere a fenomenelor de piață și realizarea unui sondaj. Rezultatele cercetării au demonstrat că în contextul actual, caracterizat de preocupări tot mai mari privind sustenabilitatea, schimbările climatice și impactul negativ al industriei asupra mediului, comportamentul consumatorilor de produse ecologice din Republica Moldova devine un subiect de interes major, iar motivația pentru achiziționarea acestor produse evoluează constant. Ipoteza stabilită inițial s-a adevărat în mare parte. Analiza comportamentului și motivației consumatorilor din Republica Moldova a arătat că orientarea către produsele ecologice este determinată de factori precum conștientizarea beneficiilor pentru sănătate, preocuparea pentru protecția mediului și influențele sociale.

Cuvinte cheie: *dezvoltare durabilă, comportament ecologic, motivarea consumatorilor, produse ecologice, consum ecologic*

1. Introduction

The implementation of the concept of sustainable development in a market economy cannot take place without a clear understanding of the motivation for consumers' environmentally friendly behavior. This information is essential both for identifying environmentally friendly products with a high potential for market acceptance and for developing effective strategies to influence consumer choices in favor of environmentally friendly options.

One of the main objectives of companies producing environmentally friendly goods is to analyze the behavior and motivation for the consumption of these products. Through this assessment, they can understand the essential factors that determine environmentally friendly consumption and integrate them into the development of the product range.

In addition to the individual level of enterprises, the analysis of the behavior and motivation for environmentally friendly consumption on a national scale is equally important. The results of such studies can be used to guide consumption towards more sustainable practices that are beneficial to society.

Consumer choices have a significant impact on the environment, both directly and indirectly. Direct influence includes aspects such as: increased emissions caused by consumption, changes in water, soil and air quality, waste generation and impact on the landscape. On the other hand, the indirect influence is even more extensive, because any product or service involves a chain of actions – from production, transport and storage, to sale and use – all of which have an effect on the environment [1].

To make environmentally responsible choices, the consumer must be informed about environmental issues, be aware of the impact of their choices on the environment, take into account the ecological effects of consumption when purchasing products and evaluate the ecological compatibility of products and choose sustainable options.

Stopping environmental degradation depends on the eco-responsible behavior of consumers, which requires an adequate level of motivation and ecological culture.

2. Materials and Methods

Sources of domestic and foreign literature are used regarding the assessment of consumer behavior and motivation of ecological products and the method of systemic approach to studying market phenomena is used.

A questionnaire was developed to understand how consumers from the Republic of Moldova perceive the importance of ecological aspects in the process of making purchasing decisions [2]. The research was conducted within the Department of Economic Theory and Marketing of the Technical University of Moldova. Research period 01.07.2024-01.11.2024. The size of the researched sample is formed by 171 respondents with the following geographical-demographic characteristics:

- by age: under 18 years old – 1.7%, from 18 to 24 years old – 69.8%, from 25 to 34 years old – 5.8%, from 35 to 44 years old – 5.2%, from 45 to 54 years old – 11.6%, from 55 to 64 years old – 1.2% and over 65 years old – 4.7%;
- by gender: men – 27.3% and women – 72.7%;
- by type of locality of residence: rural – 30.2% and urban – 69.8%;
- by region of locality of residence: north - 18%, center – 76.2% and south – 5.8%.

3. Survey results

The study conducted on the subject mentioned in the title of the article is based on a survey of respondents from the Republic of Moldova who were asked to answer several questions related to their behavior and motivation for choosing organic products for their own consumption. With reference to the structure of the researched sample, it is identified that it is dominated by people with advanced formal education (university and postgraduate) located in all three geographical regions (north, center and south) of Moldova, as well as in urban and rural environments in sizes proportional to the population. The majority of respondents have incomes below 10000 MDL, and a significant percentage (36.8%) earns below 3000 MDL. The higher categories (10001-15000 and over 15000 MDL) constitute approximately 34.5% of the total, indicating a segment of the population with higher incomes. The data suggest a polarization of incomes, with a relatively balanced distribution between low and medium to high incomes.

The survey results for the thematic questions are presented as follows. One of these questions is related to the awareness of the importance of environmental issues for each respondent and is presented in Figure 1.

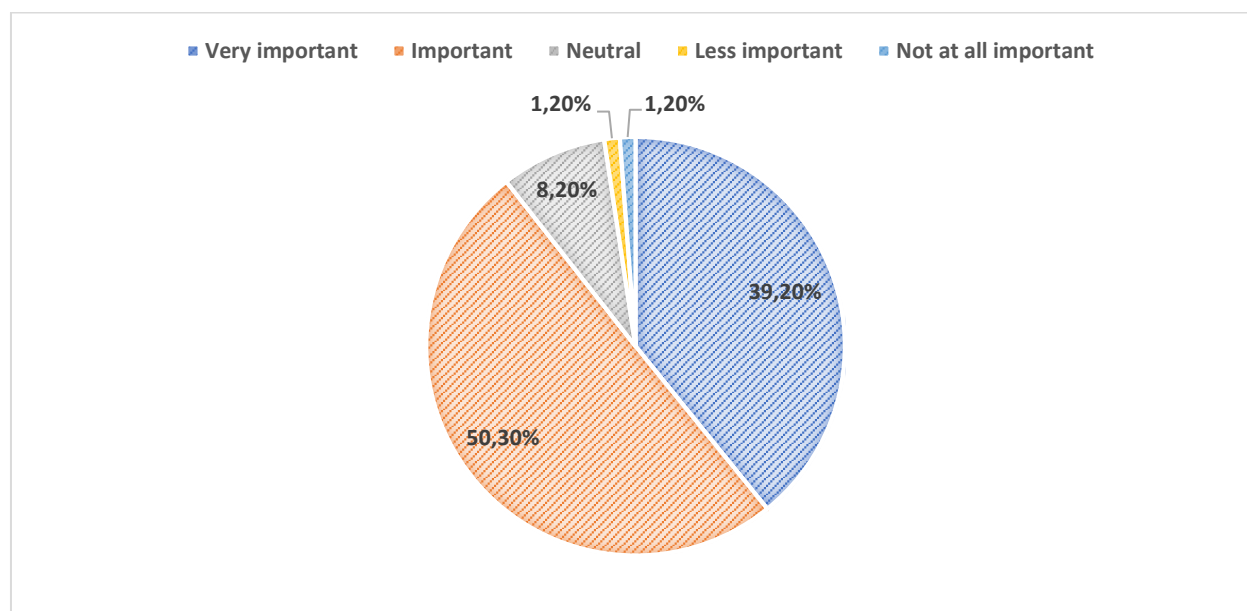


Figure 1. Respondents' answers to the question "How important are environmental issues to you?"

The analysis of the data obtained on this topic informs us that the overwhelming majority (89.5%) of respondents consider environmental issues to be either very important or important, which underlines a high awareness of the importance of this topic. Only an extremely small proportion (1.3%) consider them to be less important or not at all important, which indicates an almost general consensus on the relevance of environmental issues. The low level of neutrality (8.2%) suggests that the majority of participants have a strong opinion on the topic. The next question chosen was related to the level of information of the respondents about environmental issues and sustainability, and the results of the answers being presented in Figure 2.

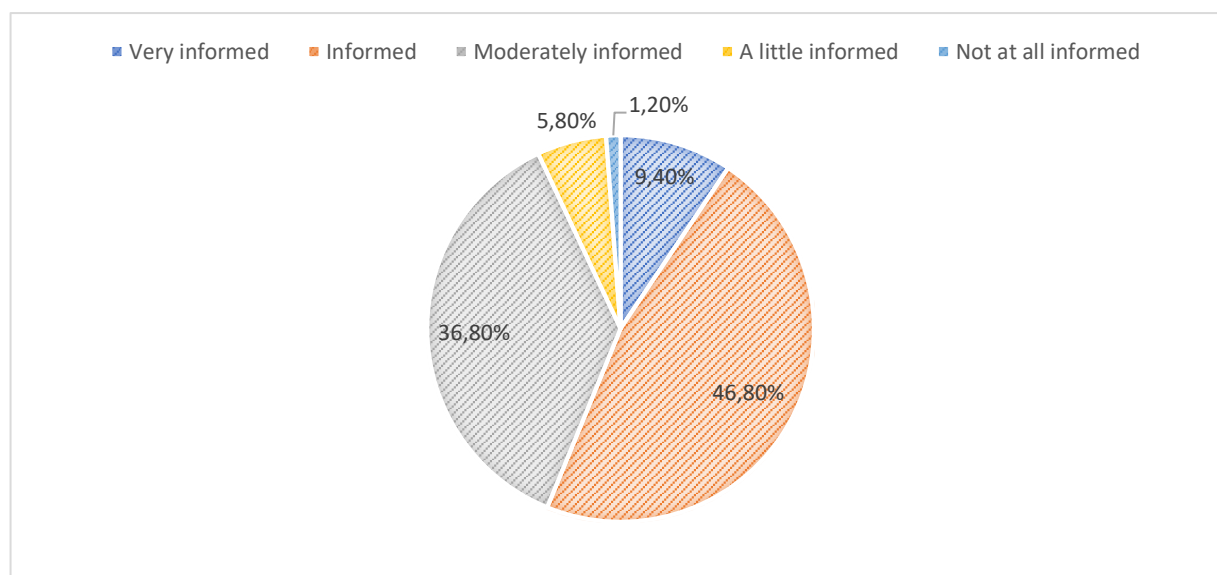


Figure 2. Respondents' answers to the question "To what extent are you informed about environmental and sustainability issues?"

Figure 2 shows the level of information of the respondents on environmental and sustainability issues and it informs us that over 90% of the respondents have some level of information ranging from moderate to very informed, which reflects a general awareness of the subject.

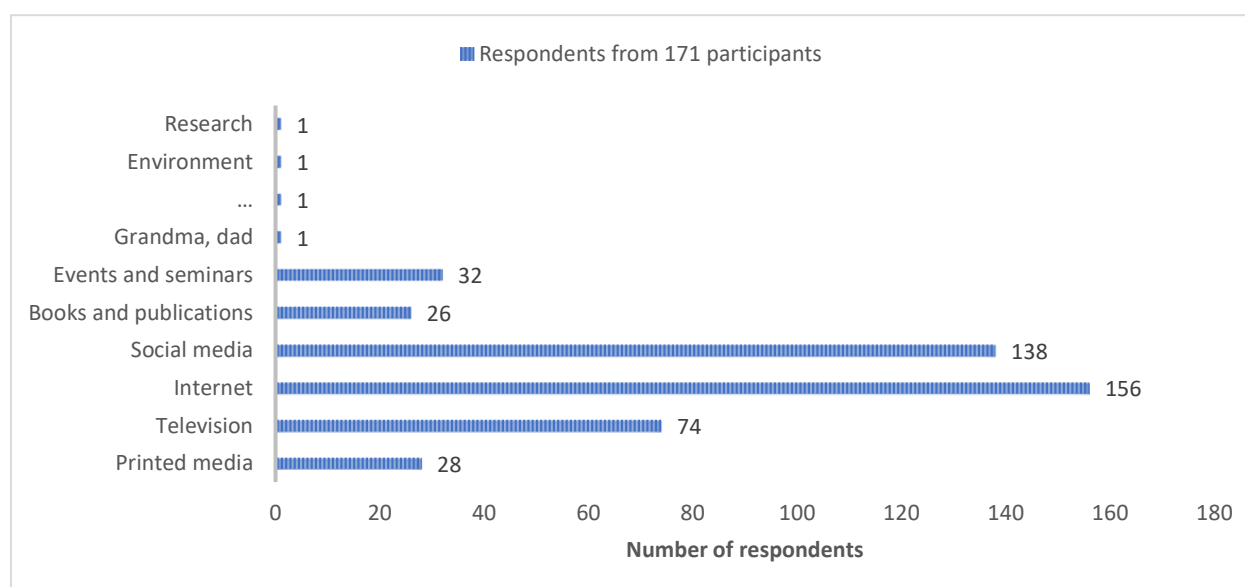


Figure 3. Respondents' answers to the question "Which of the following sources of information about environmental issues do you use?"

However, only about 9% consider themselves very informed, which highlights the need to more actively promote education and information on environmental and sustainability issues. The dominant level of information is “informed” (46.8%), which indicates a significant interest in this area.

The sources of information about environmental issues of the respondents presented in Figure 3 inform us that the dominance of the Internet and social media highlights the importance of digital platforms for disseminating information related to environmental issues. Traditional sources, such as print media and publications, are used less frequently, which may indicate a change in information behavior. Participation in events and seminars is reduced, highlighting a possible opportunity to stimulate active involvement by organizing more awareness-raising and educational activities.

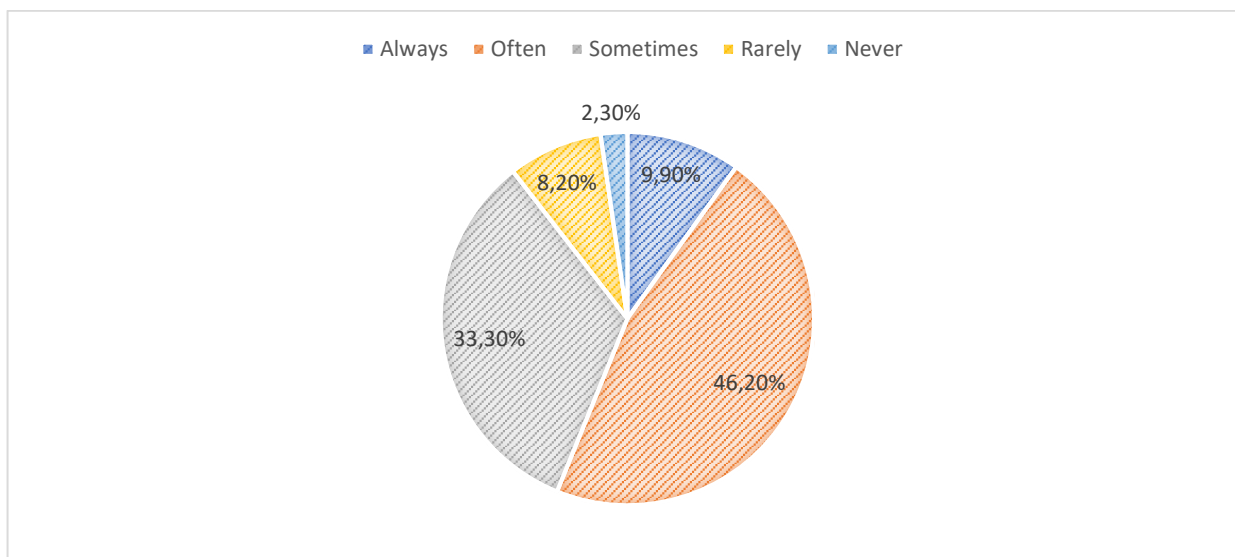


Figure 4. Respondents' answers to the question “How often do you consider environmental aspects when making purchasing decisions?”

The data in Figure 4, which represents respondents' responses to the question “How often do you consider environmental aspects when making purchasing decisions?”, informs us that the majority of respondents (46.2% + 33.3% = 79.5%) consider environmental aspects “often” or “sometimes”, which suggests a moderate concern for sustainability.

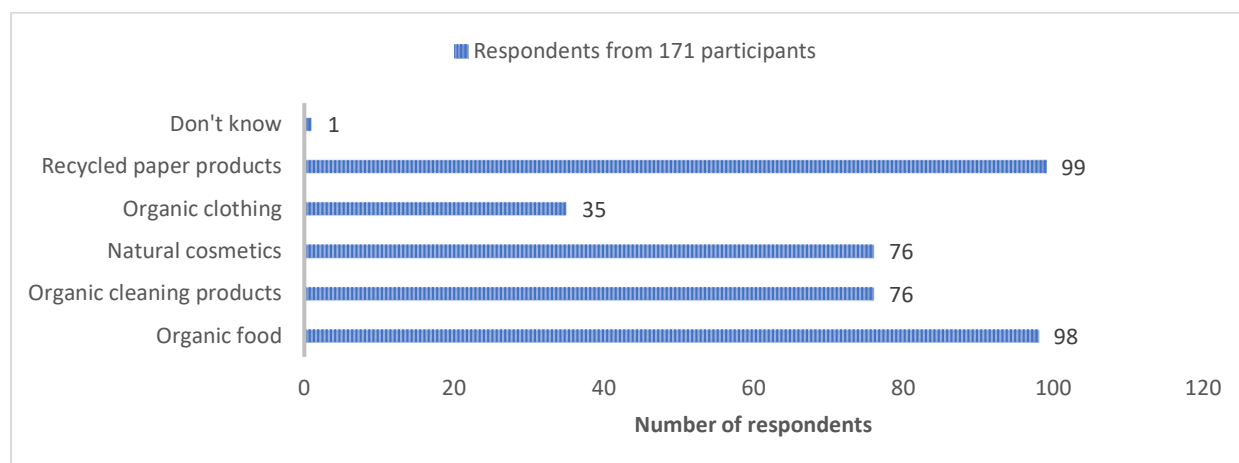


Figure 5. Respondents' answers to the question “What types of organic products have you purchased in the last 6 months?”

However, there is a significant percentage ($8.2\% + 2.4\% \approx 10.6\%$) that does not attach importance to this aspect and only 9.9% of respondents demonstrate a strongly environmentally oriented purchasing behavior. Although there is a positive trend among consumers to consider environmental factors, only a small percentage is consistent in this behavior. This suggests that more education and awareness regarding the impact of consumer choices on the environment is needed.

Analyzing the data in Figure 5, which represents the results of respondents' responses to the question related to the types of organic products purchased in the last six months, we can observe the following trends and conclusions:

- ✓ organic food is the most popular organic product purchased, with 57.3% of respondents choosing this option. This indicates an increased concern for health and healthy eating;
- ✓ recycled paper products are in second place, with 57.9% of respondents. This suggests an increased awareness of the importance of recycling and the use of sustainable resources;
- ✓ organic cleaning products and natural cosmetics are categories that were chosen by 44.4% of respondents. This shows a concern for using products that do not negatively affect the environment and are safer for health;
- ✓ organic clothing is the least popular category, with only 20.5% of respondents. This may indicate that organic clothing is still a relatively new concept or less accessible to many consumers;
- ✓ only 0.6% of respondents: chose this option don't know, indicating a good awareness of organic products available on the market.

Thus, the data shows a positive trend towards the consumption of organic products, with a preference for organic food and recycled paper products. There is also a significant concern for natural cleaning products and cosmetics, while organic clothing has a lower impact at the moment.

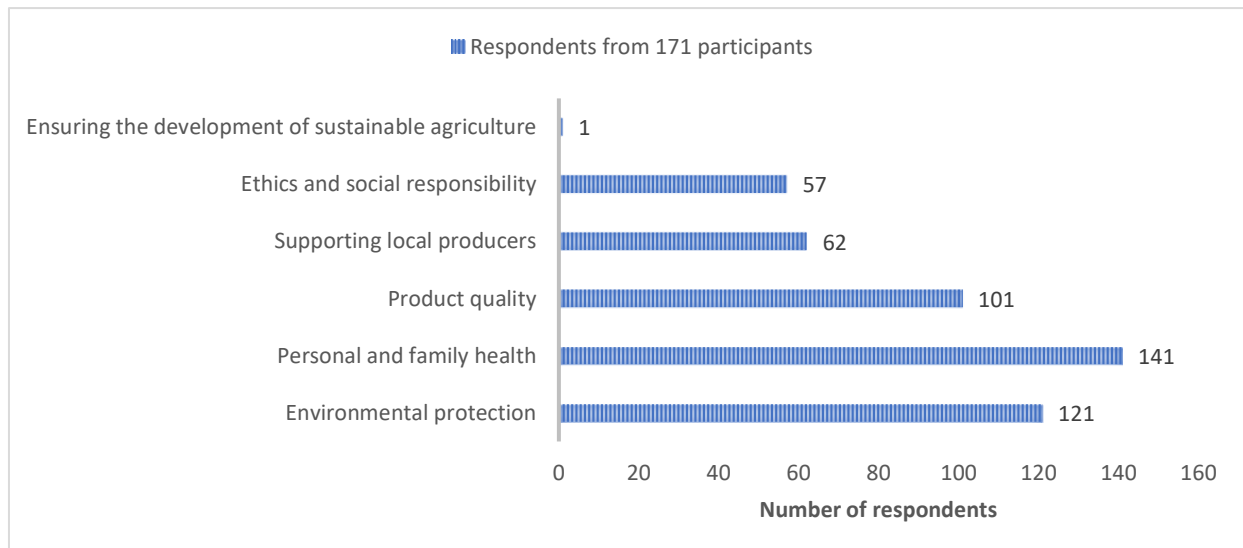


Figure 6. Respondents' answers to the question "What are the main reasons why you choose to buy organic products?"

Analyzing the data in Figure 6 with reference to the reasons for choosing organic products purchased, we can observe the following main reasons why people choose to buy organic products:

1. Personal and family health is the most frequently mentioned reason, with 82.5% of respondents. This highlights the importance that people attach to their health and that of their loved ones when choosing organic products.

2. Environmental protection is in second place, with 70.8% of respondents mentioning environmental protection as the main reason. This reflects an increased awareness of the impact on the environment and the desire to contribute to its preservation.

3. Product quality accounts for 59.1% of respondents who chose product quality as a reason. This suggests that organic products are perceived as being of higher quality.

4. Supporting local producers accounts for 36.3% of respondents who mentioned supporting local producers. This indicates a preference for the local economy and sustainability.

5. Ethics and social responsibility – 33.3% of respondents chose this reason, which shows a concern for ethical practices and social responsibility of companies.

6. Ensuring the development of sustainable agriculture accounts for only 0.6% of respondents who mentioned this reason, which suggests that this aspect is still little recognized or considered by consumers.

In this context, we can mention that the main reasons why people choose to buy organic products are personal and family health, environmental protection and product quality. Supporting local producers and ethical and social responsibility considerations are also important, but to a lesser extent.

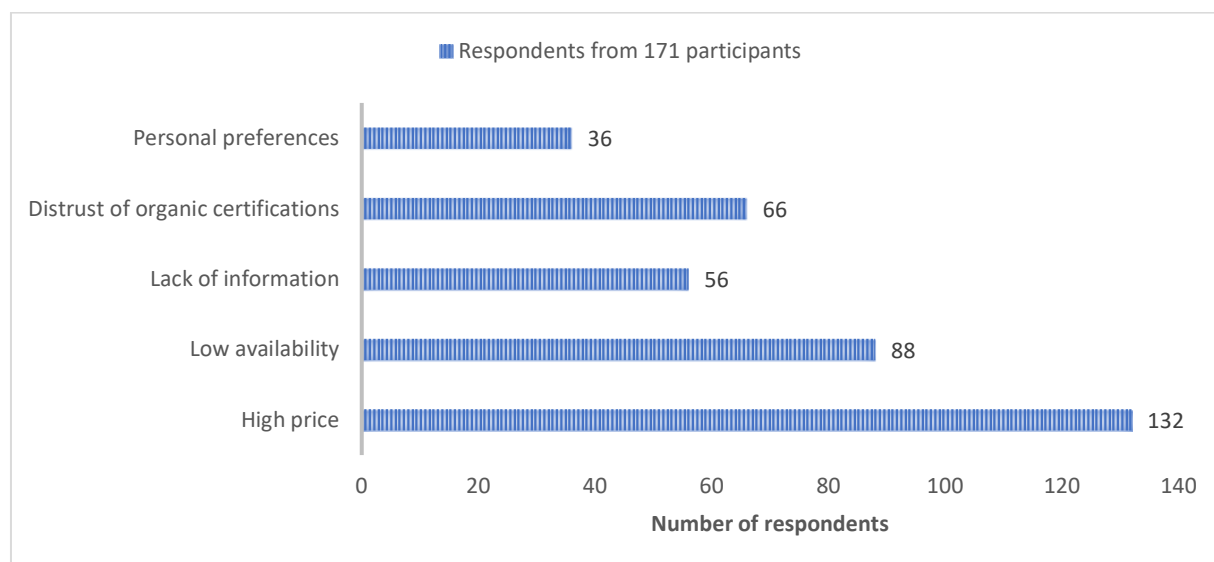


Figure 7. Respondents' answers to the question "What factors discourage you the most from buying organic products?"

Analyzing the data in Figure 7, which indicates the factors that most discourage the purchase of organic products, we obtained the following results:

- ✓ high price is the most frequently mentioned factor, with 77.2% of respondents. This indicates that the higher cost of organic products is a significant barrier for many consumers.
- ✓ low availability is in second place and 51.5% of respondents mentioned this factor as a deterrent. This suggests that organic products are not always easy to find in stores or on the market.
- ✓ distrust in organic certifications was mentioned by 38.6% of respondents. This may indicate a lack of transparency or trust in organic labels and certifications.

- ✓ about 32% of respondents mentioned lack of information as a deterrent. This shows that some consumers do not feel sufficiently informed about the benefits or characteristics of organic products.

Approximately 21% of respondents chose personal preferences as a factor. This suggests that some consumers simply prefer other types of products for various personal reasons. Generalizing the given topic, we could mention that the main factors that discourage the purchase of organic products are high price, low availability and distrust in organic certifications. Lack of information and personal preferences are also relevant factors, but to a lesser extent.

Analyzing the data in Figure 8, we can observe the following trends in terms of the influence of different sources on decisions to purchase organic products. Organic labels and certifications seem to have the greatest influence on purchasing decisions. Consumers are likely to attach great importance to these labels and certifications, as they provide a guarantee of the organic nature of the products. Family and friends also have a significant influence. Recommendations and opinions of those close to them play an important role in purchasing decisions. Social media has a moderate influence. Social platforms can be an important channel for promoting and informing about organic products. Mass media has a lower influence compared to other sources. This may indicate a decrease in the impact of traditional mass media in favor of digital channels. Advertisements seem to have the least influence on purchasing decisions. This may suggest that consumers are less influenced by direct advertising messages.

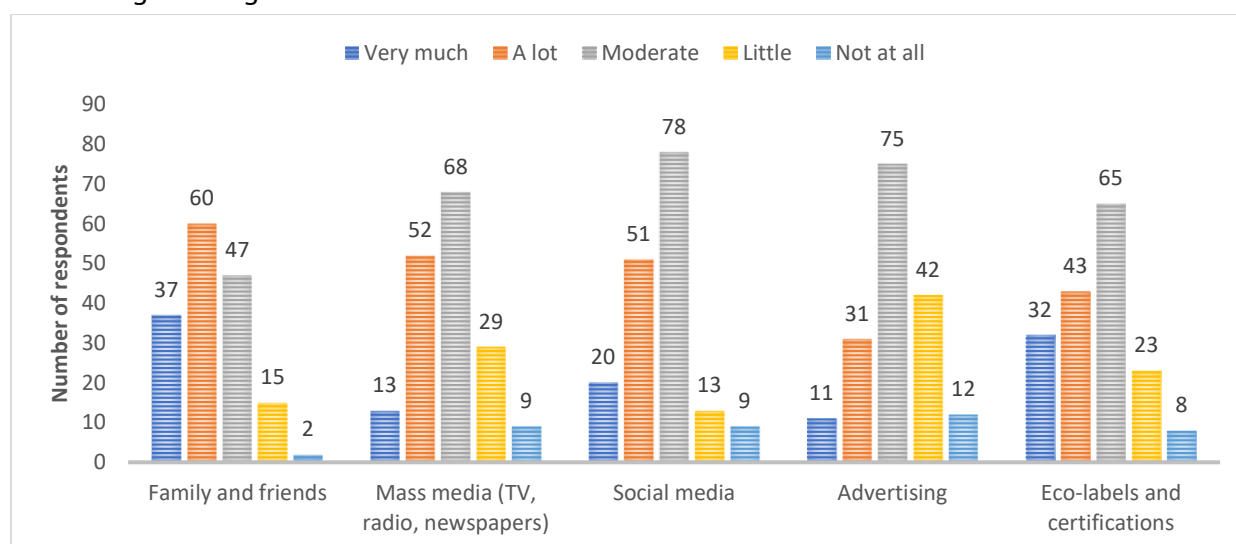


Figure 8. Respondents' answers to the question "How much do the following sources influence your decisions to purchase organic products?"

Thus, eco-labels and certifications, as well as recommendations from family and friends, are the most influential sources in purchasing decisions for organic products. Social media has a moderate influence, while mass media and advertising have a lower impact.

Analyzing the data in Figure 9, we can observe the following trends in terms of consumers' willingness to pay extra for organic products compared to conventional products. 24.6% of respondents are willing to pay up to 5% extra for an organic product. This indicates a moderate openness to additional costs for organic products. 9.4% of respondents are willing to pay between 6-10% extra and this suggests that a smaller part of consumers is willing to accept a more significant price increase. 8.8% of respondents are willing to pay between 11-

20% extra which indicates an even lower willingness for significant additional costs. 54.4% of respondents are not willing to pay more than 20% extra for an organic product.

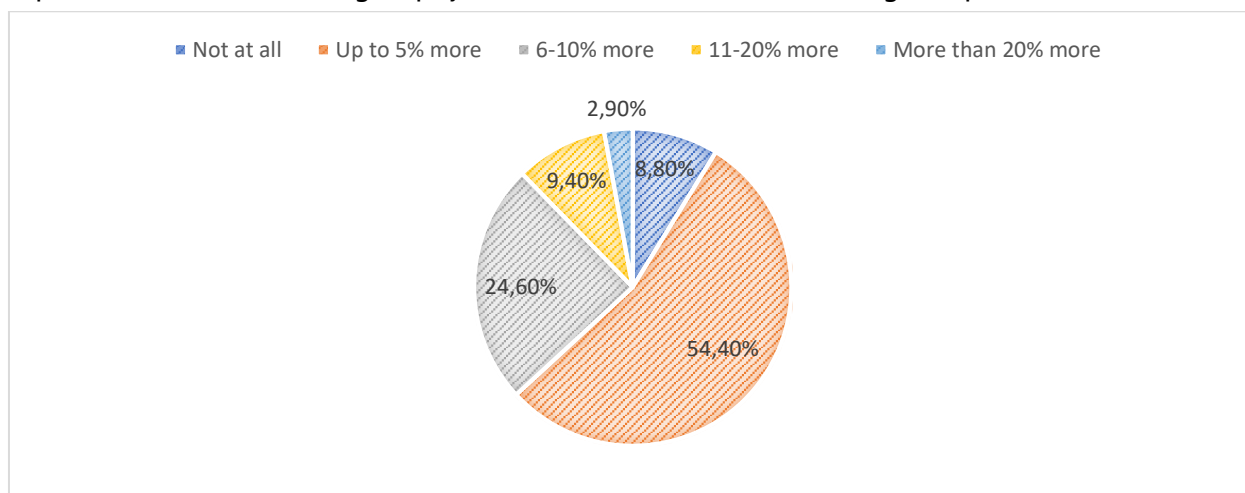


Figure 9. Respondents' answers to the question "How much are you willing to pay extra for an organic product compared to a conventional product?"

This result highlights that the majority of consumers consider a much higher price for organic products to be unjustified. A significant percentage of respondents (54.4%) are not willing to pay any extra for organic products. This may indicate a high price sensitivity and a preference for conventional products for financial reasons.

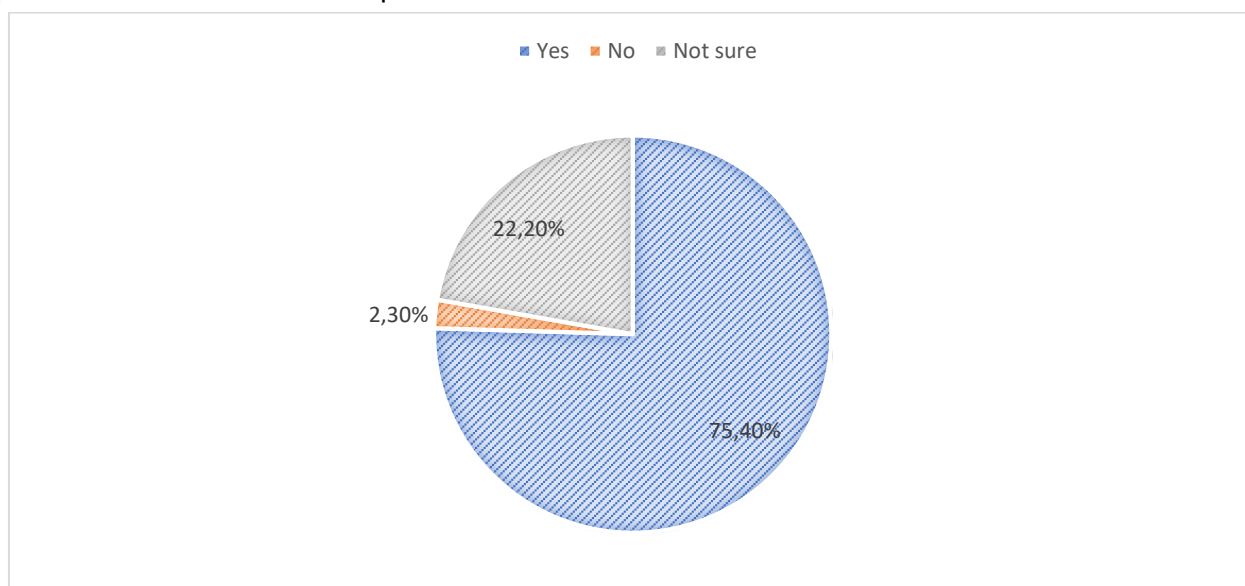


Figure 10. Respondents' answers to the question "Do you intend to purchase more organic products in the future?"

Analyzing the data in Figure 10, we can observe trends in consumer intention to purchase more organic products in the future. 22.2% of respondents responded that they intend to purchase more organic products in the future. This indicates that a minority, but significant, part of consumers is motivated to increase their consumption of organic products. 75.4% of respondents responded that they do not intend to purchase more organic products in the future. This suggests that the majority of consumers do not plan to change their purchasing behavior in favor of organic products. And a small percentage of respondents (2.4%) are unsure about their purchasing intentions in the future. This may indicate a lack of information or indecision related to the benefits or availability of organic products.

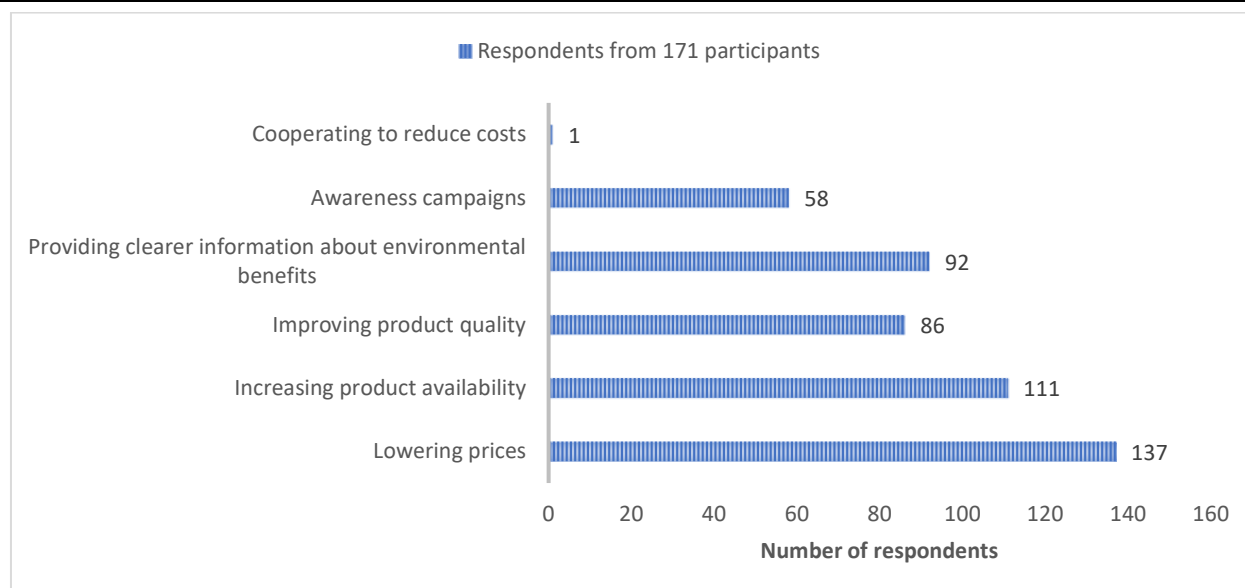


Figure 11. Respondents' answers to the question "What could companies do to encourage you to buy more organic products?"

Analyzing the data in Figure 11, we can see what measures companies could take, in the opinion of respondents, to encourage the purchase of organic products. Reducing prices is the most frequently mentioned measure, with 80.7% of respondents. This highlights the fact that price is a major barrier and that price reductions would have the greatest impact on purchasing decisions. 64.9% of respondents mentioned increasing product availability as an important measure, indicating that many consumers believe that organic products are not easy enough to find. 53.8% of respondents requested clearer information about organic benefits, suggesting that there is a need for transparency and education regarding the advantages of organic products. 50.3% of respondents mentioned improving product quality. This indicates that some consumers believe that organic products could be improved to be more attractive. 33.9% of respondents considered that awareness campaigns would be useful. This could help to educate consumers and increase interest in organic products. Only 0.6% of respondents mentioned cooperation to reduce costs, which suggests that this measure is considered of minor importance.

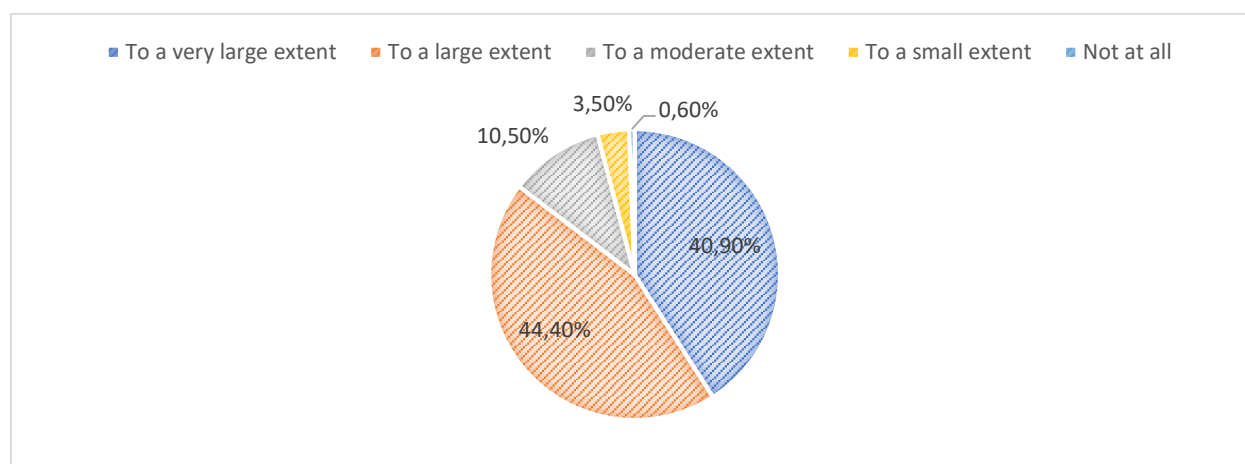


Figure 12. Respondents' answers to the question "To what extent do you think individual actions can contribute to environmental protection?"

Analyzing the data in Figure 12, we can see what the respondents' perceptions are regarding the contribution of individual actions to environmental protection. 44.4% of

respondents believe that individual actions can contribute to a moderate extent to environmental protection. This suggests that most people believe that each person can have an impact, but this is limited. 40.9% of respondents believe that individual actions can contribute to a large extent to environmental protection, which indicates a strong belief that individual efforts are significant. A smaller percentage of respondents (8.2%) believe that individual actions can contribute to a very large extent to environmental protection, reflecting a very optimistic perspective on the impact of personal actions. 5.3% of respondents believe that individual actions have a small impact in environmental protection, and this suggests some skepticism about the effectiveness of individual actions. Only 1.2% of respondents believe that individual actions have no impact on protecting the environment. This indicates that most people recognize at least some impact of their actions. In this context, we could mention that most respondents believe that individual actions can contribute to a moderate or large extent to protecting the environment, which reflects a general belief that personal efforts are important, even if their impact may vary.

Analyzing the data in Figure 13, we can see which green actions respondents have taken in the last 6 months. One of the actions would be recycling and this is the most frequently mentioned action, with 67.3% of respondents. This indicates that recycling is a widespread and accepted practice. 60.2% of respondents mentioned that they would use public transportation or other green transportation methods. This suggests a concern for reducing carbon emissions. 57.9% of respondents would take steps to reduce energy consumption and this reflects an awareness of the importance of energy conservation. 42.1% of respondents mentioned that they would reduce water consumption, which indicates a concern for the conservation of natural resources. Planting trees or participating in reforestation activities are activities that 21.6% of respondents would participate in. This shows a direct involvement in improving the environment. Thus, the most common ecological actions undertaken by respondents are recycling, using public or alternative transport and reducing energy consumption. These practices reflect a significant awareness and involvement in protecting the environment, although there are other actions that are less widespread.

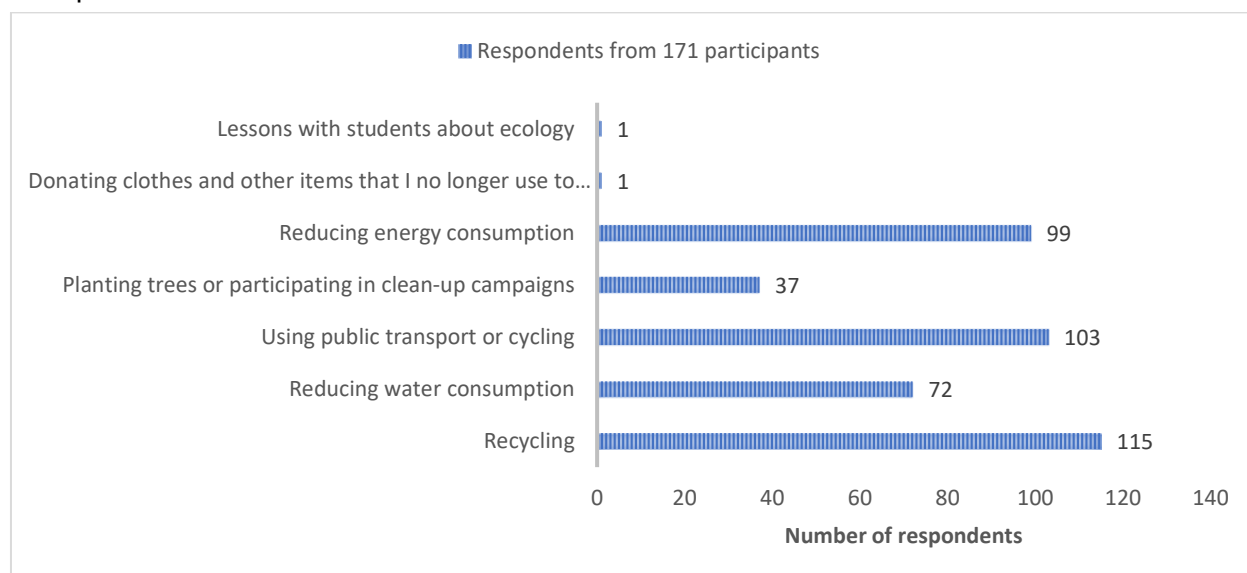


Figure 13. Respondents' answers to the question "Which of the following green actions have you taken in the last 6 months?"

4. Discussion

Consumer behavior towards organic products is an increasingly relevant topic in the current context, marked by concerns about sustainability, climate change and the negative impact of industry on the environment. Consumers in this category do not make decisions based only on price or brand, but also analyze the environmental factors of the products they buy.

An essential aspect of organic behavior is consumer motivation. Motivation, defined as the set of factors that influence a person's actions, includes needs and interests, stimuli and situational factors (Figure 14). In the context of consumption, motivation determines which products are purchased and for what reasons, thus influencing the impact on the environment.

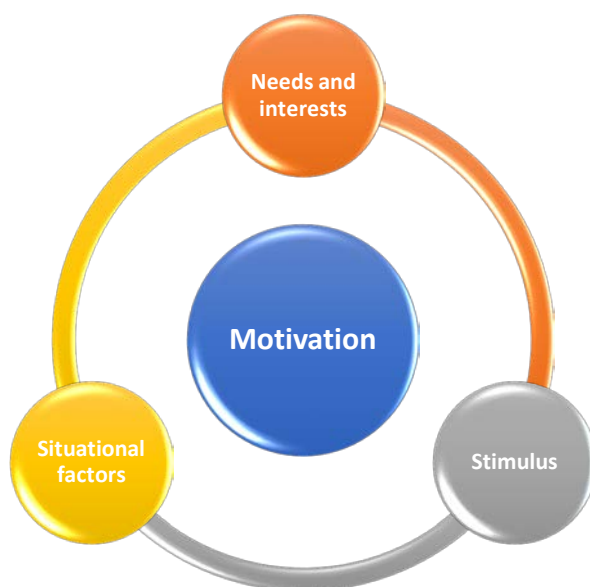


Figure 14. Components of consumption motivation.

The motivation for the consumption of ecological goods is constantly evolving. In particular, the adoption of stricter environmental regulations has stimulated the purchase of equipment designed to reduce harmful emissions, as well as the transition to environmentally friendly technologies.

At the same time, interest in the consumption of healthier food, sustainable products for daily use and other ecological goods for personal consumption is growing. This trend is determined not only by the increase in pollution levels, but also by people's increased sensitivity to the impact of environmental factors, a growing awareness of environmental problems and the development of environmental education.

The analysis of the motivation for the consumption of ecological products involves examining each essential component of this process (Figure 14). Motivations are relatively stable manifestations, reflecting the individual characteristics and values of each person (Figure 6).

Motives perform three essential functions: stimulation, direction and regulation [3]. The stimulation function determines a person's actions, behavior and activity. The directing function involves choosing and following a certain behavioral trajectory. The regulating function influences the way in which behavior is oriented either towards personal interests or towards collective goals, such as those of a company or community.

To understand the motivations for ecological consumption, it is essential to diagnose the environmental awareness of consumers. This analysis helps to answer some essential questions [4]:

1. How important is ecology in the consumer's consciousness (Figure 1)?
2. How do the six eco-psychological dispositions manifest themselves in everyday thinking and what is the relationship between them? These include:
 - ✓ subjugation – perceiving nature as an element that must be controlled;
 - ✓ submission – accepting the dominance of natural forces;
 - ✓ alteration – causing, consciously or unconsciously, damage to the environment;
 - ✓ indifference – lack of a clear attitude towards environmental problems;
 - ✓ necessity – an approach based exclusively on consumption;
 - ✓ collaboration – active support and cooperation with nature.
3. What specific features characterize the ecological consciousness of consumers (Figures 2 and 3)?

Identifying the dominant ecological disposition among consumers allows the application of effective methods of motivating ecological behavior. This contributes to the optimization of spending on behavioral influence both at the government level and in the strategies of producers of ecological goods and other market actors.

Humanity's attitude towards nature has evolved over time, going through several distinct stages [5]. In the stage of natural self-regulation, man acted as a predator, practicing hunting, fishing and gathering, minimally intervening in the ecosystem through reduced logging and building houses. The first stage of ecological imbalance begins when man becomes nomadic. Negative effects such as the destruction of vegetation, fires and migrations of people and animals appear. The second stage of ecological imbalance corresponds to the period when man becomes an agriculturalist. Soil degradation through burning and deforestation increases, leading to the disappearance of some plant and animal species and to landscape changes. The third stage of ecological imbalance begins when man becomes an explorer. During this period, the destruction of flora and fauna intensifies, and the excessive exploitation of the seas and oceans becomes a major problem. The next stage is that of ecological imbalance and here man becomes an inventor. Here, natural resources are intensively exploited, soils undergo wind and water erosion processes, and the impact on the environment becomes significant. The fifth stage of ecological imbalance coincides with the period when man becomes a wasteful consumer, where there is an intensive and unsustainable exploitation of resources, the depletion and destruction of some species, severe pollution of air, water and soil, as well as the emergence of the phenomenon of desertification. After this, the stage of transition to sustainability follows and man is considered a creator. During this period, the foundations of environmental protection are laid by creating nature reserves, parks and ecological quality standards. Low-waste technologies and sustainable practices are promoted to improve air and water quality. Currently, it is considered that we are approaching the future stages of the relationship with nature, with man having the significance of the leader. If we refer to Berdyaev's vision that states that "...power is a duty, not a right", it can be said that this stage would imply a moral and responsible commitment to environmental protection [6].

A key aspect of research on the motivation for consuming green products is the classification of consumers according to their involvement in environmental protection [7].

Thus, consumers are divided into three categories, namely true green, moderate green and green-like.

The market for green goods is still in a process of development, and the classification of consumers according to the motivation to adopt new products plays a key role. On this basis, consumers can be grouped as innovators, early adopters, early majority, late majority and conservatives.

In the domestic environment, it is easier to emphasize the rational reasons for adopting green consumption (Figure 5). Choosing cleaner foods, using green utensils for food preparation and installing high-quality water filters contribute to improving health, thus reducing spending on medicines and treatments. The use of green materials and sustainable equipment in industry and everyday life also has significant benefits.

Needs, according to Maslow's hierarchy theory, are classified into five categories (Table 1), frequently represented in the form of a pyramid: at the base are primary (essential) needs, and at the top, secondary (higher) needs [8].

Table 1

Maslow's classification of consumer motives according to the hierarchical model

Levels of needs	Needs groups	Examples of needs met by consuming degreaser and fresh fruits and vegetables
Primary needs	1. Physiological needs necessary for survival: food, water, sex and recreation. 2. Needs for safety and confidence in the future: protection against physical and other dangers (fear, pain, etc.) and confidence that physiological needs will be satisfied in the future. 3. Social needs: love, tenderness, belonging to any social structure and identification. 4. Esteem needs: in personal achievements, recognition by people around them. 5 Self-actualization needs: growth-development, realization of personal potential possibilities and abilities.	1. Nutritional (biological) value. 2. Necessity determined by various conditions, while ensuring safety and harmlessness. 3. Protecting the environment of children.
Higher needs		

Given the increasing importance of consuming cleaner products for the health of the population, as well as the need to identify development trends of enterprises in this sector, the analysis of the motivation behind the consumption of cleaner food becomes extremely relevant.

Table 1 correlates the needs satisfied by consuming cleaner fruits and vegetables with Maslow's hierarchy of needs. Although the needs in the third and fourth groups are not usually activated, in certain situations they can influence the decision to consume cleaner food products.

If the ecological compatibility of products is essential for satisfying basic needs (such as health), a greater number of consumers are willing to pay for it (Figure 9). The reason is simple: the positive impact on health is immediate and easy to observe. On the other hand, fewer people are ready to invest in "green" products that meet secondary needs (e.g. luxury or status), as these are a priority only for those with specific requirements or high standards [9].

Therefore, producers of ecological goods must prioritize satisfying consumers' primary needs (Figure 11). These influence purchasing decisions more quickly and directly than complex or abstract needs.

With the increase in awareness of environmental issues and the evolution of technologies, some needs become more pronounced, others fade. In order for a higher-level need (e.g., social responsibility) to become a main reason for choosing a product, basic needs (e.g., access to safe food) must be at least partially satisfied. This principle reflects the connection between sustainability and Maslow's pyramid – without a solid foundation, complex motivations cannot take root.

People's ecological interests and needs manifest themselves both at the individual level and as members of social groups and associations and are classified on several levels. National ecological interests reflect a society's aspiration to maintain a healthy environment, which allows for the normal development of life and the reproduction of future generations. Regional ecological interests are influenced by the level of pollution specific to each region. The population in areas more affected by pollution has a stronger concern for environmental protection, compared to regions less affected. Local ecological interests are found in communities living near sources of intense pollution, such as metallurgical plants, uranium mines, nuclear power plants or chemical complexes, being directly affected by the increased anthropogenic impact. And personal ecological interests are specific to individuals who directly feel the effects of environmental quality on their health.

Producers of goods, such as water treatment equipment, can also be consumers of green products. Other consumers include the government, acting through regulations and public procurement, companies and international organizations, as well as various commercial intermediaries. Each of these groups has distinct interests.

Thus, end users are primarily concerned with benefits such as protecting health, reducing acquisition and maintenance costs (Figure 6). In contrast, consumer-producers are interested not only in environmental aspects, but also in the economic profitability of products. Government institutions emphasize the ecological and economic safety of the country, stimulating the national economy, increasing competitiveness, improving the health of the population, and generating budget revenues.

Companies and international organizations have specific requirements, such as reducing emissions during the use and disposal of products, as well as optimizing resource consumption. On the other hand, intermediaries are more interested in price, profit margins, and increasing sales volume.

In general, ecological needs and interests can be deliberately influenced and shaped at different levels. However, it is important to distinguish between elastic and inelastic demand in the field of ecological products, each of which has a different impact on the market.

If an insufficient level of motivation and demand is found in the decision-making process regarding the manufacture and marketing of ecological products, it is necessary to assess the appropriateness of their production. It is also necessary to analyze the effectiveness of the implementation of measures to stimulate consumption, by comparing the expected costs with the desired results.

Incentives for the consumption of ecological products can be structured at three essential levels: the market, organizational culture and state regulations. At the market level, incentives are mainly aimed at promoting sales. Among the measures used are tax reductions and exemptions, financial support, credit and leasing facilities, the provision of free samples

and other benefits aimed at encouraging the consumption of ecological products. At the level of organizational culture, incentives are determined by the values, norms and traditions accepted by a community or organization. Standards of behavior, ethics, morality and aesthetic principles influence individual and collective choices. There are numerous examples in which polluting production has been banned or stopped due to the opposition of society, which does not recognize it as acceptable. At the legislative and administrative level, regulations imposed by authorities guide economic behavior towards more sustainable practices. Sanctioning systems, restrictions imposed by laws and punitive economic, administrative or even criminal measures contribute to the compliance of economic agents. Thus, many companies are determined to invest in waste treatment equipment and other ecological solutions to avoid sanctions and comply with the imposed norms.

By combining these three levels of incentives, the consumption and production of green goods can be effectively supported and developed.

In the process of stimulating the consumption of green products, four main categories of factors that need to be considered are distinguished, namely price, quality, convenience and availability [10]. Green products usually have a higher cost than conventional alternatives. Even environmentally conscious consumers may be reluctant to pay a premium price for sustainability. Demand for these products decreases as the price increases, especially if the difference exceeds 50% compared to a regular product (Figure 9). However, loyal or high-income consumers are willing to pay more for green products. Also, clear information about their benefits is essential to justify a higher price (Figure 8). Most consumers are less willing to compromise on quality than on price. An eco-friendly product must offer competitive features, such as high performance, attractive appearance, comfort or technical advantages, and these aspects must be communicated effectively (Figures 10 and 11). Eco-friendly products must be easy to use. Consumers accept only minor inconveniences, such as refilling reusable containers, but complicated actions can discourage purchase. Few consumers actively search for eco-friendly products. Their lack in frequented stores leads buyers to choose less environmentally friendly alternatives.

Situational factors directly influence purchasing decisions and can cause an increase or decrease in the consumption of eco-friendly products. Among such factors, we could primarily mention environmental events and crises. Ecological disasters, excessive pollution or health-related problems can significantly increase the demand for eco-friendly products. For example, a water pollution crisis can stimulate sales of filters and purifiers. Another factor would be the context of the interaction between the consumer and the product, which is manifested in the fact that positive or negative experiences with an organic product can influence long-term consumption behavior. Merchandising strategies would also be a situational factor. Strategic placement of organic products in stores can significantly increase sales, since approximately 70% of purchasing decisions are made directly in the store [11,12].

Understanding consumer motivations and the factors that influence their purchasing decisions is essential for the development of the organic product market (Figure 12). By combining effective incentive strategies – at the consumer, producer and state levels – and by adapting to situational factors, responsible and sustainable consumption behavior can be encouraged (Figure 7). Thus, the perception of a product varies depending on the individual needs and expectations of consumers, which influences the way it is promoted and positioned on the market.

The consumer's final decision to purchase a product is influenced not only by its essential attributes, but also by other significant characteristics for him, such as prestige, current trends, durability or price. It is important to note that there are no products that fully satisfy all the components of an individual's motivation [13,14].

The most relevant motivational components are those that, at a given moment, have the greatest importance for the consumer. Depending on them, he may accept certain compromises or give up products that would satisfy other, less urgent needs. In addition, the motivational structure varies from one person to another, both in terms of the combination of motivational factors and their intensity. Moreover, even for the same individual, the influence of different motivational components can fluctuate over time.

To steer demand towards environmentally responsible consumption, which is essential for sustainable economic development, it is necessary to analyze how environmental attributes are perceived by consumers in the decision-making process (Figure 13). Each product has multiple characteristics, some of which may be related to environmental protection [15,16].

5. Conclusions

Following the analysis of the behavior and motivation of the consumer of organic products in the Republic of Moldova, it was found that the trend towards organic products is influenced by factors such as awareness of health benefits, concern for the environment and social influences. At the same time, high price and limited accessibility remain the main obstacles to the adoption of this type of products on a large scale.

The study also reveals that education and information campaigns play an essential role in strengthening consumer confidence in organic products. In order to stimulate consumption, more active involvement of producers, traders and authorities is necessary through support policies, reducing costs and increasing the availability of organic products on the market.

Thus, the development of the organic sector in the Republic of Moldova depends on a joint effort, combining both consumer demand and government and private initiatives to make organic products more accessible and attractive.

In order to encourage the adoption of organic products in the Republic of Moldova and overcome the identified barriers, a set of concrete actions is needed. These can be divided into several directions:

- ✓ educating and raising awareness of consumers, which would involve organizing national information campaigns on the health and environmental benefits of organic products, integrating organic education in schools and promoting a sustainable lifestyle, as well as creating online and offline platforms where consumers can find out about local producers of organic products.
- ✓ stimulating the production and accessibility of organic products by implementing support policies for local producers of organic products (subsidies, tax breaks, advantageous loans), developing an adequate infrastructure for the distribution of organic products (specialized markets, dedicated stores, eco sections in supermarkets) and creating cooperation networks between organic farmers to reduce production and distribution costs.

- ✓ monitoring and controlling organic standards to prevent „greenwashing” (false labeling of products as organic) and introducing clear and informative labels on the packaging of organic products.
- ✓ increasing financial accessibility such as stimulating the purchase of organic products through tax breaks, vouchers or subsidies for consumers, creating support programs for vulnerable groups so that they can also have access to organic products and supporting innovations in organic production to reduce costs and, implicitly, final prices for consumers.

Widespread adoption of organic products in the Republic of Moldova requires an integrated approach, involving both consumers and producers, authorities and retailers. Through education, financial support, clear regulations and increasing the accessibility of organic products, a favorable environment for sustainable consumption can be developed.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Petcu, M.; Miron, D.; David-Sobolevski I. Determinism în evaluarea comportamentului ecologic al consumatorului. *Amfiteatru Economic* 2012, 14(31), pp. 109-121.
2. Ancheta elaborată în procesul de cercetare cu ajutorul Google forms (Survey developed in the research process using Google forms) https://docs.google.com/forms/d/e/1FAIpQLSdKxIAr9oDbuaMHXk3iLSqj4hKUx3L_hAYZ84IM159Da4dySg/viewform?usp=sf_link
3. Skrebets, V.L. *Ecological Psychology*. MAUP, Kyiv, Ukraine, 1998, 141 p. [in Russian].
4. Melnik, L.G. *Ecological Economics*. University Book, Sumy, Ukraine, 2001, 350 p. [in Russian].
5. Melnik, L.G.; Prokopenko, O.V.; Vakulishina, N.N. Japanese experience in studying the components of environmental demand. *Newsletter of the Donetsk State University of Economics and Trade “M. Tugan-Baranovsky”* (Series “Economic Sciences”) 2001, 4 (12). pp. 96-101. [in Russian].
6. Sadchenko, E.V.; Kharichkov, S.K. *Ecological marketing: concepts, theory, practice and prospects*. Institute of Market Problems and Economic and Ecological Research of the National Academy of Sciences of Ukraine, Odessa, Ukraine, 2001, 146 p. [in Russian].
7. Sadchenko, E.V. *Principles and concepts of environmental marketing*: monograph. Astroprint, Odessa, Ukraine, 2002. 400 p. [in Russian].
8. Maslow, A. *Motivation and personality*. Piter, St. Petersburg, Russia, 2003, 352 p. [in Russian].
9. Prokopenko, O. V.; Ossik, Yu. I. *Green marketing: Teaching manual*. KSU Publishing House, Karaganda, Russia, 2015, 187 p. [in Russian].
10. Kotler, Ph.; Armstrong, G. *Fundamentals of Marketing*, 12th edition, Williams, Moscow, Russia, 2009, 1057 p. [in Russian].
11. Bogdanova, S. The Impact of Technological Innovations on Green Logistics and Eco-Marketing. În: *Materialele Seminarului științific național, dedicat aniversării 60 de ani al UTM „Marketingul și logistica în era digitală”, 18 octombrie 2024, Chișinău, 2024*. Available online: <http://repository.utm.md/handle/5014/28743> (accessed on 15.01.2025) [in Russian].
12. Chiriac, L. Tendințe în comportamentul consumatorului digital din Republica Moldova. În: *Materialele Seminarului științific național, dedicat aniversării 60 de ani al UTM „Marketingul și logistica în era digitală”, 18 octombrie 2024, Chișinău, 2024*, pp. 24-28.
13. Mîrza, S. Features of the consumer in the sea buckthorn market in the Republic of Moldova. În: *Culegerea de rezumate ale conferinței internaționale științifico-practice a VIII a solicitanților și a tinerilor oameni de știință „Current problems of marketing management in the minds of innovative economic development”, 26 martie 2021, Lutsk, Ukraine*, pp. 278-281 [in Russian].
14. Burbulea, R.; Chisili, S. Strategii de marketing aplicate în Republica Moldova de către întreprinderile agroindustriale. *Revista Vector European*, 2022, pp. 47-53.
15. Iosif, Gh.; Bran, F.; Manole, V.; Iosif, S.; Stoian, M. *Ecomarketingul societăților comerciale*. Tribuna Economică, București, Romania, 1999, 256 p.
16. Sladkevich, V.P. *Motivational management*. MAUP, Kyiv, Ukraine, 2001, 168 p. [in Russian].

Citation: Mîrza, S.; Chiriac, L. The particularities of the behavior and motivation of the consumer of ecological products in the Republic of Moldova. *Journal of Social Sciences* 2025, 8 (2), pp. 118-136. [https://doi.org/10.52326/jss.utm.2025.8\(2\).010](https://doi.org/10.52326/jss.utm.2025.8(2).010).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).11](https://doi.org/10.52326/jss.utm.2025.8(2).11)
UDC 174:001.8



ANALYSIS OF THE MECHANISM OF ETHICAL GOVERNANCE OF SCIENCE AND TECHNOLOGY ON SCIENTIFIC AND TECHNOLOGICAL INNOVATION

Xiaofei Yang ¹, ORCID: 0009-0005-9047-7842,
Zuojun Wang ^{1*}, ORCID: 0009-0006-0861-9264,
Zile Zhang ², ORCID: 0009-0000-7173-5483

¹ College of State Governance, Southwest University, Chongqing, 400715, China

² School of Business Administration, Zhongnan University of Economics and Law, Hubei, 430073, China

* Corresponding author: Zuojun Wang, zjwang@swu.edu.cn

Received: 04.28.2025

Accepted: 06.10.2025

Abstract. The uncertainty of the rapid development of science and technology has led to ethical risks that have attracted attention from all parties. As an important guarantee for the effective development of scientific and technological innovation activities, the ethical governance is of key significance to promote research and development innovation and ensuring that science and technology serve the greater good. An important issue in both governmental governance and academic discussions is how ethical governance of science and technology can enhance scientific and technological innovation. Based on the panel data at the prefecture-level cities from 2019 to 2023, the fixed effects model and the mediating effect model are used to test the impact of ethical governance of science and technology on scientific and technological innovation. The results show that ethical governance has a significant positive driving effect on scientific and technological innovation, and at the same time, ethical governance of science and technology promotes the improvement of innovation ability through the construction of legal environment. Accordingly, refining the ethical governance system of science and technology, adapting governance strategies flexibly, and optimizing the legal environment are essential to fostering sustainable scientific and technological innovation within an ethical framework.

Keywords: *ethical governance of science and technology, scientific and technological innovation, legal environment, empirical analysis.*

Rezumat. Incertitudinea dezvoltării rapide a științei și tehnologiei a condus la riscuri etice care au atras atenția tuturor părților implicate. Guvernanța etică a științei și tehnologiei este de o importanță cheie pentru promovarea inovației și pentru asigurarea faptului, că știința și tehnologia servesc binelui comun. O problemă importantă atât în discuțiile despre guvernanță guvernamentală, cât și în cele academice este modul în care guvernanța etică a științei și tehnologiei poate îmbunătăți inovația. Pe baza datelor panel din orașe la nivel de prefectură din 2019 până în 2023, modelul efectelor fixe și modelul efectului de mediere sunt utilizate pentru a testa impactul guvernanței etice asupra inovației științifice și tehnologice. Rezultatele arată, că guvernanța etică a științei și tehnologiei are un efect pozitiv semnificativ

și, în același timp, promovează îmbunătățirea capacității de inovare științifică și tehnologică prin construirea unui mediu juridic. În consecință, ajustarea sistemului de guvernare etică a științei și tehnologiei, adaptarea flexibilă a strategiilor de guvernare și optimizare a mediului juridic sunt esențiale pentru promovarea inovației științifice și tehnologice durabile într-un cadru etic.

Cuvinte cheie: *guvernare etică a științei și tehnologiei; inovație științifică și tehnologică; mediu juridic; analiză empirică.*

1. Introduction

Scientific and technological innovation is an important internal driving force for economic development and social progress [1]. Moreover, it serves as a key indicator for assessing social competitiveness [2]. Scientific and technological innovation receives significant global attention [3], not only as a driver of economic and social development but also as a means to address pressing challenges, including climate change [4], ecological degradation [5], and public health crises [6]. In the context of globalization, countries have enhanced their international competitiveness by promoting scientific and technological innovation. The government plays a pivotal role in this process [7]. Scientific and technological innovation is a complex and systematic work, which involves the interaction and integration of multiple innovation elements. This process is closely dependent on government support, guidance, and regulation, while simultaneously necessitating enhanced governance capabilities.

With the rapid development of science and technology, some fields have entered the innovation pioneer zone. The more advanced and complex the technology, the greater the potential ethical risks [8]. The limited precedents and governance experience of governments in addressing ethical risks in science and technology have hindered effective regulation, exacerbating issues such as trust [9], legal [10], medical [11], and social risks [12]. Strengthening the ethical governance of science and technology has become a critical component in enhancing the scientific and technological innovation system, with a well-developed legal framework playing a key role [13]. The government has strengthened the ethical governance of science and technology by establishing a robust legal framework. This includes standardizing key processes such as R&D, application, promotion, and technological transformation. These measures effectively mitigate ethical disputes, foster a favorable environment for innovation, and accelerate research and development progress. Thus, studying the impact of ethical governance on scientific and technological innovation is crucial for refining governance frameworks and fostering sustainable technological advancement.

Through the review of the existing literature, the research on ethical governance of science and technology and scientific and technological innovation mainly focuses on the following aspects. The first aspect focuses on analyzing various ethical risks associated with emerging technologies [14,15]. Additionally, countermeasures are proposed based on the principle of 'science and technology for good' [16]. The second aspect emphasizes the primacy of ethics in scientific and technological innovation [17]. It explores the fundamental connotation, practical foundations, and implementation mechanisms of ethical principles [18], while also advocating for responsible innovation [19]. Third, both ethical governance in science and technology and scientific and technological innovation require stronger legal frameworks [20,21], necessitating the establishment and refinement of a robust legal system for science and technology. In summary, most existing studies adopt qualitative research or

theoretical deduction, focusing on ethical challenges in scientific and technological innovation. However, quantitative evidence remains scarce on the relationship between ethical governance of science and technology and scientific and technological innovation. Particularly, further research is needed to explore how ethical governance policies influence the process and outcomes of scientific and technological innovation.

Building upon the identified research gaps, this paper constructs a theoretical framework and quantifies the abstract concept of 'ethics'. Quantitative methods are employed to examine the impact of ethical governance on scientific and technological innovation, revealing its underlying mechanisms and processes, and clarifying the dynamics and complexity of ethical governance implementation, thereby addressing the limitation of existing research that primarily relies on theoretical exploration. Furthermore, this study provides quantitative evidence to support government decision-makers and assists policymakers in balancing ethical considerations with technological advancements. Moreover, this research promotes adherence to ethical norms among scientific research institutions while fostering technological progress, offering theoretical and practical guidance for strengthening national competitiveness.

2. Theoretical analysis and research hypotheses

2.1 Ethical Governance of Science and Technology and Scientific and Technological Innovation

The ethical governance of science and technology establishes reasonable norms and frameworks for innovation, ensuring that scientific and technological activities comply with ethical standards and achieve a balance between innovation and ethics. First, such governance involves sociology, law, ethics, and other disciplines. Interdisciplinary collaboration introduces new perspectives and multidimensional insights for technology developers [22]. This expands developers' perspectives, stimulates new ideas, encourages broader considerations in technology development, and further enhances the depth and breadth of innovation output. Second, ethical governance prompts governments to introduce policies that regulate technology development [23]. These systems prevent technological innovation from descending into unregulated and ethically problematic situations, ensuring that R&D personnel operate in a stable and well-regulated environment to facilitate continuous technological progress. Meanwhile, ethical governance mitigates moral and legal risks in technological innovation, thereby accelerating innovation. Technological innovation is often accompanied by high risks and uncertainties, particularly when the technology is not yet mature [24]. Such uncertainties may lead to ethical controversies, hinder R&D, and even provoke legal and social opposition, ultimately impeding technological progress. However, ethical governance guidelines clarify rules for innovators, reduce external opposition and internal disagreements, and enable them to focus on technological breakthroughs, thereby facilitating the emergence of ethically compliant technologies. As the capital market pays increasing emphasis on ethical norms [25], the long-term social value of technological innovation has become a key determinant of investment decisions. As a result, innovative projects with a sound ethical foundation are more likely to gain investors' trust and support, thereby securing sufficient R&D resources and enhancing innovation efficiency. A high level of ethical governance ensures that scientific and technological achievements benefit society and fosters public recognition and support for technological innovation. Therefore, ethical governance of science and technology is not merely a regulatory framework for technological

innovation but also a crucial driver of innovation and development. Based on the above analysis, the following hypotheses are proposed:

Hypothesis 1: Ethical governance of science and technology has a positive impact on scientific and technological innovation

2.2 The mediating effect of ethical governance of science and technology on the impact of scientific and technological innovation

The ethical governance of science and technology aims to curb misconduct and unlawful exploitation in science and technology while fostering technological innovation. The key to enhancing competence in ethical governance of science and technology lies in a well-established legal environment [26]. The authority of law serves to regulate scientific and technological innovation and ensure its alignment with societal interests and sustainability goals. The sound legal environment is essential for conducting innovative activities and enhancing innovation efficiency [27]. The legal establishes ethical and legal standards for scientific and technological innovation, ensuring that technology enterprises and researchers adhere to fundamental ethical and legal boundaries. Furthermore, legislation and regulation provide mechanisms to address social risks and ethical dilemmas associated with technological advancements, mitigating potential negative societal impacts.

Additionally, a fair legal environment promotes healthy market competition and fosters greater innovation dynamics. The legal is the institutional guarantee for ethical governance of science and technology [28], also clarifies the direction of development for scientific and technological innovation [29], and achieves a balance between ethics and legal, innovation and regulation. This shows that the ethical governance of science and technology realizes the effective restraint and optimization of scientific and technological innovation behavior through the legal.

The legal environment establishes stable rules and norms for scientific and technological innovation, enforces mandatory legal constraints [30], protects intellectual property rights, and stimulates technological R&D and innovation [31]. At the same time, it avoids ethical risks, ensures that innovations do not infringe on the rights of others, and follows the rules of lawful use and distribution [32].

A fair legal environment fosters a competitive and orderly market [33]. The healthy market requires market intermediary organizations to act as supervisors, increasing market scrutiny on scientific research, enhancing information transparency, and fostering healthy competition. Such competition encourages scientific research institutions to enhance their technical capabilities and refine product development strategies, ultimately facilitating the emergence of new technologies and products in the market.

Legal frameworks and market intermediary organizations jointly establish an ecosystem that ensures ethical compliance, safeguards innovation, upholds market order, and fosters scientific and technological advancement. Based on the above analysis, the following hypothesis is proposed:

Hypothesis 2: Ethical governance of science and technology has a positive impact on scientific and technological innovation through the legal environment.

3. Empirical design

3.1 Data Sources and Processing

The data in this paper are from the China National Intellectual Property Administration, the National Bureau of Statistics and the China Market Index Database, and all the

observations of the sample variables are collated and calculated by the author. The original data is processed as follows:

1. In order to ensure the accuracy and reliability of the data, the outliers and missing values are eliminated.

2. The average annual growth rate of the data from previous years is used to predict the data of China's marketization index by province from 2020 to 2023.

3. Prefecture-level cities belong to different provincial-level administrative units, and the work arrangement of the government at provincial-level directly affects the corresponding prefecture-level cities.

Therefore, the provincial-level and its corresponding prefecture-level administrative units were matched, and then data analysis and empirical research were carried out.

3.2 Variable declaration

3.2.1 Core explanatory variable

Ethical governance of government in science and technology (Gstg). This study uses text analysis to measure the level of ethical governance of science and technology. First, the "Guidelines on Strengthening the Governance over Ethics in Science and Technology" was divided into words and the words with a frequency of less than 2 were eliminated. 250 keywords were initially obtained. Then expert opinions were sought, and 28 keywords such as ethics of science and technology, artificial intelligence, public safety, and code of conduct were finally retained after manual review. Second, the frequency of keywords occurrence in the 31 provincial-level government work reports from 2019 to 2023 was extracted. Third, the frequency of keywords in the government work report should be logarithmically processed to measure the level of ethical governance of government in science and technology.

3.2.2 Explained variable

Scientific and technological innovation capability (Inno). This study selects the number of patent applications at the prefecture-level cities as an indicator of scientific and technological innovation capability. The number of patent applications directly reflects country or region ability to innovate in science and technology [34]. Moreover, this indicator is easy to quantify and allows for convenient data acquisition, making it a widely used measure in academic research. The study by Bendig et al. [35] demonstrates that the number of inventions is partly representative of scientific and technological innovation capability. Therefore, this study also uses the number of inventions applied for the same year at the prefecture-level cities (Inven) as an alternative measure of technological innovation capability to conduct robustness tests. Patent application data can accurately measure the innovation capability and competitiveness of core technological fields, while the number of inventions applied for the same year reflects the overall scale and activity of scientific and technological innovation. Both indicators provide a comprehensive evaluation of the level of scientific and technological innovation.

3.2.3 Mediating variable

Legal environment (law). Drawing on the research methods of scholars Liu and Jiang [36], the development of market intermediary organizations and the legal system environment are used as the measurement index of the legal environment.

3.2.4 Control variables

The control variables include the level of economic development (GDP), the state of human resource (human), and the condition of infrastructure (road). Table 1 shows the composition, classification and connotation of specific indicators.

Table 1

Variable Selection and Measurement Methods				
Variables type	Variables name	Variable symbol	Measuring method	Data source
Explained variable	Scientific and technological innovation capabilities	Inno	The number of patent applications at the prefecture-level cities	China National Intellectual Property Administration
Core explanatory variable	The level of ethical governance of science and technology	Gstg	The frequency of the occurrence of keywords related to "ethical governance of science and technology" in the provincial-level government work report was extracted, and the natural logarithm was taken	Work report of the provincial-level government
Mediating variable	Legal environment	law	An index of the development of market intermediary organizations and the legal system environment	China Market Index Database
Control variables	The level of economic development	GDP	GDP per capita	National Bureau of Statistics
	The state of human resource	human	Resident population at the end of the year	National Bureau of Statistics
	The condition of infrastructure	road	Highway mileage	National Bureau of Statistics

3.3 Model construction

3.3.1 Benchmark regression model

The fixed effects model is constructed in the empirical evidence to investigate the impact of ethical governance of science and technology on scientific and technological innovation. In this model, two types of non-observed effects are generally controlled, namely individual fixed effects and point-in-time fixed effects. The former reflects the influence of background factors on the explained variables that change with individuals but not at any point in time.

The latter represents the effect of background factors on the explained variables that varies at any point in time but does not vary with the individual. Therefore, we construct the panel data econometric model with a double-fixed effect of individual point-in-time effect as the benchmark regression model, as shown in Eq. (1).

$$Innovation_{it} = \alpha_0 + \alpha_1 Gstg_{it} + \alpha X_{it} + \mu_i + \mu_t + \varepsilon_{it} \quad (1)$$

In Eq. (1), $Innovation_{it}$ represents the scientific and technological innovation ability of region i in period t . $Gstg_{it}$ represents the level of ethical governance of science and technology of region i in period t . X_{it} represents a series of control variables. μ_i represents individual fixed effects. μ_t represents a point-in-time fixed effect. ε_{it} is a random perturbation term that obeys an independent and identical distribution.

3.3.2 Mediating effect regression model

To further explore the specific influencing mechanism between ethical governance of science and technology and scientific and technological innovation, that is, to test whether there is a mediating effect in the legal environment, the following mediating effect model is constructed based on the benchmark regression model:

$$law_{it} = \delta_0 + \delta_1 Gstg_{it} + \delta X_{it} + \mu_i + \mu_t + \varepsilon_{it} \quad (2)$$

$$Innovation_{it} = \beta_0 + \beta_1 Gstg_{it} + \beta_2 law_{it} + \beta X_{it} + \mu_i + \mu_t + \varepsilon_{it} \quad (3)$$

Where the law_{it} represents the mediating variable. α_1 reflects the total effect of ethical governance of science and technology on scientific and technological innovation, β_1 reflects the direct effect of ethical governance of science and technology on scientific and technological innovation, $\delta_1\beta_2$ reflects the magnitude of the mediating effect, and $\delta_1\beta_2/\alpha_1$ represents the proportion of the mediating effect in the total effect, reflecting the importance of mediating variables in the ethical governance of science and technology to promote scientific and technological innovation. If α_1, β_1 and β_2 are all significant, but β_1 is smaller than α_1 , it indicates that there is a partial mediating effect. If both α_1 and β_2 are significant, but β_1 is not, it indicates a complete mediating effect.

4. Empirical results and analysis

4.1 Descriptive statistics of variables

The descriptive statistics of each variable are shown in Table 2. Among them, the maximum value of the core explanatory variable is 6.000, the minimum value is 0.000, and the standard deviation is 1.377, indicating that there are significant differences in the level of ethical governance of science and technology among different provinces. The maximum value of the explained variable is 320.813, the minimum value is 0.001, and the standard deviation is 23.450, which indicated that there are great differences in the performance of scientific and technological innovation in different regions. The descriptive statistical results of the remaining variables are shown in the table, and the data are generally standardized without obvious outliers.

Table 2

Descriptive Statistics						
Variable	Numbers	Mean	StdDev	Min	Median	Max
Gstg	1387	1.620	1.377	0.000	1.000	6.000

Continuation Table 2

Inno	1387	9.640	23.450	0.001	2.869	320.813
GDP	1387	6.910	2.173	3.471	6.461	15.049
human	1387	5972.150	3238.825	590.000	5047.000	12706.000
road	1387	16.690	10.751	0.000	16.900	40.540
law	1387	12.840	3.359	0.871	12.552	23.955

Note: Inno - scientific and technological innovation capabilities; Gstg - the level of ethical governance of science and technology; law - legal environment; GDP - the level of economic development; human - the state of human resource; road - the condition of infrastructure; StdDev - standard deviation. Source: Authors' computation.

4.2 Benchmark regression results and analysis

The benchmark regression results are shown in Table 3. Column (1) only added the core explanatory variable, the regression coefficient is 0.203, passed the significance test at the 10% level. Column (2) further adds control variables, and the regression coefficient of the core explanatory variable is 0.275, which is significant at the 5% level. The regression results show that ethical governance of science and technology has a significant positive impact on scientific and technological innovation, and validates the proposed theoretical hypothesis¹. The ethical governance of science and technology creates a secure and transparent environment, encouraging enterprises and research institutions to prioritize the legitimacy and ethical implications of technology, thereby fostering the sustainable development of scientific and technological innovation.

Furthermore, ethical governance of science and technology enables scientific and technological innovation to anticipate and mitigate potential ethical risks, thereby reducing the likelihood of failure for new technologies and enhancing their market competitiveness. Additionally, it fosters the disclosure and collaboration of scientific and technological achievements, leading to an increase in patent applications for innovative outcomes while ensuring that these results are legally protected and socially recognized.

The results of the control variables were basically in line with expectations. The regression coefficient of human capital condition is significantly negative at the 10% level, and the regression coefficient of infrastructure condition is significantly positive at the 1% level, indicating that these two are important influencing factors.

The negative impact of human capital on scientific and technological innovation may stem from talent shortages, mismatches, brain drain, and insufficient incentive mechanisms, which constrain the contribution of scientific and technological talents and reduce innovation efficiency[37]. The positive impact of infrastructure conditions underscores their supportive role in scientific and technological activities. Infrastructure, such as roads, provides a more conducive physical and social environment for scientific and technological innovation[38]. It further facilitates resource flow, promotes information exchange, and fosters industrial clusters, thereby reducing logistics costs, enhancing R&D and production efficiency, and accelerating cross-regional scientific and technological cooperation.

The insignificance of other control variables may be attributed to measurement biases. However, these variables interact with each other, collectively fostering sustainable economic development and overall societal progress.

Table 3

Benchmark Regression Results		
Variable	(1) Inno	(2) Inno
Gstg	0.203* (1.70)	0.275** (2.28)
GDP		-0.703 (-1.63)
human		-0.001* (-1.65)
road		0.142*** (3.63)
_cons	9.311*** (40.64)	15.201*** (4.22)
City_FE	YES	YES
Year_FE	YES	YES
N	1387	1387
R ²	0.970	0.970
Adj. R ²	0.96	0.96

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Clustering robust standard errors are reported in parentheses. Inno - Scientific and technological innovation capabilities; Gstg - The level of ethical governance of science and technology; GDP - The level of economic development; human - The state of human resource; road - The condition of infrastructure; _cons - Constant; City FE - City fixed effects; Year FE - Year fixed effects; N - Number of observations; R² - R-squared; Adj. R² - Adjusted R-squared. Source: Authors' computation.

4.3 Endogeneity tests

The fixed effects model of the benchmark regression reveals that ethical governance of science and technology significantly promotes scientific and technological innovation. However, endogeneity issues, including proxy variable measurement errors and unobserved omitted variables, may introduce biases in model estimation. Therefore, an instrumental variable approach was employed to mitigate the estimation bias caused by endogeneity in measuring the impact of ethical governance on scientific and technological innovation.

The marketization presents ethical dilemmas of science and technology that challenge the governance mechanisms of human society [39]. The higher degree of marketization corresponds to more developed factor market. Developing the factor market promotes the ethical governance of science and technology and mitigates the negative effects of disruptive scientific and technological innovations. The factor market primarily influences resource allocation[40], which in turn affects enterprises' and research institutions' access to funding and talent. However, whether breakthroughs in scientific and technological innovation can be achieved depends more on the innovation environment, key actors, and inputs [41], and these factors are not strictly constrained by factor markets. Therefore, the factor market satisfies the correlation and exogeneity requirements for instrumental variables. Following Zhang et al. [42], this study adopts the degree of factor market development (DFM) as an instrumental variable. The results of endogeneity test are shown in Table 4. From the test results, can be seen that after adding the instrumental variable of the degree of factor market development, the improvement of the level of ethical governance of science and technology still significantly improves the ability of scientific and technological innovation. In addition,

the Kleibergen-Paap rk LM statistic was 74.444, $P = 0.000$; the Kleibergen-Paap rk Wald F statistic was 61.821, which was much greater than the Stock-Yogo test cut-off of 16.38 at the 10% level; the endogeneity test statistic was 4.783, $P = 0.0287$. The above results show that the tool variables are valid.

Table 4

Endogeneity Test Results		
Variable	(1) Gstg	(2) Inno
DFM	0.448*** (0.0569)	
Gstg		1.257** (0.536)
GDP	-0.366*** (0.108)	-0.536 (0.454)
human	0.000142 (8.76e-05)	-0.000833** (0.000389)
road	-0.0561*** (0.00940)	0.199*** (0.00940)
City_FE	YES	YES
Year_FE	YES	YES
N	1387	1387
Kleibergen-Paap rk LM		74.444***
Kleibergen-Paap rk Wald F		61.821
Endogeneity test		4.783**

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Clustering robust standard errors are reported in parentheses. DFM - The degree of factor market development; Inno - Scientific and technological innovation capabilities; Gstg - The level of ethical governance of science and technology; GDP - The level of economic development; human - The state of human resource; road - The condition of infrastructure; City FE - City fixed effects; Year FE - Year fixed effects; N - Number of observations; Kleibergen-Paap rk LM - Kleibergen-Paap rank lagrange multiplier statistic; Kleibergen-Paap rk Wald F - Kleibergen-Paap rank wald f statistic. Source: Authors' computation.

Then, the lagged period of the core explanatory variable (1Gstg) was used as the instrumental variable to perform the endogeneity test again, and the regression results are shown in Table 5. After the core explanatory variable lags for one period, the coefficient of 1Gstg is significantly positive at the level of 5%, which is not significantly different from the benchmark regression results, which indicates that the causal relationship will not significantly interfere with the estimation results in the same period, further indicates that the research conclusion is robust.

Table 5

Endogeneity Test Results:One Lag Period		
Variable	(1) Inno	(2) Inno
lGstg	0.605** (2.53)	0.576** (2.40)
GDP		-4.377***

Continuation Table 5

		(-4.96)
human		0.002 (1.31)
road		-0.145** (-2.44)
_cons	10.099*** (23.53)	30.313*** (2.94)
City_FE	YES	YES
Year_FE	YES	YES
N	1085	1085
R ²	0.957	0.959
Adj. R ²	0.94	0.94

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Clustering robust standard errors are reported in parentheses. Inno - Scientific and technological innovation capabilities; 1Gstg - The level of ethical governance of science and technology is lagging behind; GDP - The level of economic development; human - The state of human resource; road - The condition of infrastructure; _cons - Constant; City FE - City fixed effects; Year FE - Year fixed effects; N - Number of observations; R² - R-squared; Adj. R² - Adjusted R-squared. Source: Authors' computation.

4.4 Robustness tests

First, replace the explained variable. The number of inventions applied for the same year (Inven) replaces the number of patent applications and conducts robustness test. The number of inventions applied for the same year reflects the introduction of innovative technologies and new solutions within the region, indicating that such innovations often lead to new production methods, process improvements, or practical solutions. It also serves as a comprehensive measure of the region's R&D capacity, technological progress, and innovation policies. As shown in Table 6, the regression coefficient in column (1) is 0.060 without control variables, which is statistically significant at the 5% level, while the coefficient in column (2) increases to 0.074 after adding control variables, achieving statistical significance at the 1% level. These findings indicate that the ethical governance of science and technology plays a significant role in promoting scientific and technological innovation, confirming the robustness and reliability of the benchmark regression results.

Second, increase control variable. To further address potential endogeneity arising from omitted variables, additional control variable by using financial expenditure on science and technology (finance) was incorporated following the research framework proposed by Han et al. [43]. With this expanded set of control variable, the benchmark regression model was re-estimated. The regression results, presented from columns (3) to (4) of Table 6, indicate that the coefficient for financial expenditure on science and technology is 2.294, which is statistically significant at the 1% level. This finding suggests that increased financial expenditure on science and technology strengthens the impact of ethical governance on scientific and technological innovation. These findings further support the robustness and reliability of the benchmark regression results.

Third, the observation time is replaced. the variable observation period of 2019 was deleted and replaced with from 2020 to 2023. In 2019, China established the National Science and Technology Ethics Committee and convened the Fourth Plenary Session of the 19th Communist Party of China Central Committee in October, which clearly emphasized the need to enhance the scientific and technological innovation system. To ensure the robustness and

validity of the results, the variable observation period in 2019 is deleted in this section and the robustness test regression is carried out due to special macroeconomic fluctuations and policy adjustments or changes in the industry structure. As shown in Table 6, the regression coefficient in column (5) remains significantly positive at the 10% level without control variables, while in column (6), after incorporating control variables, the coefficient is significantly positive at the 5% level. These findings further confirm the robustness and reliability of the benchmark regression conclusions.

Table 6

Robustness Test Results						
Variable	(1) Inven	(2) Inven	(3) Inno	(4) Inno	(5) Inno	(6) Inno
Gstg	0.060** (2.16)	0.074*** (2.64)	0.203* (1.70)	0.323*** (2.66)	0.287* (1.87)	0.383** (2.45)
finance				2.294*** (2.61)		
_cons	2.749*** (51.60)	2.773*** (3.30)	9.311*** (40.64)	7.054 (1.48)	9.112*** (31.20)	21.190*** (4.23)
CVs	NO	YES	NO	YES	NO	YES
City_FE	YES	YES	YES	YES	YES	YES
Year_FE	YES	YES	YES	YES	YES	YES
N	1387	1387	1387	1387	1100	1100
R ²	0.985	0.985	0.970	0.970	0.964	0.965
Adj. R ²	0.98	0.98	0.96	0.96	0.95	0.95

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Clustering robust standard errors are reported in parentheses. Inven - Scientific and technological innovation capabilities; Inno - Scientific and technological innovation capabilities; Gstg - The level of ethical governance of science and technology; finance - Financial expenditure on science and technology; _cons - Constant; CVs - Control variables; City FE - City fixed effects; Year FE - Year fixed effects; N - Number of observations; R² - R-squared; Adj. R² - Adjusted R-squared. Source: Authors' computation.

4.5 Mediating effect results and analysis

To explore the specific influence mechanism, the analysis is conducted from the perspective of the legal environment. The regression results are shown in Table 7, with column (1) presenting the benchmark regression. Column (2) takes the legal environment as the explained variable, showing that the regression coefficient in ethics governance of science and technology on legal environment is 0.052, which is significantly positive at the 10% level, indicating that an improvement in ethics governance of science and technology enhances the legal environment. In column (3), the legal environment was included in the benchmark regression as control variable, and the regression coefficient in ethics governance of science and technology is 0.264, which is significantly positive at the 5% level, while the regression coefficient of the legal environment is 0.214, significantly positive at the 10% level, suggesting a partial mediating effect of the legal environment. Therefore, the results confirm that the ethics governance of science and technology enhances scientific and technological innovation capacity through the legal environment, supporting Hypothesis 2.

The mediating effect of the legal environment is primarily reflected in strengthening the construction of the law system [44], improving the level of rule of law [45], and carrying out

governance in accordance with laws and regulations [46]. These factors collectively contribute to the high-quality development of scientific and technological innovation while fostering a secure and well-regulated environment. Improving the legal in the ethical governance of science and technology is essential for ensuring scientific and technological activities adhere to ethical values and behavioral norms, it required compliance with laws and regulations throughout the entire innovation process, including scientific research and technology development [47], thereby fostering responsible innovation. By strengthening the legal framework, which not only helps control risks and minimize losses but also upholds fundamental ethical principles, ensuring a balanced interaction between innovation, development, and risk prevention [48].

Table 7

Mediating Effect Test Results			
Variable	(1) Inno	(2) law	(3) Inno
Gstg	0.275** (2.28)	0.052* (1.84)	0.264** (2.19)
law			0.214* (1.67)
_cons	15.201*** (4.22)	14.967*** (17.57)	11.995*** (2.94)
CVs	YES	YES	YES
City_FE	YES	YES	YES
Year_FE	YES	YES	YES
N	1387	1387	1387
R ²	0.970	0.918	0.970
Adj. R ²	0.96	0.90	0.96

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Clustering robust standard errors are reported in parentheses. Inno - Scientific and technological innovation capabilities; Gstg - The level of ethical governance of science and technology; law - Legal environment; _cons - Constant; CVs - Control variables; City FE - City fixed effects; Year FE - Year fixed effects; N - Number of observations; R² - R-squared; Adj. R² - Adjusted R-squared. Source: Authors' computation.

To further verify the rationality of the mediating effect of the legal environment, the Sobel test is used to estimate the effect of ethical governance of science and technology on scientific and technological innovation through the legal environment, and the results are shown in Table 8. The indirect, direct, and total effects all show significant positive values, confirming the existence of this mediating effect. Moreover, the indirect effect is 0.042, the direct effect is 0.346, and the total effect is 0.389, with the mediating effect accounting for 10.89% of the total effect. This further demonstrates that ethical governance of science and technology has a partial mediating effect on scientific and technological innovation, while the direct effect remains dominant.

Table 8

Sobel Tests Results				
	Route	Coefficient	Sobel Z	Proportion
Indirect Effect	Gstg→law→In	0.042*	1.659	10.89%
Direct Effect	Gstg→Inno	0.346**	2.000	89.11%
Total Effect		0.389**	2.264	100%

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively. Inno - Scientific and technological innovation capabilities; Gstg - The level of ethical governance of science and technology; law - Legal environment; Sobel Z - Sobel Z-test statistic. Source: Authors' computation.

5. Conclusions and recommendations

5.1 Research conclusion

This paper compiles panel data at the China's prefecture-level cities from 2019 to 2023 and employs fixed effects model along with mediating effect model to analyze the impact of ethical governance of science and technology on scientific and technological innovation. The empirical results show that:

1. Ethical governance of science and technology has a significant positive impact on scientific and technological innovation, meaning that improving ethical governance can significantly enhance scientific and technological innovation capabilities.
2. The legal environment plays a mediating role in this relationship, indicating that ethical governance of science and technology promotes scientific and technological innovation by optimizing the legal environment.

5.2 Management inspiration

China is at a critical juncture in its innovation-driven development strategy. With the rapid advancement of the new scientific and technological revolution, scientific and technological innovation has not only driven economic growth but also led to profound transformations in healthcare, energy, and academia, generating substantial social benefits. However, overlooking the ethical risks of technological innovation may lead to potentially irreversible and catastrophic consequences, especially in artificial intelligence, biotechnology, and data privacy. Ethical governance of science and technology has become a key component of global governance. Maximizing the role of ethical governance in scientific and technological innovation is a pressing theoretical question that requires urgent attention. Drawing on the findings of this study, we present the following implications:

Firstly, the governance mechanism of science and technology should be further improved. Some typical ethical incidents in science and technology that have sparked public debate have exposed deficiencies in the ethical supervision mechanism of science and technology and the oversimplification of the research evaluation system. Majorities of the public believes that government regulation plays a central role in strengthening ethical governance in science and technology and ensuring technological security. Therefore, it is necessary to reinforce the government's leadership in ethical governance of science and technology, address various ethical challenges in science and technology, and ensure that scientific and technological innovation develops in a responsible and beneficial manner. And then, grassroots departments are key implementers of policies, making local governments key supervisors in regulating scientific and technological activities. This requires local governments to establish dedicated regulatory agencies to carry out ethical compliance reviews and safety assessments of scientific and technological innovation projects on a regular basis, establishing a standardized and systematic workflow to ensure a rigorous and impartial review process. Finally, the government should establish a public feedback mechanism and set up public opinion collection channels, disclose the decision-making process and ethical review results of scientific and technological innovation projects to encourage public participation in decision-making, and ensure effective feedback implementation.

Secondly, accelerating the legislative process of science and technology ethics is essential to providing a strong legal guarantee for governance. The legalization of science and technology ethics can effectively prevent and mitigate ethical risks in the field of scientific and technological innovation. It is necessary to elevate the ethical review and evaluation of scientific and technological activities to the institutional level and impose appropriate penalties for violations of ethical norms in science and technology. The government should formulate a top-level system, follow legal and regulatory requirements to intervene within appropriate boundaries, and embed ethical governance into R&D and application. Given the professional, complex, and evolving nature of science and technology ethics, the enactment of a basic law on science and technology ethics, along with specialized laws targeting key areas, is crucial to establishing a comprehensive legal framework. Facilitate the establishment of an institutional system for ethical governance of science and technology at all levels, address specific domains and ethical concerns, and propose targeted measures for different types of ethical issues. Furthermore, based on the principles of minimum ethical standards, protection of private rights, and safeguarding of public interests, ethical risk management in scientific and technological innovation should be ensured through mandatory legal measures. At the same time, policies should be adjusted as needed to ensure a responsive and adaptable ethical governance model.

6. Research insufficient

This paper conducts an in-depth analysis of the relationship between the ethical governance of science and technology, scientific and technological innovation, and the legal environment, offering valuable insights for governments to formulate management policies and enhance regional innovation levels. However, there are certain limitations that future research should address. Firstly, the sample is based on panel data at the China's prefecture-level cities from 2019 to 2023. The controversial case of 'gene-edited babies' by Jiankui He's team in 2018 represents a major violation of scientific and ethical principles, highlighting the disorder and risks associated with technological advancements in the absence of ethical constraints. As a result, drawing widespread academic attention, the number of published papers on science and technology ethics has increased significantly since 2019. Consequently, data collection on this study began in 2019. Future studies could further refine the dataset and expand the scope of collection to enhance the persuasiveness of the findings.

The scope of mediating variables in this study is relatively limited and does not fully capture all potential influencing factors. Theoretical analysis suggests that the legal environment plays a mediating role; however, future research could further explore the critical roles of social trust and public acceptance of technology. From the perspective of social norms, social trust influences policy implementation, serving as a fundamental moral basis for an orderly society and shaping the ideas and decisions of policymakers and implementers. From the perspective of people's livelihood services, the public's acceptance of technology affects the success of scientific and technological innovation. Skepticism toward a technology may lead to policy restrictions and reduced market demand, thereby hindering the innovation process, whereas positive public attitudes can drive investment and support rapid technological advancements. Therefore, future research should strive to overcome these limitations by incorporating a broader range of mediating factors for more in-depth and systematic analysis.

Funding: This work was supported by The National Social Science Foundation of China (Grant No.24XGL008); Graduate Research and Innovation Program of Southwest University (Grant No. SWU23002).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Liang, K.; Wu, P.; Zhang, R. Research on the Evaluation of Regional Scientific and Technological Innovation Capabilities Driven by Big Data. *Sustainability* 2024, 16(4), 1379.
2. Jie, H.L. Overall optimization model of efficiency and performance of green technology innovation. *Sustainable Computing: Informatics and Systems (prepublish)* 2020, 30, 100501.
3. Papaioannou, T. Technological innovation, global justice and politics of development. *Progress in Development Studies* 2011, 11(4), pp. 321-338.
4. Ziegler, M.; Simon, M.H.; Hall, L.R.; Barker, S.; Stringer, C.; Zahn, R. Development of Middle Stone Age innovation linked to rapid climate change. *Nature communications* 2013, 4(1), 1905.
5. Irandoust, M. The renewable energy-growth nexus with carbon emissions and technological innovation: Evidence from the Nordic countries. *Ecological Indicators* 2016, 69, pp. 118-125.
6. Chibi, M.; Wasswa, W.; Ngongoni, C.; Baba, E.; Kalu, A. Leveraging innovation technologies to respond to malaria: a systematized literature review of emerging technologies. *Malaria journal* 2023, 22(1), pp. 40-40.
7. Wang, X.; Ren, Y.; Zhang, L.; Ma, Y. The Influence of Technological Innovation Ability of Universities on Regional Economic Growth. *Journal of Coastal Research* 2020, 103(sp1), pp. 112-116.
8. Casiraghi, S. Anything new under the sun? Insights from a history of institutionalized AI ethics. *Ethics and Information Technology* 2023, 25(2), 28.
9. Foster, J.; McLeod, J.; Nolin, J.; Greifeneder, E. Data work in context: Value, risks, and governance. *Journal of the Association for Information Science and Technology* 2018, 69(12), pp. 1414-1427.
10. Trump, B.; Cummings, C.; Klasa, K.; Galaitsi, S.; Linkov, I. Governing biotechnology to provide safety and security and address ethical, legal, and social implications. *Frontiers in Genetics* 2023, 13, 1052371.
11. Reddy, S. Generative AI in healthcare: an implementation science informed translational path on application, integration and governance. *Implementation Science* 2024, 19(1), 27.
12. Hantrais, L.; Lenihan, A.T. Social dimensions of evidence-based policy in a digital society. *Contemporary Social Science* 2021, 16(2), pp. 141-155.
13. Chen, B.; Chen, J.Y. China's Legal Practices Concerning Challenges of Artificial General Intelligence. *Laws* 2024, 13(5), 60.
14. Flegal, J.A.; Hubert, A.M.; Morrow, D.R.; Moreno-Cruz, J.B. Solar Geoengineering: Social Science, Legal, Ethical, and Economic Frameworks. *Annual Review of Environment and Resources* 2019, 44(1), pp. 399-423.
15. Pentland, B.T.; Yoo, Y.; Recker, J.; Kim, I. From Lock-In to Transformation: A Path-Centric Theory of Emerging Technology an Organizing. *Organization Science* 2021, 33(1), pp. 194-211.
16. Li, J.; Walker, S.; Nie, J.; Zhang, X.Q. Experiments that led to the first gene-edited babies: the ethical failings and the urgent need for better governance. *Journal of Zhejiang University Science B* 2019, 20(1), pp. 32-38.
17. Azer, M.A.; Samir, R. Overview of the Complex Landscape and Future Directions of Ethics in Light of Emerging Technologies. *International Journal of Advanced Computer Science and Applications (IJACSA)* 2024, 15(7), pp. 1459-1481.
18. Paredes-Frigolett, H.; Singer, A.E.; Pyka, A. A Framework for Ethical Research and Innovation. *Science and Engineering Ethics* 2021, 27(1), 11.
19. Wickson, F.; Forsberg, E.M. Standardising Responsibility? The Significance of Interstitial Spaces. *Science and engineering ethics* 2015, 21(5), pp. 1159-1180.
20. Ambrammal, S.K. Whether the role of technological innovation and intellectual property rights on sustainable development different in developing and developed countries? A panel data analysis. *International Journal of Innovation and Sustainable Development* 2023, 17(4), pp. 472-493.
21. Gooding, P.; Kariotis, T. Ethics and Law in Research on Algorithmic and Data-Driven Technology in Mental Health Care: Scoping Review. *JMIR mental health* 2021, 8(6), e24668.
22. Ryan, M.; Isakhanyan, G.; Tekinerdogan, B. An interdisciplinary approach to artificial intelligence in agriculture. *NJAS: Impact in Agricultural and Life Sciences* 2023, 95(1), 2168568.
23. Madhavan, R.; Kerr, J.A.; Corcos, A.R.; Isaacoff, B.P. Toward Trustworthy and Responsible Artificial Intelligence Policy Development. *IEEE Intelligent Systems* 2020, 35(5), pp. 103-108.

24. Kuhlmann, S.; Stegmaier, P.; Konrad, K. The tentative governance of emerging science and technology-A conceptual introduction. *Research Policy* 2019, 48(5), pp. 1091-1097.
25. Di Vaio, A.; Hassan, R.; D'Amore, G.; Tiscini, R. Responsible innovation and ethical corporate behavior in the Asian fashion industry: A systematic literature review and avenues ahead. *Asia Pacific Journal of Management* 2024, 41(3), pp. 1129–1173.
26. Koniakou, V. From the “rush to ethics” to the “race for governance” in Artificial Intelligence. *Information Systems Frontiers* 2022, 25(1), pp. 71-102.
27. Zhou, J.M.; Zhao, Y.Z.; Kuang, H.B. Environmental Regulation, Directed Technological Change, and Economic Growth: From The Perspective of Green Growth. *Applied Ecology And Environmental Research* 2019, 17(4), pp. 9263-9278.
28. Amann, J.; Blasimme, A.; Vayena, E.; Frey, D.; Madai, V.I. Explainability for artificial intelligence in healthcare: a multidisciplinary perspective. *BMC Medical Informatics and Decision Making* 2020, 20(1), 310.
29. Cao, H.; Zhao, Y.; Yuan, L.; Li, K. Does legislation promote technological innovation in renewable energy enterprises? Evidence from China. *Energy Policy* 2024, 188, 114111.
30. Anderlini, L.; Felli, L.; Immordino, G.; Riboni, A. Legal Institutions, Innovation, and Growth. *International Economic Review* 2013, 54(3), pp. 937-956.
31. Talkmore, C. The role of intellectual property rights' protection in advancing development in South Africa. *Law, Democracy and Development* 2020, 26, pp. 168-189.
32. Stuurman, K.; Lachaud, E. Regulating AI. A label to complete the proposed Act on Artificial Intelligence. *Computer Law & Security Review: The International Journal of Technology Law and Practice* 2022, 44, 105657.
33. Ding, W.R.; Ding, J.Y. New venture's product innovativeness strategy, institutional environment and new product performance. *Technological Forecasting & Social Change* 2022, 174, 121211.
34. Xu, Q.; Cheng, H.; Yu, Y. Analysis and forecast of textile industry technology innovation capability in China. *Industria Textila* 2021, 72(2), pp. 191-197.
35. Bendig, D.; Foege, J.N.; Endriß, S.; Brettel, M. The Effect of Family Involvement on Innovation Outcomes: The Moderating Role of Board Social Capital. *Journal of Product Innovation Management* 2020, 37(3), pp. 249-272.
36. Liu, C.J.; Jiang, Y. When China's environmental governance encounters marketization of economy: Good or bad? *Environment, Development and Sustainability* 2023, 27(3), pp. 1-26.
37. Cao, Q. Contradiction between input and output of Chinese scientific research: a multidimensional analysis. *Scientometrics* 2020, 123(1), pp. 1-35.
38. Sun, D.X.; Zeng, S.X.; Ma, H.Y.; Shi, J.J. How Do High-Speed Railways Spur Innovation? *IEEE Transactions on Engineering Management* 2023, 70(11), pp. 3944-3957.
39. Fu, W.G. Government regulations of public risks: interpretation and commentary. *Global Law Review* 2012, 34(02), pp. 140-152.
40. Lu, Q.; Hua, C.; Miao, J.J. The Impact of Factor Market Distortion on the Efficiency of Technological Innovation: A Spatial Analysis. *Sustainability* 2022, 14(19), 12064.
41. Lu, C.W.; Chen, M.; Tian, G.X. Spatial-Temporal Evolution and Influencing Factors of Urban Green Innovation Efficiency in China. *Journal of Environmental and Public Health* 2022, 4047572.
42. Zhang, M.; Qin, J.Y.; Tan, H.; Mao, H.L.; Tu, X.J.; Jian, J.F. Education level of farmers, market-oriented reforms, and the utilization efficiency of agricultural water resources in China. *Economic Change and Restructuring* 2023, 56(6), pp. 3927-3947.
43. Han, W.; Wang, P.; Jiang, Y.S.; Han, H. Nonlinear Influence of Financial Technology on Regional Innovation Capability: Based on the Threshold Effect Analysis of Human Capital. *Sustainability* 2022, 14(2), 1007.
44. Chache, E.G.; Dremlyuga, R.I.; Tret'yakova, N.A.; Neznamov, A.V. System Approach to the Study of State Policies and Formation of Ethics of Application of Artificial Intelligence Technologies: Global Atlas of Regulation. *Doklady Mathematics* 2023, 106(1s), pp. S65-S69.
45. Idris, S.H.; Jalaluddin, N.S.M.; Chang, L.W. Ethical and legal implications of gene editing in plant breeding: a systematic literature review. *Journal of Zhejiang University Science B* 2023, 24(12), pp. 1093-1105.
46. Gopalan, N.; Nor, S.N.M.; Mohamed, M.S. Regulation of Stem Cell Technology in Malaysia: Current Status and Recommendations. *Science and engineering ethics* 2020, 26(1), pp. 1-25.
47. Wekesa, M. Challenges in regulation of biomedical research: The case of Kenya. *Nigerian Journal of Clinical Practice* 2015, 18(7), pp. 25-30.
48. Temel, S.; Durst, S. Knowledge risk prevention strategies for handling new technological innovations in small businesses. *VINE Journal of Information and Knowledge Management Systems* 2020, 51(4), pp. 655-673.

Citation: Yang, X.; Wang, Z.; Zhang, Z. Analysis of the mechanism of ethical governance of science and technology on scientific and technological innovation. *Journal of Social Sciences* 2025, 8 (2), pp. 137-154. [https://doi.org/10.52326/jss.utm.2025.8\(2\).11](https://doi.org/10.52326/jss.utm.2025.8(2).11).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).12](https://doi.org/10.52326/jss.utm.2025.8(2).12)
UDC 35.07:338.46(680)



GOOD GOVERNANCE CHALLENGES IN THE SOUTH AFRICAN PUBLIC SERVICE

Shikha Vyas-Doorgapersad *, ORCID: 0000-0002-8146-344X

School of Public Management, Governance and Public Policy, College of Business and Economics, University of Johannesburg, South Africa

* Corresponding author: Shikha Vyas-Doorgapersad, svyas-doorgapersad@uj.ac.za

Received: 05.12.2025

Accepted: 06.12.2025

Abstract. The article examines the various causes of ineffective governance in South African public service: the lack of transparency, accountability, effectiveness and efficiency, ethical norms, and others. The main rationale of the study is that even though the country has anti-corruption legislative and institutional frameworks, implementing good governance principles remains a challenge. The study used a qualitative approach to compile information. Literature and document reviews were considered to gather relevant information that was then assessed through conceptual and document analysis. The findings show that South Africa lacks adequate resources and technological skills to establish transparency, the lack of digitalised platforms leads to poor citizen participation in the governance processes, and political will is lacking to enhance openness in government structures, processes, and decisions, to name a few. The findings suggest that maintaining ethical standards in public administration necessitates that public officials demonstrate openness in fulfilling public responsibilities. Transparency constitutes a fundamental principle for the success of any public organisation. The study offers policy recommendations for improvement.

Keywords: *good governance, public service, qualitative, transparency, South Africa.*

Rezumat. Articolul examinează diverse cauze ale guvernării ineficiente în serviciul public sud-african: lipsa de transparență, responsabilitate, eficacitate și eficiență, norme etice și altele. Principala justificare a studiului este că, deși țara are cadru legislativ și instituțional anticorupție, implementarea principiilor buneii guvernări rămâne o provocare. Studiul a utilizat o abordare calitativă pentru compilarea informațiilor. Au fost luate în considerare recenzii ale literaturii de specialitate și ale documentelor pentru a colecta informații relevante, care au fost apoi evaluate prin analiza conceptuală și a documentelor. Constatările arată, că Africa de Sud nu dispune de resurse adecvate și de competențe tehnologice pentru a stabili transparența, lipsa platformelor digitalizate conduce la o participare slabă a cetățenilor la procesele de guvernare, lipsește voința politică pentru a spori deschiderea structurilor, proceselor și deciziilor guvernamentale. Constatările sugerează că menținerea standardelor etice în administrația publică necesită ca funcționarii publici să demonstreze deschidere în îndeplinirea responsabilităților publice. Transparența constituie un principiu

fundamental pentru succesul oricărei organizații publice. Studiul oferă recomandări de politici pentru îmbunătățire.

Cuvinte cheie: *Bună guvernare, serviciu public, calitate, transparență, Africa de Sud.*

1. Introduction

Good governance in public service is imperative as it establishes the norms and principles to maintain a culture of ethics. It should be noted that good governance is about transparency (openness), solidarity, and democracy [1, p. 64]. It has significant major characteristics: It is *participatory*, meaning public officials must include the public in making decisions. It is required to be *consensus-oriented*, meaning decisions must be made with consensus. It demands *accountability* whereby public servants must answer for everything they do. It seeks *transparency*, so data must always be accessible to the public when needed. It expects *responsiveness*, so the government must react to societal demands. It demands *effectiveness and efficiency*, and that services be provided economically. It is concerned with *inclusion and equality* and expects that all members of the community be included and treated fairly, and it *adheres to the law*, requiring public servants to behave lawfully in their duties [1, p. 64; 2, p. 29]. When these rules/guidelines are adhered to, the concept of good, ethical and normative governance may evolve.

Good governance has become the favoured paradigm in the field of public management due to the new public management (NPM) values not being upheld by the neoliberal paradigm shift, pure marketplace ideology, and private sector efficiency approaches [3, p. 3].

As governments increasingly recognise that the lives of the majority, the regular citizens, cannot be neglected in favour of the few, the wealthy, particularistic elites of interest groups, it has produced an atmosphere in which the fundamental concerns of equity, fairness, and market failure are resurfacing [3, p. 3; 4, p. 3; 5, p. 80].

A trustworthy judicial system that efficiently provides public services through accountable administration is essential for good governance. Good governance requires that public sector management prioritise improving accounting, reporting, and budgeting as well as eliminating inefficiencies in public enterprises, enhancing accountability in public services, and encompassing decentralisation, efficient accounting, and auditing in addition to holding public employees responsible for their actions and increasing their societal responsiveness [6; 7, p. 12; 8, pp. 32–33].

Good governance requires a sound legal system with well-defined regulations, an independent and reliable judiciary, and effective law enforcement, and it expects that corruption can be reduced through transparency and information sharing to improve policy analyses and encourage public discourse [6; 7, p. 12; 8, pp. 32–33].

For good governance to be realised, it is expected that current and future organisational leaders abide by its tenets.

However, it is necessary to measure two accomplishments to assess the quality of governance, that is, improvements in public policy outcomes and improvements in adherence to governance principles [8, pp. 32–33; 9, p. 2]. The article focuses on the challenges of transparency in South African public service. The other aspects of good governance will be explored in future publications.

2. Challenges Related to Transparency in the South African Public Service

The concept of transparency has evolved from an ideology advocated by grassroots movements around the globe to a fundamental norm for contemporary governance, openly supported by the majority of the world's governments and promoted by multilateral organisations [10, p. 1094]. Open government has gained traction in administration discussions in prosperous and emerging economies in the past few decades. Transparency International promotes transparency to enhance government effectiveness with its worldwide assessment of national governments based on their level of openness [11, p. 565]. In line with this, it can be argued that promoting openness and transparency immediately improves public office bearers' responsibility to citizens, as it allows them to acquire accurate data about government operations [12, p. 3]. This concept's fundamental tenet is ensuring that citizens have access to all information held by the government and private parties necessary to exercise or defend their rights [12, p. 3]. Many statutory tools have been established to encourage transparency in the public sector, and the South African Government has not been immune to calls for open governance.

Evidence points to the country having made some giant strides in terms of openness of government operations since the dawn of a new democratic era. In line with this, it can be outlined that even though South Africa's Open Budget Survey score declined from 92 in 2012 to 86 in 2021 (and predicted to be 86 in 2023), the national government still adhered to the principle of full disclosure in its budgeting and spending. It should be mentioned that the Promotion of Access to Information Act, No. 2 of 2000 (PAIA), was passed to put this essential capability into practice and create an atmosphere that encourages transparency in both public and private organisations [12, p. 4]. To promote transparency, the Promotion of Administrative Justice Act, No. 3 of 2000 (PAJA), which mandates the explanation of administrative decisions, is a supplement to PAIA [12, p. 4]. However, numerous research investigations have found that the actual empirical impact caused by openness on governance is not easy to understand, and enhanced openness does not necessarily yield the expected benefits. Notwithstanding an upsurge of information, the increasing number of conspiracies purporting to reveal the concealed functioning of authority implies that citizens are becoming increasingly sceptical of those in positions of power [11, p. 566]. Despite advancements in government transparency, many people see their respective governments as mysterious and believe that their internal operations are obscure and sinister.

The National Development Plan (NDP) describes South Africa's prospective growth vision, including important goals and methods [13, p. 23]. The NDP encourages the involvement of citizens, as well as openness and responsibility in administration. Despite adopting the NDP, South Africa has had obstacles in implementing transparency in government actions, as detailed below.

2.1 Resource Constraints

Evidence points to the reality that many government departments in South Africa lack the resources and technological expertise to efficiently handle open information and efforts [14, p. 56]. Sufficient data gathering and management funding must be available to implement such efforts successfully. Financial resources are needed to store and maintain important data in formats suitable for open data and transparency projects [15, p. 258]. In line with this, it can be argued that insufficient monetary resources and experience can impede the government's ability to execute transparency policies successfully. The

government's capacity to preserve adequate, trustworthy records and respond to and handle requests for such information on time becomes relevant [16, p. 142]. Similarly, it can be considered that if any of these aspects are missing, the opportunity for transparency is diminished [12, p. 4].

2.2 Flawed Citizen Participation Mechanisms

Limited consciousness, minimal level of digital literacy, and the digital divide hinder the successful implementation of open data and transparency efforts in South Africa, leading to weak citizen engagement by government employees [16, p. 162]. Additionally, it is important to consider that the public's usage of open data and transparency in initiatives in South Africa has been hampered by a lack of educational understanding regarding their benefits [14, p. 56]. Poor knowledge of digital technologies and internet access have hindered public participation in open data and transparency efforts, particularly in rural and informal settlements. Displaying important data on open data platforms impacts public understanding [17, p. 69]. Important data should be presented in simple, straightforward terms to enhance its accessibility and comprehension. Citizen engagement has become limited due to the lack of public participation in governmental operations and decision-making processes through open data and transparency efforts [14,18]. In this regard, public feedback on government procedures and decision-making mechanisms is limited or nonexistent. Such limited interaction between office-bearers and the public reduces openness and accountability for public leaders.

2.3 Lack of political stability and will

Political stability is required to ensure that governance is effective. Typically, a lack of political stability leads to protests, chaos, and the disruption of government processes and service delivery; see Figure 1.

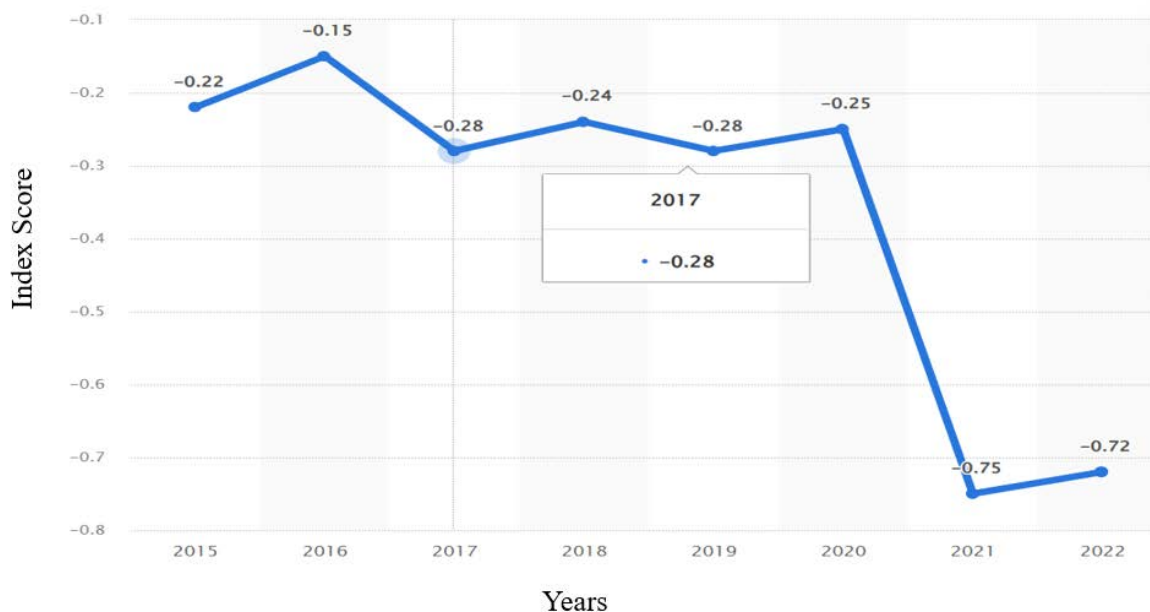


Figure 1. Political stability and absence of violence or terrorism index in South Africa from 2015 to 2022 [19].

South Africa's political stability rating, based on the risk of terrorism or violence, went down 0.72 points in 2022. Protests broke in KwaZulu-Natal Province in 2021 following the imprisonment of former president Jacob Zuma for contempt of court. As people impacted by the economic disparity, made worse by the COVID-19 outbreak, joined in, this set off a wave of social upheaval that eventually stretched to the Gauteng Province. These violent riots were the worst the nation had witnessed since the end of apartheid, involving the destruction and looting of businesses, shopping centres, and property [20].

The South African political, social and economic landscape has also demonstrated a lack of political will to implement public transparency initiatives. The absence of political support hinders the successful enactment and enforcement of open data and transparency laws and regulations. In this line of thought, it can be noted that public authorities and legislators have accomplished little to advocate for and commit sufficient funding to open data and transparency projects. As a result, efforts towards implementing and sustaining transparency and accountability are significantly challenged. It is suggested that a lack of political will to invest in open data and transparency efforts could be due to various factors: The concept of government openness may require the revelation of confidential politics-related information that could prove detrimental to some public figures. This may result in limited dissemination and/or the distribution of inadequate and erroneous information to the general population [21, p. 5]. The urge to withhold information is worsened by an absence of a political will, affecting transparency among governmental institutions, legislators, and government employees [21, p. 17]. Corruption contributes significantly to politicians' and elected officials' dearth of political will.

2.4 Corruption

Transparency in public service is also hindered by corruption. Corrupt government employees may deliberately reveal or give misleading data to protect their misconduct. This compromises the precision and authenticity of open data and transparency by disseminating false and misleading information to the public. It is argued that while misconduct in the government domain is not an entirely novel phenomenon, the form and scope of misconduct, which manifests predominantly through illegal contracts for procurement, were not completely understood until recently. This phenomenon is primarily the result of public servants prioritising their private interests over the needs of citizens and their rights enshrined in the Constitution. Considering the volume of evidence presented at the Zondo Commission, it is clear that openness has diminished [12, p. 9]. The Transparency International Corruption Perception rankings are used as a proxy for judging the extent of state corruption in each economy, with '0' representing extreme misconduct and 100 indicating no perception of government misconduct [22]. South Africa has a score of 41, ranking it 82 out of 180 countries [22], see Figure 2.

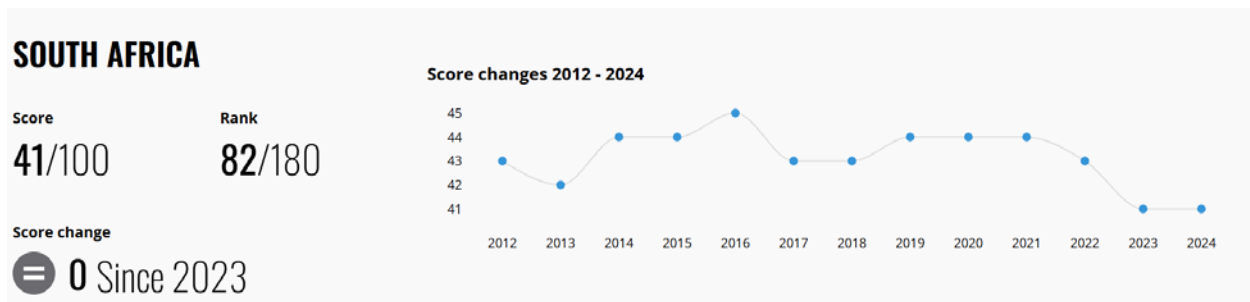


Figure 2. Corruption Perception Index [22].

In cases of misconduct, government employees may intentionally conceal facts, thereby rendering it impossible for citizens and community groups to obtain important details about government-related matters and the way decisions are made [23, p. 58].

2.5 Poor data quality

Accurate and complete information is essential for transparency initiatives to be reliable and efficient. Insufficient, incorrect, or obsolete information can significantly impact governmental operations and decision-making processes. It is noted that gaps in open data and transparency initiatives can limit public participation in government decisions [24, p. 3]. Inaccurate or obsolete data may contribute to misconceptions and judgments, hindering the public's comprehension of South African events [25, p. 75]. Insufficient quality of information may result in bias whenever particular viewpoints are overemphasised or underrepresented, resulting in distorted results [26, p. 8]. It is important to identify data bias as perpetuating current inequities and disinformation that harm others [26, p. 9]. Compiling information from multiple sources can be challenging, particularly when it is not structured effectively and appropriately, resulting in poor-quality/inaccurate information being disseminated to the public [15, p. 263]. Data producers and users must comprehend the significance of the accuracy of information and its influence on making informed decisions. Government agencies should distribute current data and interact effectively to improve data integration and standardisation [14, p. 56].

2.6 Data Privacy and Security Concerns

Transparency projects can be exploited by individuals who utilise private information for illegal activities like money laundering, manipulating markets, financing terrorists, and business fraud [15, p. 268]. The data shows yearly trends in incident types, 2010–2020, as shown in Figure 3.

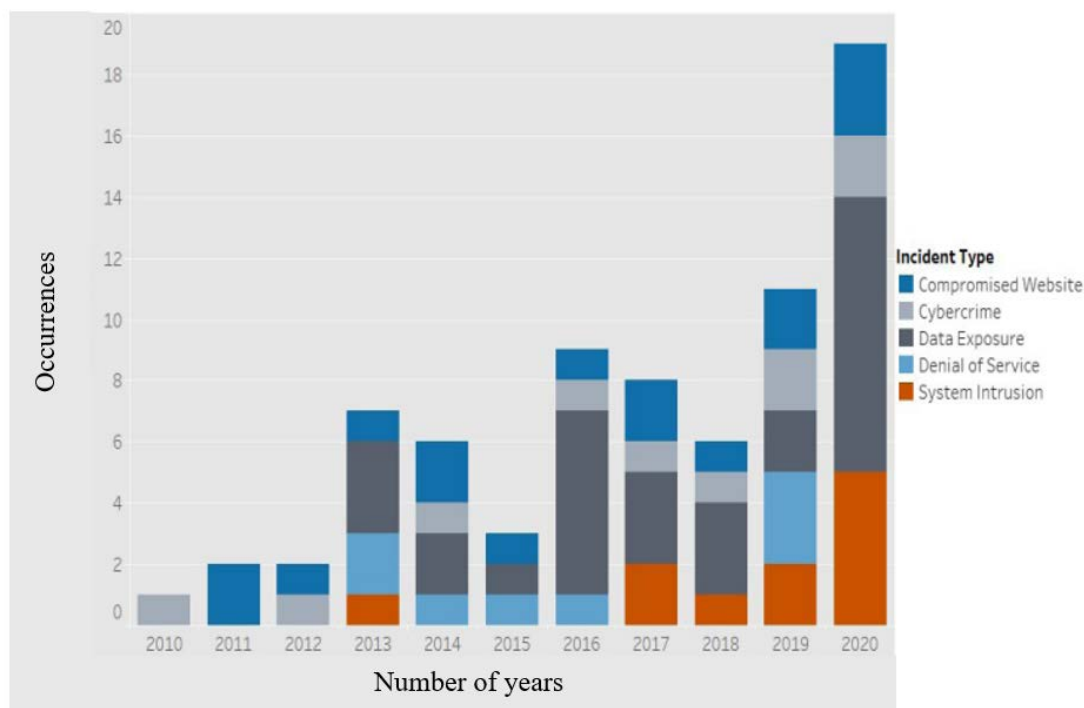


Figure 3. Yearly trends in incident types, 2010–2020.

Source: [27]

Open data and transparency efforts should be carefully managed and monitored to address potential privacy and security concerns. Identity information must be anonymous to prevent owners from being identified in open data and transparency initiatives. Before publishing personal information for open data and transparency, legitimate authorisation must be obtained from all individuals involved [25, p. 387].

3. Research methods

The study used a qualitative approach, which describes any research that yields conclusions that are not supported by statistical analysis or other quantitative techniques [8, p. 10; 28, p. 600] but instead explains the environments in which the phenomenon of interest naturally occurs [8, p. 10; 29, p. 39]. The ability of the qualitative research methodology to support flexible, less systematic research that maximises the capture of subjective knowledge and multiple realities can, however, occasionally be seen as a drawback [30, p. 37; 31, p. 9]. Despite these drawbacks, qualitative research was the best method for achieving the study's goal, especially when considering exploratory and descriptive research knowledge requires contextual depth [30, p. 37; 31, p. 9].

The material was gathered through a literature review. Finding experts in a particular field is one of the benefits of conducting a literature review. This is because numerous related articles will surface as the review progresses [32, p. 458; 33, p. 10]. A literature review also provides important questions regarding which subjects and perspectives require additional investigation and identifies the previous approaches employed [33, p. 10; 34, p. 1]. Information was also gathered by reviewing documents, that is, a document review. Using documentary methods involves examining documents that provide details about the phenomenon a researcher wants to investigate [35, p. 221; 36, p. 17]. Additionally, it can be further stated that documents can include all written texts. Individuals and groups create documents to meet their immediate practical needs during daily activities. During a document analysis, the researcher must be completely aware of the documents' original audience, purpose, and origins because they were written with a specific goal in mind, predicated on specific assumptions, and presented in a particular manner [35, p. 221; 36, p. 17].

Conceptual analysis was used to evaluate the study data. Conceptual analysis is the process of critically examining the logical relationships between concepts, terms, variables, constructs, definitions, statements, hypotheses, and theories, as well as exposing assumptions and consequences [8, p. 15; 37, p. 126]. Conceptual analysis, which encompasses the systems of concepts, assumptions, expectations, beliefs, and theories guiding research, is generally accepted as an explanation put forth to improve understanding of the social reality or phenomenon under investigation [38, p. 33; 8, p. 15]. The data was also processed using document analysis. Data selection is used in document analysis rather than data collection. Document analysis is convenient for qualitative researchers because documents are made available in the public domain, removing the need to get permission from the author. Additionally, document analysis is less expensive than other research techniques because the data has already been collected, and the researcher does not have to change the information presented in the documents, providing stability. Document analysis also provides broad coverage, which means it covers a wide range of periods, events, and environments [33, pp. 10–11; 39, p. 3].

4. Legislative frameworks to establish good governance in south african public service

There are various legislative frameworks applicable in the South African context. A few of them are briefly discussed next.

Chapter 10, Section 195 of the Constitution of the South African Republic (1996) emphasises that public administration must be accountable, and transparency must be fostered by providing the public with timely, accessible, and accurate information [40].

The Protected Disclosure Act of 2000 (PDA) [41], also known as the Whistleblowing Act, protects employees who disclose information about unlawful or irregular conduct. Accordingly, whistleblowing is one way to counteract fraud and corruption in society [42, p. 145]. The importance of whistleblowers in revealing unethical behaviour has been noteworthy in both the private and public sectors in many nations, including South Africa [42, p. 145]. Whistleblowing ensures that dishonest and avaricious top politicians and officials adequately safeguard the organisation's assets and reputation [43, p. 56]. The Protected Disclosure Act is an essential tool in the arsenal of anti-corruption initiatives to motivate truthful workers to disclose incidents of misconduct.

This rule should be praised as an essential corporate governance instrument for fostering secure, responsible, and adaptable work environments within the public and corporate divisions [44, p. 3]. Note that even though these whistleblowers have received much praise for their actions, retaliation is regrettably frequent. This results from the ingrained belief that those who expose wrongdoing should be punished for their disloyalty [42, p. 145].

In recent years, South Africa's legal system has begun to examine the practice of whistleblowing. In the struggle against bribery, fraud, and corruption, the value of whistleblowers is becoming more widely recognised. Whistleblowing is a concept that applies to both the public and commercial sectors [43, p. 55]. The PDA has sparked various political, economic, and social responses since it was enacted in 2000. On one side is the idea that the PDA has the capacity to encourage the right environment for expressing and addressing concerns at work. However, the PDA does little to protect employees who expose wrongdoing from losing their jobs [45, p. 4].

South Africa also has implemented the Public Service Commission Act (No. 46 of 1997). According to Lindiwe Sisulu (the previous South African minister of international relations and cooperation), in a speech at the centenary of the PSC, by advancing, monitoring, and evaluating the constitutional ideals and public administration principles, the PSC contributes significantly to the strengthening the country's democracy. These values and principles represent how state activity aims to protect and advance the socioeconomic rights enshrined in Chapter 2 of the Constitution [46].

In terms of institutional frameworks, there is the Financial Intelligence Centre (FIC) Act. According to the FIC Act, the national centre for gathering and evaluating financial information in South Africa is the FIC. By contributing to preserving the soundness of South Africa's financial system, the FIC also makes financial intelligence products available to investigators from law enforcement, the South African Revenue Services, intelligence agencies, and other authorities [47].

The Anti-Corruption Task Team (ACTT) was launched in October 2010. This coalition of agencies aims to fast-track high-priority inquiries and criminal proceedings for corruption-related charges by utilising a cohesive and multidisciplinary operational approach [48]. The

Justice Crime Prevention and Security (JCPS) is the subcommittee for the ACTT. The National Director of Public Prosecution (NDPP) and the leader of the Directorate for Priority Crime and Investigations co-chair the ACTT [48].

5. Findings Synthesis

The principles and values of public administration are enshrined in Section 15 of the South African Constitution. It can be stated that these principles and values are meant to regulate the public sector's operations to enforce and promote an economically viable system of government that prioritises responsive service delivery [49, p. 242]. This is meant to address South Africa's long history of inadequate service delivery, as demonstrated by service delivery demonstrations and protests that have become the norm since the dawn of democracy [49, p. 242]. It is impossible to deny that the rendering of essential amenities requires a commitment from the government towards common will, empathy, and tolerance. Considering that the general population has an inherent entitlement to services based on the principles of democracy, the government is accountable for fulfilling these commitments [50].

Multiple issues related to ethics, including the assignment of cadres, have harmed the country's public service governance [51]. Commissions like the Zondo and Mokgoro Commissions have demonstrated that the country's system of government is experiencing turmoil, partly because of a high level of unethical and corrupt behaviour among public servants. This pandemic of corruption impairs the capacity of all government agencies and bodies to provide essential services effectively and efficiently. The South African Government faces many challenges, including a lack of oversight, openness, and effectiveness. In line with this assertion, it can be established that the government's public procurement procedures have become a sanctuary for fraud and poor management [52, p. 4].

A very high standard of competence and morality must be created and maintained as the core democratic basis for governance in South Africa. Given that this is a constitutional duty, it requires that national institutions, municipal governments, public enterprises, and those who interact with the governing body adhere to a higher ethical and moral standard [49, p. 244]. Even if the South African Government has made reasonable attempts to establish an appropriate framework whereby its employees are free to operate, public sector misconduct continues unabated [53]. In evidence of this, a research was conducted which explored government departments that reported 10 or more acts of misconduct in the 2021/2022 financial year [12, p. 5]. The Department of Correctional Services and the South African Police Service recorded over 1,500 incidences of misbehaviour. Many of these incidents involved unlawful absence from work, abandonment of duty, and legal noncompliance, such as violating laws and legal requirements [12, p. 5]. For the 2021/22 fiscal year, national departments documented 6,069 misbehaviour incidents. The Department of Correctional Services recorded more than 40% of these incidents, followed by the South African Police Service at 30% [12, p. 5].

Issues of misconduct and deviation from ethical values have manifested through financial misconduct. The monetary malfeasance has resulted in an enormous rise in the money involved, from R585m in 2020/21 to R931m in the 2021/22 fiscal year. Additionally, the amount that is being reclaimed is declining. National departments reported that 99.8% of the financial misconduct-related funds had not been returned at the time of reporting for the 2021/22 fiscal year, which is a cause for concern. As a result, the PSC believes that the accounting officers culpable for the noncompliance should be held accountable [12, p.7].

The information presented above shows that government departments are grappling with numerous challenges concerning upholding ethical standards. In line with this, upholding robust moral leadership in South African public administration has proven challenging because of pervasive corruption and political interference in public organisations [49, p. 243]. In South Africa, municipal employees frequently engage in financial crime, fraud, and misconduct, thereby obstructing the delivery of public goods and services to those in need. Local governments in South Africa are excessively influenced by politics, resulting in less equitable decision-making [52]. The moral and ethical crisis in South Africa has escalated to a point where governmental and semi-governmental organisations must reassess their positions on morality, ethical conduct, accountability, and professionalism.

In the 2021/22 fiscal year, most finalised accounting malpractice cases submitted by national departments pertained to misappropriation and abuse, corruption and fraud, irregular expenditure, and gross negligence, among other categories [12, p. 6]. The situation is concerning as it contravenes the objective of fostering moral public service and guaranteeing efficient, economical, and productive usage of resources. It is imperative to address the pervasive culture of misconduct, *lack of accountability*, and *lack of professionalism* that has emerged within the public sector [54]. Public sector members must behave ethically to establish a sustainable democratic government that aligns with the constitutional principles of accountability, transparency, and professional ethics. In the years following South Africa's transition to democracy, the government has faced significant challenges due to pervasive corruption and inadequate management among government officials and influential politicians [55].

It is asserted that *ineffective control systems* empower unethical public office bearers. The misuse of ethics in public administration is frequently ascribed to several factors, including insufficient goodwill to provide high-quality amenities, dishonesty, and the inadequacy of internal controls. While public officials may be inclined to address perceived loopholes in the regulatory structure or code of conduct, ineffective control systems that lack enforcement lead to corruption [52, p. 3]. At the Nigerian Conference, the issue of corruption within the South African public sector was addressed [56]. Concerning opinions were expressed regarding the systemic corruption that remains the fundamental cause of inadequate services being provided in communities [56]. It was posited that “effective anti-corruption measures should consider both the nature and causes of public sector corruption” [57, p. 32]. This viewpoint supports [56]’s assertion that corruption must be curbed to prevent money laundering. It was further asserted that the underlying reasons for misconduct and ethical neglect in South Africa are context-specific, complicating the provision of a valuable account of these causes due to the biased political environment. Political corruption frequently prevails, presenting challenges for control due to manipulating systems for individual benefit [58, p. 208].

Maintaining ethical standards in public administration necessitates public officials demonstrate openness in fulfilling public responsibilities. Transparency and accountability constitute fundamental principles for the success of any public organisation. Document analysis indicates that public administration in South Africa is characterised by significant bureaucracy at the highest levels of management, which hinders openness in decision-making processes, such as those related to procurement. An audit opinion further indicates that five local governments in Limpopo Province experienced regression, demonstrating

complacency despite presenting unqualified financial statements. Underperformance was noted, yet individuals exhibiting high levels of unethical behaviour faced no repercussions [59].

Inadequate accountability was observed in the creation of infrastructure projects and the handling of finances, resulting in negative impacts on the provision of services. In the Eastern Cape, an identical pattern of lack of accountability is observed, as seven local governments have regressed due to their failure to account for supply chain management [cf 59]. Furthermore, expressed concerns can be considered significant regarding the infrastructural works that went unfinished due to inadequate planning and management of projects. The Eastern Cape municipalities incurred R13.558 billion of unauthorised spending during that year, constituting 48% of total irregular expenditure. The data indicates a lack of accountability and ethical standards within municipalities [59]. It can therefore be asserted that unethical conduct and corruption in public administration can be primarily attributed to insufficient internal control and a lack of accountability, leading to dishonest and unethical behaviour among public officials in their duties [60, p. 49].

Despite the provision of performance appraisals and bonuses by numerous government departments in South Africa, corruption and other unethical practices persist [61]. This phenomenon is often regarded as an inherent aspect of human behaviour, characterised by the accumulation of resources to the detriment of the impoverished. This paper argues that enhanced transparency and openness regarding public spending would bolster citizen trust and lead to more effective service delivery.

It is noted that misconduct in South African public administration can be characterise as the significant misuse of power for one's personal advantage or for the benefit of political associates or partners. Corruption within South African public administration presents in various forms [62, p. 344]. Note that illicit activity is an escalating phenomenon prevalent in multiple areas of life, including business and employment, among others [63, p. 133]. Researchers and public administration professionals agree that controlling corruption is often challenging due to the involvement of prominent individuals in influential government positions. The BOSASA corruption incident presented at the Zondo Commission in 2019 exposed substantial unethical behaviour involving company and government employees. Despite some denying allegations of corruption, substantial evidence exists concerning unethical practices related to government contracts [64].

It is also noted that corruption within South African public administration has significantly escalated, infiltrating all three administration domains, resulting in heightened spending from the government and a deterioration of the moral fabric of the communities in question [65, p. 2]. Additionally it can be asserted that populations facing elevated corruption levels endure service delivery delays and a significant deficiency in essential services, such as energy and water [66, p. 162]. It can be considered that the corruption associated with South African public administration services is classified in multiple ways, contingent upon the strategy or perspective adopted. Corruption is often well-known to both ordinary citizens and high-level centralised establishments. Elected officials' misuse of public offices exemplifies unethical behaviour that engenders public distrust in service delivery [67, p. 261]. It is further noted that technological advancements for e-governance within South African public administration have addressed challenging obstacles public organisations face in combating corruption and unethical conduct [16]. Additionally, it is important to consider that the increasing demand for constitutional involvement in national governance compels public sector officials to reduce corruption due to the public impact on policymaking [68, p. 3]. It is

deduced that, in addition to unethical conduct, public trust in state institutions exposes significant gaps in accountability that necessitate attention to improve the efficacy of South African public institutions. The absence of public accountability, transparency, and ethical adherence jeopardises the sustainability of public administration and service delivery [69, p. 10].

6. Conclusion

Transparency must be fostered by providing the public with timely, accessible, and accurate information. The 1996 South African Constitution asserts that communities are entitled to prompt, readily available and precise data, reflecting the principle of openness. The concept of full disclosure directly influences the responsibility of government officials to citizens by enabling access to all pertinent information regarding their actions. Openness significantly enhances public administration efficiency, effectiveness, and responsiveness, thereby influencing governance reform [70].

Based on the findings, the study deduces that South African public administration is facing governance challenges related to establishing openness, creating transparency, bringing accountability to decisions, and lack of effectiveness and efficiency in delivering public services, to name a few. These challenges lead to resource constraints, inadequate platforms for citizens to participate in governance processes, poor political will, corruption, and other misconduct.

The study findings highlight that while legislative and institutional frameworks have been established to combat corruption, interventions are required to establish an environment of good governance. Through effective implementation of frameworks and obligating the principles of good governance, a culture of ethics and professionalism can be established in public administration for the improved delivery of public services to increase public trust and confidence.

Conflicts of Interest: The author declares no conflicts of interest.

References

1. Kartakoullis, N.; Karlis, G.; Walker, T.; Locke, M.C. Good governance and management practices: The perspectives of Cyprus National Sport Federations administrators. *International Journal of Sport Management, Recreation & Tourism* 2015, 19, pp. 62-74.
2. Kemp, J. Variables influencing service delivery in Protea Glen, Johannesburg. Unpublished MA minor-dissertation. Johannesburg: University of Johannesburg. 2021. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/graduate/Variables-influencing-service-delivery-in-Protea/9912699707691> (accessed on 19/01/2025).
3. Vyas-Doorgapersad, S.; Aktan, C.C. Progression from ideal state to good governance: an introductory overview. *International Journal of Business and Management Studies* 2017, 9, (1), pp. 1-21.
4. Ikeanyibe, O. M.; Ogbonna, E.; Arinze, O. Governance paradigm in public administration and the dilemma of national question in Nigeria. *Cogent Social Sciences* 2017, 3 (1), pp. 1-15.
5. Maile, K.V.; Vyas-Doorgapersad, S. Organisational Ethics Management to Promote Good Governance in the South African Public Service. *Business Ethics and Leadership* 2022, 6(2), pp. 78-85.
6. World Bank. Sub-Saharan Africa. From Crisis to Sustainable Growth: A LongTerm Perspective Study. Washington, DC: World Bank. 1989. Available online: <https://documents1.worldbank.org/curated/en/498241468742846138/pdf/multi0page.pdf> (Accessed on 21/03/2025).
7. Gisselquist, R.M. Good Governance as a concept and why this matters for development policy. United Nations University. UNU-WIDER. World Institute for Development Economics Research. 2012. Available online: <https://www.wider.unu.edu/publication/good-governance-concept-and-why-matters-development-policy> (accessed on 18/12/2024).

8. Maile, V. Organisational ethics management to promote good governance in a national government department. Unpublished MA dissertation. Johannesburg: University of Johannesburg. 2022. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/graduate/Organisational-ethics-management-to-promote-good/9917309907691> (accessed on 10/11/2024).
9. Carcaba, A.; Gonzalez, E.; Ventura, J.; Anondo, R. How does good governance relate to quality of life? *Journal of Sustainability* 2017, 9(4), pp. 1-16.
10. Mungiu-Pippidi, A. Transparency and corruption: Measuring real transparency by a new index. *Regulation & Governance* 2023, 17, pp. 1094-1113.
11. Roelofs, P. Transparency and mistrust: Who or what should be made transparent? *Governance* 2019, 32, pp. 565–580.
12. Report On the Performance of National Departments Based On The Principle Of “Transparency Must Be Fostered By Providing The Public With Timely, Accessible And Accurate Information” September 2023. Pretoria: PSC. 2023. Available online: https://www.psc.gov.za/documents/reports/2023/Performance_of_National_Departments_on_Transparency_September_2023.pdf (accessed on 12/12/2024).
13. National Development Plan 2030: Our Future-make it Work. 2012. Available online: https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-makeit-workr.pdf (accessed on 10/02/2025).
14. Chitimira, H.; Motlogeloa, K. Opportunities and Challenges Affecting the Promotion of Good Governance, Open Data and Transparency Initiatives in South Africa. *Acta Universitatis Danubius* 2024, 20 (2), pp. 53-67.
15. Janssen, M.; Charalabidis, Y.; Zuiderwijk, A. Benefits, Adoption Barriers and Myths of Open Data and Open Government. *Information Systems Management* 2012, 29 (4), pp. 258-268.
16. Mawela, T.; Ochara, N.M.; Twinomurizi, H. E-government implementation: a reflection on South African municipalities. *South African Computer Journal* 2017, 29 (1), pp. 147–171.
17. Canares, M.P.; Marcial, D.; Narca, M. Enhancing Citizen Engagement with Open Government Data: The Case of Local Governments in the Philippines. *The Journal of Community Informatics* 2016, 12 (2), pp. 69-98.
18. Marias, D.L.; Quayle, M.; Burns, J.K. The role of Access to Information in Enabling Transparency and Public Participation in Governance: A case study of Access to Policy Consultation Records in South Africa. *African Journal of Public Affairs* 2017, 9 (6), pp. 36-49.
19. Political stability and absence of violence or terrorism index in South Africa from 2015 to 2022. 2025. Available online: <https://www.statista.com/statistics/1479919/political-stability-and-absence-of-violence-or-terrorism-index-in-south-africa/> (accessed on 12/03/2025).
20. Cowling, N. Political stability and absence of violence index in South Africa 2015-2022. 2024. Available online: <https://www.statista.com/statistics/1479919/political-stability-and-absence-of-violence-or-terrorism-index-in-south-africa/> (accessed on 12/03/2025).
21. McBride, K.; Toots, M.; Kalvet, T.; Krimmer, R. Turning Open Government Data into Public Value: Testing the COPS Framework for the Co-creation of OGD-Driven Public Services. In: *Governance Models for Creating Public Value in Open Data Initiatives*. Bolívar, R. M. P.; Bwalya, K. J.; Reddick, C. G. (Eds). Springer Nature, Switzerland, 2019, pp. 3-31.
22. Transparency International. *Corruption Perception Index*. 2025. Available online: <https://www.transparency.org/en/countries/south-africa> (accessed on 15/03/2025).
23. Ganapati, S.; Purón Cid, G.; Reddick, C. G. Online Fiscal Transparency of US State Governments: An Analysis Using Public Value Framework. In: *Governance Models for Creating Public Value in Open Data Initiatives*. Bolívar, R. M. P.; Bwalya, K. J.; Reddick, C. G. (Eds). Springer Nature, Switzerland, 2019, pp. 55-84.
24. Hulbert, J. M.; Turner, S. C.; Scott, S. L. Challenges and Solutions to Establishing and Sustaining Citizen Science Projects in South Africa. *South African Journal of Science* 2019, 115 (7-8), pp. 1-4.
25. Roos, A. The European Union’s General Data Protection Regulation (GDPR) and its Implications for South African Data Privacy Law: An Evaluation of Selected Content Principles. *Comparative and International Law Journal of Southern Africa* 2020, 53(3), pp. 72-108.
26. Taylor, L. What is Data Justice? The Case for Connecting Digital Rights and Freedoms Globally. *Big Data and Society* 2017, 4 (2), pp. 1-14.
27. Pieterse, H. The Cyber Threat Landscape in South Africa: A 10-Year Review. *The African Journal of Information and Communication* 2021, 28, pp. 1-21.
28. Golafshani, N. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report* 2023, 8 (4), pp.597-606.

29. Patton, M.Q. Qualitative research and evaluation methods. 3rd Sage Publications: Thousand Oaks, CA. 2002, pp. 1-690. Available online: <https://aulasvirtuales.wordpress.com/wp-content/uploads/2014/02/qualitative-research-evaluation-methods-by-michael-patton.pdf> (accessed on 22/12/2024).
30. Soga, B. A comparative analysis of the use of e-government services by small businesses. Unpublished PhD Thesis. Johannesburg: University of Johannesburg. 2022. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/doctoral/A-comparative-analysis-of-the-use/9917609207691> (accessed on 13/11/2024).
31. Mothabi, P. The adherence of King Code IV to promote ethical culture in LGSETA. Unpublished MA minor dissertation. Johannesburg: University of Johannesburg. 2022. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/graduate/The-adherence-of-King-Code-IV/9917309007691> (accessed on 03/11/2024).
32. Auriacombe, C.J. Unobtrusive research methods: critical issues. *Journal of Public Administration* 2007, 42(6), pp. 458–471.
33. Hlongwane, N.H. Food security interventions to achieve Sustainable Development Goal Two in South Africa. Unpublished MA minor-dissertation. Johannesburg: University of Johannesburg. 2022. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/graduate/Food-security-interventions-to-achieve-sustainable/9933308207691> (accessed on 18/10/2024).
34. Atilano, M. Benefits of Conducting a Literature Review. 2013. Available online: <https://libguides.unf.edu/c.php?g>. (accessed on 18/02/ 2022).
35. Mogalakwe, M. The use of documentary research methods in social research. *African Sociological Review* 2006, 10(1), pp. 221-230.
36. Bangani, A. Factors influencing the implementation of the Strategic Framework for Gender Equality Within the South African Public Service. Unpublished MA minor-dissertation. Johannesburg: University of Johannesburg. 2019. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/graduate/Factors-influencing-the-implementation-of-the/9911091407691> (accessed on 03/01/2025).
37. Petocz, A.; Newbery, G. On conceptual analysis as the primary approach to statistics education research in psychology. *Statistics Education Research Journal* 2010, 9 (2), pp. 123-145.
38. Nhlapo, T.M.S. Human Resource Development Strategy for Gender Equality within the Department of Correctional Services. Unpublished PhD Thesis. Johannesburg: University of Johannesburg. 2020. Available online: <https://ujcontent.uj.ac.za/esploro/outputs/doctoral/Human-resource-development-strategy-for-gender/9911459007691> (accessed on 23/02/2025).
39. Yinn, R. *Case Study Research: Design and Methods* (3rd.). Sage Publishing, Beverly Hills, CA, 1994, 116 p.
40. Republic of South Africa. Constitution of the Republic of South Africa, 1996. Pretoria: Government Printer. 1996. Available online: <https://www.gov.za/news> (accessed on 23/11/2024).
41. Republic of South Africa. The Protected Disclosure Act, 2000. Pretoria: Government Printer. 2000. Available online: https://www.gov.za/sites/default/files/gcis_document/201409/a26-000.pdf (accessed on 23/12/2024).
42. Osiki, A. Scope of Protection: A retrospective and prospective overview of the Protected Disclosures Act 2000. *Revue de droit compare du travail et de la securite sociale* 2022, 15(4), pp. 144-153. <https://doi.org/10.4000/rdctss.4708>
43. Mojalepo, J.; Faku, M. Reluctance of Employee's to Blow the Whistle in the Public and Private Sector of South Africa: Exploring the Protected Disclosures Act 26 of 2000. *Journal of Public Administration and Development Alternatives* 2019, 4(1), pp.55-66.
44. Camerer, L. Protecting Whistle Blowers in South Africa: The Protected Disclosures Act, No 26 of 2000, Cape Town: Institute for Security Studies. 2001. Available online: <https://policycommons.net/artifacts/1448096/protecting-whistle-blowers-in-south-africa/2079874/> (accessed on 24/11/2024).
45. Diale, A. J.; Holtzhausen, N. Public or protected disclosure? The fallacy of whistleblower protection in South Africa. *Journal of Public Administration* 2005, 10(1), pp. 10-19.
46. South African Government. *National Development Plan 2030*. 2013. Available online: <https://www.gov.za/issues/national-development-plan-2030> (accessed on 18/07/2023).
47. National Treasury. *Financial Intelligence Centre*. 2017. Available online: <https://www.treasury.gov.za/careers/FIC01-017.pdf> (accessed on 26/08/ 2023).
48. South African Government. *Anti-Corruption Task Team*. 2023. Available online: <https://www.gov.za/AntiCorruptionTaskTeam> (accessed on 27/08/ 2023).

49. Thusi, X.; Selepe, M. M. The Impact of Poor Governance on Public Service Delivery: A Case Study of the South African Local Government. *International Journal of Social Science Research and Review* 2023, 6(4), pp. 688-697.
50. Nirmala, D. The impact of the global crisis on ethical leadership: A case study of the South African public sector. *African Journal of Business Management* 2010, 4(10), pp. 2087-2096.
51. Sithole, V. E. The Need for South African Public Service Management Reform. *Journal of South African Public Service Management Reform* 2015, 1(1), pp. 1-7.
52. Shava, E.; Mazenda, A. Ethics in South African public administration: a critical review. *International Journal of Management Practice* 2021, 14(3), pp. 306-324.
53. Sebola, M.P. Ethics in the South African Public Service: A Paradox of Culture, Politics and Ethics in The World of Work. *Journal of Social Sciences* 2014, 40(3), pp. 295-304.
54. Edwards, T. The Nuts and Bolts of Ethics, Accountability and Professionalism in the public Sector; An Ethical Leader Perspective. *Journal of Public Administration* 2008, 43(3), pp. 77-88.
55. Nanabhay, Y. Non-compliance with external control measures in selected case studies within the national sphere of the public sector. Doctoral dissertation, Cape Peninsula University of Technology. 2014. Available online: <https://etd.cput.ac.za/handle/20.500.11838/2426?mode=full> (accessed on 23/11/2024).
56. Madonsela, T. Corruption and governance challenges: the South African experience: address by the public protector of the Republic of South Africa, Advocate Thuli N. Madonsela', at the National Conference on Corruption and Governance Challenges, in Nigeria, 21 January. 2010. Available online: <https://www.yumpu.com/en/document/view/37721665/corruption-and-governance-challenges-the-south-african-experience> (accessed on 16/11/2024).
57. Van de Merwe, A. The nature and causes of corruption: perceptions of KZN public service managers and anti-corruption agents. *Journal of Public Administration* 2006, 41 (1), pp. 32-46.
58. Kroukamp, H. Corruption in the South Africa with particular reference to public sector institutions: the evil of all evils. *Journal of Public Administration* 2006, 41 (2.1), pp. 206-217.
59. Auditor-General South Africa. *Auditor-General Laments Lack of Accountability as He Releases Declining Local Government Audit Results*. 2018. Available online: [http://www.agsa.co.za/Portals/0/Reports/MFMA/201617/Media%20Release/2016%20-\(accessed on 19/03/2025\)](http://www.agsa.co.za/Portals/0/Reports/MFMA/201617/Media%20Release/2016%20-(accessed on 19/03/2025)).
60. Van der Waladt, G. and du Toit, D.F.P. *Managing for Excellence in the Public Sector*, Juta, Cape Town. 2007, 465 p.
61. Pillay, S. Corruption – the challenge to good governance: a South African perspective. *International Journal of Public Sector Management* 2004, 17 (7), pp. 586-605.
62. Pauw, J.C.; Woods, G.; Van der Linde, G.J.A.; Fourie, D.; Visser, C.B. *Managing Public Money: Systems from the South*. Heinemann, Johannesburg, 2008, 352 p. Available online: <https://www.amazon.co.za/Managing-Public-Money-Systems-South/dp/0796224846> (accessed on 12/11/2024).
63. Vorster, J.M. Managing corruption in South Africa: the ethical responsibility of churches. *Scriptura* 2012, 109, pp. 133-147. <https://pdfs.semanticscholar.org/07f9/f392c6da5490d22d375cfab01292183d1362.pdf>
64. Daily Maverick. *Bosasa for Sale: The End of an Alleged Corrupt Era as 'Auction of the Decade' Gets Under Way* 2019. Available online: [https://www.dailymaverick.co.za/article/2019-12-03-bosasa-forsale-\(accessed on 20/03/2025\)](https://www.dailymaverick.co.za/article/2019-12-03-bosasa-forsale-(accessed on 20/03/2025)).
65. Du Plessis, A.L.; Breed, G. A possible solution for corruption in South Africa with the church as initiator: a practical theological approach. *HTS Teologiese Studies/Theological Studies* 2013, 69(2), pp. 1-10. <http://dx.doi.org/10.4102/hts.v69i2.1298>
66. Van der Westhuizen, G. Efficiency measurement of basic service delivery at South African district and local municipalities. *The Journal Transdisciplinary Research in South Africa* 2009, 5 (2), pp. 162-174. DOI:10.4102/td.v5i2.133
67. Mafunisa, M.J. Corruption and service delivery in the public service: the case of Limpopo Province. *Journal of Public Administration* 2007, 42 (3), pp. 260-270. <https://journals.co.za/doi/abs/10.10520/EJC51515>
68. Tiihonen, S. Central government corruption in historical perspective. In *The History of Corruption in Central Government*. Tiihonen, S. (Ed.). IOS Press, Amsterdam. 2003, pp. 1-36. Available online: <https://www.amazon.com/History-Corruption-Central-Government-Administrative/dp/1586033166> (accessed on 24/10/2024).
69. Kanyane, M.H. Exploring challenges of municipal service delivery in South Africa (1994- 2013). *Africa's Public Service Delivery & Performance Review* 2016, 2 (1), pp.1-21. <https://doi.org/10.4102/apsdpr.v2i1.45>

70. Jashari, M.; Pepaj, I. The Role of the Principle of Transparency and Accountability in Public Administration. *Acta universitatis danubius* 2018, 10(1), pp. 155-170. <https://core.ac.uk/download/pdf/229465497.pdf>

Citation: Vyas-Doorgapersad, S. Good governance challenges in the South African public service. *Journal of Social Sciences* 2025, 8 (2), pp. 6-24. [https://doi.org/10.52326/jss.utm.2025.8\(2\).12](https://doi.org/10.52326/jss.utm.2025.8(2).12).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).13](https://doi.org/10.52326/jss.utm.2025.8(2).13)
UDC 339.9:332.135(689.1)



A STUDY OF THE POLITICS OF REGIONAL INTEGRATION DYNAMICS: THE CASE OF ZIMBABWE'S ROLE IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

Olawale Olufemi Akinrinde ¹, ORCID: 0000-0001-7350-2376,
Farai J. Chidhume ², ORCID: 0000-0001-8429-3039,
Abiodun Samuel Isayomi ³, ORCID: 0000-0003-4136-2051,
Anthony Dotun Oladipo ³, ORCID: 0000-0003-2620-2439

¹ University of the Free State, 205 Nelson Mandela Drive, Park West, Bloemfontein, South Africa

² Midlands State University, Senga Road, Gweru, Zimbabwe

³ Osun State University, Oke Bale Street Osogbo, Osun State, Nigeria*Corresponding author: Olawale Olufemi Akinrinde, akinrinde.oo@ufs.ac.za

Received: 04.16.2025

Accepted: 05.22.2025

Abstract. This study delves into the intricate web of regional integration, with a keen focus on Zimbabwe's pivotal role within the Southern African Development Community (SADC). Zimbabwe's participation in regional integration initiatives has been a interplay of political, economic, and social factors. The study seeks to unpack how Zimbabwe's engagement within the SADC has left its mark on the broader discourse surrounding regional integration in Southern Africa. It delves into the multifaceted relationship between Zimbabwe and its SADC counterparts, delving deep into the political motivations, economic synergies, and the social tapestry of this engagement. Furthermore, it explores the historical roots and contemporary developments that have sculpted Zimbabwe's matrix discourse within the SADC. By dissecting the nuanced interplay of regional integration dynamics, this study aspires to offer insights for policymakers, scholars, and stakeholders invested in the ever-evolving landscape of regional cooperation in Southern Africa. The findings are expected to illuminate the opportunities and challenges entailed in Zimbabwe's involvement in the SADC, along with its broader impact on the regional integration agenda.

Keywords: *regional integration, regional dynamics, Southern African development, Zimbabwe.*

Rezumat. Studiul explorează rețeaua complexă a integrării regionale, cu un accent deosebit pe rolul esențial al Zimbabwe în cadrul Comunității de Dezvoltare a Africii Australe (SADC). Participarea Zimbabwe la inițiativele de integrare regională a reprezentat o interacțiune fascinantă de factori politici, economici și sociali. Studiul își propune să descopere modul în care implicarea Zimbabwe și-a lăsat amprenta asupra discursului din jurul integrării regionale în Africa de Sud. Acesta analizează relația mult fațetată dintre Zimbabwe și omologii săi din SADC, analizând în profunzime motivațiile politice, sinergia economică și tapițeria socială a acestei implicări. În plus, explorează rădăcinile istorice și evoluțiile contemporane care au

sculptat discursul matricial al Zimbabwe în cadrul SADC. Prin disecția interacțiunii nuanțate a dinamicii integrării regionale, studiul aspiră să ofere perspective pentru factorii de decizie politică, cercetători și părțile interesate implicate în peisajul în continuă evoluție al cooperării regionale din Africa de Sud. Se așteaptă ca rezultatele să evidențieze oportunitățile și provocările cauzate de implicarea Zimbabwe în SADC, împreună cu impactul mai larg asupra agendei de integrare regională.

Cuvinte cheie: *integrare regională, dinamică regională, dezvoltare sud-africană, Zimbabwe.*

1. Introduction

The Zimbabwean existential challenges have gripped and exposed the rhetoric diplomatic paradigm of the Southern African Development Community (SADC) since November 2017 in the wake of the military constitutionalism foisted on it. The bloc has gravely been exposed to its surreptitious weaknesses of upholding constitutionalism and good governance virtues. Principle guidelines on human rights, democracy, and good governance have been exposed both in the pre-election build-up and post-election in Zambia, Zimbabwe, and the Democratic Republic of Congo (DRC). Yet, another juxtaposed threat and weakness SADC faces is a lack of funding, crippled into a disorderly organization marred with controversies and cornered by corruption resulting from power governance structures within the regional bloc [1].

Basically, regional integration is the amalgamation of nation-states within geographical proximity, for increased political, economic, and security. Regional integration encourages all member states to work collectively in achieving peace, security, sustainable development, and economic growth. Regional integration has mostly been used to bridge gaps and limitations that countries face ranging from markets to attainment of peace and security. Regional integration in the case of SADC has been used to empower weak economies and also advance member states' interests evidenced by economic development and partnerships such as Preferential Trade Agreement (PTA), South African Custom Union (SACU), and SADC common market. SADC is comprised of fourteen member states. The regional integration bloc was founded in 1980 as SADC, it comprises wealthy countries and largely underdeveloped states which share political, economic, and security cooperation. Since its genesis SADC has been faced with plenty of security challenges, governance issues of autocracy and democracy, and military coups.

The regional bloc has over the years remained unsettled on human rights abuses by member states, much of the abuses are politically inclined due to deprivation and declining economies. SADC as a regional body has been encompassed by a plethora of challenges in its operations as a regional integration bloc. The conduct of the bloc has come into question on democratic principles and electoral practices. While the bloc has been castigated for ignoring electoral misconduct in most of its member states, the bloc has substantial, electoral or liberal democracies [2]. SADC has established an electoral advisory council and harmonized strategic indicative plan, irrespective of the fact that Southern Africa Development Committee and African Union have proven to be merely driven by self-interest.

The endorsement by SADC on Zimbabwean 2018 harmonized elections which were marred with electoral irregularities of voter intimidation, vote fraud, and usage of lethal force on the August first demonstration have been scrutinized. The next harmonised election of 2023 had a diverging view from the normal SADC endorsement of elections. The Nervous Mumba led SADC observer mission castigated the electoral outcome citing several

irregularities that the mission had witnessed during their observation. The effectiveness of the promised political, administrative, and electoral reforms under the second republic, propounded by President Mnangagwa are yet to be witnessed as there has been a circus of parliamentary recalls of legislators from the Movement for Democratic Change (MDC) Alliance, the second largest political party in parliament.

The regional bloc has been plunged into a plethora of challenges that included the installation of President Mnangagwa to the deputy SADC chair position on Politics and defence in 2018 in the backdrop of a contested election marred with electoral irregularities and malpractice [3]. The fundamental problem faced by SADC is the lack of *carte blanche* enforcement on any jurisdictional decisions. In the wake of financial incapacitation, the socio-economic complication of wallowing grinding poverty from the ground-breaking mantra of the states in the body the 2018 Zimbabwean election provided the damascene opportunity. This study, therefore, examines and dissects the challenges being faced by SADC after the 2018 and 2023 Zimbabwean elections and the accompanying concomitant regional dynamics within the SADC.

1.2 Zimbabwe's Role in Shaping Southern African Development Community through the Theoretical Lens of Neo-Functionalism

Here, we consider the most appropriate theory to analyze Zimbabwe's Role in Shaping Southern African Development Community vis-a-vis the Politics of Regional Integration Dynamics to be the theory of Neofunctionalism. Neofunctionalism, crucial in the study of regional integration, focuses on explaining how and why nations integrate into larger regional entities like the SADC. Neofunctionalism is particularly suitable for this study because it emphasizes the role of political elites, the spillover effect, and the gradual creation of supranational institutions [4]. These elements are crucial in understanding Zimbabwe's involvement in SADC and the dynamics of regional integration in Southern Africa. In contrast to other theories, such as realism or intergovernmentalism, which focus more on state sovereignty and power politics, neofunctionalism offers a more nuanced understanding of the cooperative mechanisms and incremental processes that drive regional integration.

Neofunctionalism, developed by political scientists Ernst Haas and Leon Lindberg in the mid-20th century, centers on how national governments voluntarily cede power to regional institutions. It examines how these regional institutions evolve over time to drive further integration among member states. This theory provides a robust framework for analyzing the political, economic, and institutional dynamics of SADC, especially in light of Zimbabwe's role within the organization. Several key assumptions of neofunctionalism align well with this study. Firstly, the theory suggests that integration in one sector of a region, such as the economy, naturally leads to integration in other areas, such as politics and security. In the case of SADC, Zimbabwe's economic cooperation with other member states creates pressure for broader political collaboration, furthering regional integration in areas such as governance and security. Secondly, neofunctionalism underscores the importance of supranational institutions like the SADC secretariat, which gain autonomy and play a vital role in driving regional integration. Zimbabwe's involvement in SADC, as analyzed in the study, aligns with this idea because the country's participation influences and interacts with SADC's supranational structures. Thirdly, political elites are essential actors in the integration process. These elites, particularly those who are regionalists, drive the integration agenda by recognizing the benefits of regionalism. Zimbabwe's role within SADC can be

analyzed through the actions and political motivations of its leadership, consistent with neofunctionalism's emphasis on elite-driven integration. Finally, neofunctionalism posits that regional integration is a gradual, step-by-step process. This incremental approach is evident in SADC's historical development and Zimbabwe's engagement, particularly in terms of its strategic alliances, political influence, and economic collaborations.

Neofunctionalism helps us to analyze Zimbabwe's political, economic, and social strategies as critical drivers of regional integration. Neofunctionalism provides a framework for understanding how Zimbabwe's involvement, rooted in the aspirations of its political elites, affects broader regional integration. For example, Zimbabwe's participation in SADC's economic activities, such as initiatives like the SADC Common Market, illustrates the theory's spillover effect. By engaging in economic cooperation, Zimbabwe helps to build momentum for further political and social collaboration within the region. Neofunctionalism is more appropriate than other theories like realism or intergovernmentalism because it focuses on cooperation and institutional development rather than state sovereignty and power competition. Realism, for example, would emphasize Zimbabwe's attempts to maximize power in relation to its neighbors, overlooking the cooperative dynamics that are central to this study. Intergovernmentalism, while useful in explaining some aspects of state cooperation, places too much emphasis on state sovereignty and decision-making at the intergovernmental level. It fails to account for the role of supranational institutions and the socialization of political elites, which are critical to understanding regional integration within SADC. In contrast, neofunctionalism's emphasis on the spillover effect, the autonomy of supranational institutions, and elite-driven integration provides a more comprehensive explanation of the dynamics at play in SADC. This theory allows us to understand how Zimbabwe, despite its internal political challenges, remains a key player in driving regional integration in Southern Africa. Neofunctionalism also provides insights into how Zimbabwe's economic integration with SADC creates momentum for broader cooperation in areas such as governance, security, and human rights. Furthermore, the theory highlights how SADC institutions gradually gain power and influence, creating the conditions for deeper regional integration over time.

Applicably, Zimbabwe's economic and political ties with SADC have notably influenced the regional bloc's policies, especially in election oversight and governance. The SADC Electoral Advisory Council (SEAC) is responsible for ensuring member states uphold election standards that promote fairness and transparency. However, Zimbabwe's electoral history, marked by controversies in 2008, 2018, and 2023, has tested SADC's capacity to enforce these standards, revealing both strengths and vulnerabilities. Zimbabwe's 2008 elections, plagued by violence and irregularities, forced SADC to mediate by forming a Government of National Unity between ZANU-PF and the MDC. This showed SADC's capability as a mediator but also highlighted its reluctance to impose stricter measures when member state leaders resisted oversight, an example of the neo-functional concept of institutional resistance.

In 2018, SADC endorsed the elections despite reports of voter intimidation and post-election violence that left civilians dead. This underscored SADC's delicate balance between maintaining unity and upholding its governance protocols. SEAC's relatively cautious stance mirrored Zimbabwe's influence in the bloc and illustrated the spillover effect described by neo-functionalism: regional bodies expanding their focus from economic matters to include complex political issues. The 2023 elections presented another test. SEAC's report, led by

Nevers Mumba, flagged significant electoral issues, suggesting a shift toward more assertive oversight. Yet, SADC's limited follow-up actions revealed persistent resistance from political elites. This inconsistency in enforcing standards, despite established frameworks, shows how policy can be shaped or stalled by the interests of powerful member states like Zimbabwe [5]. It highlights the nuanced, incremental nature of regional integration and reform, as posited by neo-functionalism. In essence, neofunctionalism remains, for this study, appropriate theoretical framework for analyzing Zimbabwe's role in shaping SADC. It provides a structured approach to understanding how regional integration develops through political, economic, and social cooperation. Neofunctionalism's focus on elite socialization, the spillover effect, and the gradual evolution of supranational institutions aligns with the study's examination of Zimbabwe's participation in SADC and the broader dynamics of regional integration in Southern Africa. This theory not only explains the process of integration but also highlights the challenges and opportunities that Zimbabwe and SADC face in their pursuit of regional cooperation.

2. Materials and Methods

This study takes an analytical approach, drawing on existing materials to explore Zimbabwe's role within the SADC and how it has shaped regional integration. The research relies on a variety of sources, including academic articles, official reports, books, and institutional publications. These materials offer valuable insights into regional cooperation, Zimbabwe's political and economic activities, and the overall structure of SADC. By using the neofunctionalism theory, the research examines how regional integration evolves step by step, focusing on the influence of political leaders, economic partnerships, and regional institutions. The data collected help illustrate how Zimbabwe's involvement in SADC's economic, political, and social efforts has contributed to shaping broader policies within the region. Key areas such as election integrity, governance, and economic collaboration are analyzed to show how they connect with Zimbabwe's political context and its ongoing participation in regional integration. Ultimately, the study sheds light on the challenges and opportunities that Zimbabwe's actions present for SADC's goal of deeper regional cooperation.

3. Results

3.1 SADC's Political Dilemma

SADC has been keen to push reforms in the region through the enactment of the harmonized strategic indicative plan which is meant to ensure capacity building in the context of peace [6]. Electoral integrity has always been at the epitome of agenda discussions, especially in the Zimbabwean context. The Zimbabwean political landscape has churned out serious concerns since the start of the millennium when Trade unionist leader Morgan Tsvangirai formed the MDC in the quest to break the one-party state that had been established by Robert Mugabe. The political challenges have given prominence and sympathy to the opposition through a series of arrests on frivolous and vexatious charges ranging from treason, the bloc has been engulfed with a litany of challenges ranging from being a troupe bloc gallivanting on taxpayers' monies that have resultantly escalated to the preterit of trivial impediments plaguing the region like power retention.

The regional body has over the years since its establishment been handling a *laissez-faire* attitude towards poor governance issues, the famed *Mugabeism* doctrine, according to Gatsheni is a summation of a constellation of political controversies, political behaviors,

political utterances, rhetoric, and crystallized actions of the former president, Mugabe's Political life once deemed the godfather of the SADC bloc is still whole and enforce as only the administrator has changed but the systems are still prevalent [7]. Mohletsu Mbeki argues that the lack of harmonization in a regional context to offer a prescription to the Zimbabwean challenges has offered the enabling ground of exportation of these problems to other countries within the bloc [8].

3.2 Zimbabwe and the Electoral Legitimacy Conundrum in SADC

The 2018 election in Zimbabwe was dubbed an economic rejuvenation election however legitimacy crisis in Zimbabwe has plunged towards an acephalous function. The 2018 election was marred by numerous irregularities such as the skewed media coverage on state-owned media platforms, the opposition parties had limited access to private print and digital media house coverage whereas the ruling Zimbabwe African National Union Patriotic Front (ZANU-PF) had the monopoly on electoral campaign coverage on the state run. The Herald like its predecessor Rhodesian Herald established during the colonial period to demonize black people of Zimbabwe, has not abandoned the trait of victimizing and vilifying opposition parties, this being a pure violation of the electoral principles of SADC Electoral Advisory Council which alludes to the equality of political parties' access to state media both print and broadcast [9]. The government of Zimbabwe has been found wanting through its media mouthpiece that has clandestinely romanticized and portrayed freedom of speech as a hypothetically bona fide state gift though it being vis-a-vis SADC despite making major developments in pre-election and post-election period observation and monitoring much has not been done to secure surety from other contesting parties, the conduct of elections in some member states have often been inconsistent with the SADC electoral standards it seemed that the administration had only a facial change as the systems at play had no reforms implemented by the new dispensation.

The historical context of acquiring independence for SADC member states has affected the administration procedure of these nation-states these vanguard parties had a strong mutual bond of militarized liberation movements. These movements had revolutions backed by the masses but the violent transition from the colonial government to independent administration did not establish ample time for the demilitarization in practice attitude and managerial criteria as the decisions are militant given the nexus between the revolutionary party and the military [7]. These failures by SADC nations from the beginning failed to prove futile ground the regional bloc. Founded with the quest to foster regional integration would be subject to a litany of spurious and fraudulent claims and not withstand big brother politics coupled with the national interest at play Zimbabwe has over the years been a futile ground for largely disputed elections since the start of the millennium. Several allegations of electoral malpractices and capture even witnessed SADC endorsing the contested 2008 elections as free and fair in which Robert Mugabe, later on, acknowledged defeat from the opposition that left the regional bloc with an egg on its face [10]. All these challenges have emanated from non-establishment impartiality within the bloc, which has bred deep traits of bureaucracy, corruption, nepotism, and patronage within the region. This has resultantly abandoned the populace wallowing in abject poverty that necessitated corruption and maladministration prompting the precipitation and proliferation of Non-Governmental Organizations (NGOs) to supersede the upscaling livelihoods in the region.

The Zimbabwean 2018 harmonized elections were a litmus test on SADC and it proved otherwise having robust sound policies inscribed on paper but limited undertaken. Thus, the notion that regional blocs like the African Union and SADC have a mammoth task though they have grown over the years in election observation. The contestations arising from the elections have presented a headache to SADC to try and mediate the political dilemma that has engulfed Zimbabwe, interests are at play with interests to safeguard and subsequently, confine Zimbabwe as a 'supermarket' economy of SADC Nation-states.

3.3 Glasnost, Perestroika or Mugabeism: The Machinery of the Second Republic Zimbabwe

Political grandstanding has been rife in SADC especially after the 2018 Zimbabwean elections, deteriorating state and civilian relationship being at the epitome, the nonexistence of post-election euphoria and celebration has raised many eyebrows that political machinations are still much abundant and rife and an inconclusive judiciary 'press conference' judgment [5]. Angola's Joao Manuel Lourenco during the 38th SADC Summit of heads of State and Government SADC clamoured for the removal of sanctions on Zimbabwe and highlighted them as major impediments to national developments [3]. The call for the eradication of sanctions has been systematically used to make reference to all the challenges bedevilling Zimbabwe, the removal of sanctions call has been even taken up to the African Union and enactment an anti-sanctions day the 25th of September every year. However, sanctions have had very little significance much of the economic decline has been contributed by maladministration and corruption by political bigwigs at the start of the millennium that has seen unemployment rates gobbling and massive outward migration to Europe and other neighbouring countries. Sarcastically the fiascos of these sitting SADC vanguard parties have been romanticized as results of sanctions, kleptocracy, nepotism, and maladministration is immensely evident in SADC member states. Maodza alludes that the bloc has for a while expedited the introduction of a visa-free regime coherent with the SADC protocol of the free movement of persons in Africa 2005 to ensure the purging of impediments to free movement of people, services goods, and capital flow [11].

Questions have been raised on the implementation of the rule of law and independence of the different commission, particularly after the doubtful constitutional court hearing in which South African Legal Experts s Mpofu, Ngcukaitobi, and Gauntlette were denied the right to appear for their client's counsel Chamisa. Contrary to their denial the Minister of Justice had a conflict of interest in the matter due to being one of the respondent's chief election agents. Despite e of the conflict of interest he failed to recuse himself, he alluded that even lawyers from Mars are free to come and counsel but the statement was only pregnant with oxymoron the results on a fateful day.

It later proved that the law can be used for comparative advantages in political cases; it has morphed into being an obstacle to power dynamics that produced a shell shocker, an electoral verdict that failed to address the percentage of the results which the president-elect that was to be sworn in had amassed in the election. Moyo argues that the substitution of ZANU-PF leaders does not purport administrative and governance *modus operandi* [12]. But a system bequeathed unto the bloc is believed to be the major stumbling block to be eradicated in the reformation of SADC to start producing results in the socio-economic and political sphere in the region.

The Zimbabwean elections from the onset had been tantamount to romanticized reforms that did not address the needs of the civilians but were mere political public relations stunts that had no effect in strengthening the local communities, especially after the apocalyptic 2008 period. The build-up to the election was tense and uneasy peace as the terrifying encounters were witnessed after ZANU-PF lost the elections. Torture, harassment, and killing of opposition supporters were done with impunity prevailing, the relationship between the party securocrats and judiciary systems. The Government of National Unity agreement between Tsvangirai and Mugabe had done little to strengthen local communities affected by the violence it was merely a stop-gap measure to curb further continuation of the opposition supporter's purge. The top-down peacebuilding initiative did not provide transitional justice for the victims of violence at the community level, relations had been fractured at the grassroots levels. The signing of the agreement at the elite level barely affected the highly polarised local communities which had been plunged into forced silencing and forgetting through deprivation of justice along with political affiliation.

SADC has not entirely pushed for national healing and reconciliation during the build-up to the elections in member states with the regional bloc that has sparked controversies and violence. Election issues have been classified as a low political matter that has no fundamental urgency and marred with gross irregularities concerning the African continent. The African Union (AU) is a banana organization failing to act and offer prescription and funding to the panacea befalling the continent. Though the SADC head of State and Government Summit in 2018 urged stakeholders to remain calm and wait for the court's decision all was to be questioned and juxtaposed with the installation of Zimbabwe deputies of the organ of politics and defense in the wake of contested presidential polls. SADC is faced with a grave policy contingency, leadership skills that have failed to uphold democracy, development, and sustainable peace in the region.

3.4 Evening Constitutionalism and Political Patronage

The regional bloc has failed to rectify the post-election challenges through pacifying the MDC Alliance and ZANU-PF to work on the rejuvenation of the national economy, the bloc has been tainted as an institution incapable of self-propulsion. This nature helped spur mayhem in many of the member countries in the bloc. The aftermath of the Zimbabwean elections in 2018 signalled a mammoth rutted road that SADC was yet to encounter, the lack of specified electoral reforms as outlined in the 2013 constitution has continuously fuelled electoral controversy in 2018 and 2023. All these come in the aftermath of SADC having proved to be a weak ailing institution in the monitoring of human rights, democracy, and governance issues, Moyo suggests that it has failed to be even perfunctory in its *modus operandi* [5]. Electoral issues have over the years been fundamental in the SADC region with the contested election in Democratic Republic of Congo 2018, Malawi, 2020, Zambia 2021, and the Eswatini uprisings against the monarch. Constitutional and electoral abuse were evident in the Democratic Republic of Congo in 2018 when Kabila extended his term of office and the disqualification of Katumbi and Bemba's candidacy [13]. Again, the 2018 Zimbabwean elections provide a clear case where SADC endorsed an election that was marred by reports of voter suppression, intimidation, and the lethal use of force during post-election protests on August 1, resulting in six civilian deaths. Similarly, the 2023 Zimbabwean elections, scrutinized by a SADC observer mission led by Nevers Mumba, noted significant irregularities, including delayed voting and questions around transparency. Incorporating

data from election observation reports and human rights organizations' findings, such as those from Human Rights Watch or Amnesty International, can reinforce these points with empirical evidence [14].

The problem of not being able to contain electoral conflict escalating has prompted the escalation of rampant electoral disputes that have in the past and present triggered thunderous blows as a bloc for SADC. The DRC elections are anticipated to bring forth escalation of conflict as tension has been flared through side-lining of key presidential aspirants Bemba and Katumbi that had postulated that gross irregularities in the Congo will have adverse effects that will ripple the regional bloc. The mayhem pre and post-election in DRC exposed the robust and radical hypocrisy of the regional bloc on, Zambia being the chair on politics and defence then under former president Lungu failed to help Katumbi who was denied entry into the DRC to file his nomination papers for the upcoming presidential election scheduled for December 2018. In 2021, Lungu and the Patriotic front used the Covid 19 pandemic to try and thwart opposition campaigns their main target was now president Hachilema whose supporters were subjected to brutality and arbitrary arrests.

The grand coalition by Bemba and Katumbi to field a common candidate posed a serious threat to Kabila, several calls according to the Mail & Guardian were made by Bemba on SADC to intervene in the squabbles taking centre stage in the country such as the electoral voting machines that have failed the litmus test in Iraq and Afghanistan [15]. The call by the opposition candidates to SADC for good governance and democracy has often fell on deaf ears that surprisingly get a political grandstanding response like the Zimbabwean context in the aftermath of the 2018 elections. The major challenge facing SADC from adopting an assertive diplomatic stance on member states is the liberation struggle solidarity they share. The biggest test to the solidarity came from SADC observer mission in 2023, highlighted that the electoral standards fell short of the SADC protocol and Guidelines Governing Democratic Elections of 2015 that help ensure electoral best practises. In 2017 and 2018 respectively the legitimacy conundrum has been at the epitome of the SADC with (Zambia and Zimbabwe) having faced with State of the Nation address boycott and walkout. Bere alluded that no law has been promulgated in Zimbabwe to compel the members of the august house to remain in the parliament building when the SONA is being addressed this signifies an impasse in the local political arena and fails to address the legitimacy conundrum [16].

3.5 The Struggle for Power and Vanguard Politicking in SADC

SADC has been laced with a legitimacy poison this has sparked controversy in the case of Zimbabwe and history has hence therefore littered with the collision of whether Zimbabwe is a *de facto* or *de jure* state, this has left both the bloc and the nation on tenterhooks especially after post-election violence that rocked the streets of Harare. SADC has been known to be the haven for acts of banditry and authoritarianism in the name of being patriotic and acceding to demands of the vanguard powers at all expense. This has proven to be the weakest point of the regional bloc and has gravely exposed that the block is increasingly irrelevant to the internal politics of its member states and the big bother politicking by South Africa so happens to be part of its failure as a regional grouping.

It seems that SADC and its mutual relations with the vanguard parties of the member states have been caught in a precarious condition of generational consensus Fanon asserts that 'Each generation must, out of relative obscurity discover its mission, fulfil it, or betray it [17]. Egocentrism has been rife for the regional bloc that has veneered it to a litany of

plethora's the only challenges that are obstructing African development, the lack of robust vibrant, and strong institutions that stand for a cause. Lately, Economic Community of West African States has moved from the bandwagon to instilling strong regional grouping ideologies both democratically and economically. SADC is democratically lagging haunted and entrenched in the Stalin age where those that cast the ballot do not decide anything but those that count steal the people's future.

3.6 Debt Diplomacy for Sovereignty: The Chinese Dilemma

The bloc has failed to inculcate mechanisms of transparency, accountability, and responsibility over the years, these are the biggest diseases diagnosed that only need a panacea to stop the degeneration of the bloc's ethics and principal guidelines. The problems that SADC is facing cannot be thwarted by tinkering on the edges of them but through tough decision making for the betterment of the block, by so doing it will plug the region of the slumber and erase the fundamental notion that has gripped African politics of livelihoods and politics of the stomach [18]. This has precipitated the rise of debt diplomacy on poor yet rich African countries evidence can be established from Zimbabwe and Zambia that have sold their sovereignty for the love of money, besides the home-grown challenges the Chinese through exporting ultra-nationalism to the SADC region have become both a challenge and threat.

Magniloquence is the rudimental problem facing SADC, rhetoric has taken a central figure with implementation being very minimal it seems that the once victims who turned liberators have only turned to be oppressors of their masses. The organization is a replica of banana organizations that have only ratified treaties on paper but fundamentally breached the clauses they signed for such as the cause to promote strong political values, institutions, systems that promote democratically, legitimates, and effective governance modes coupled with socio-economic development [19]. The only notable achievement has been producing dictators that have overstayed their welcome under the guise of Pan Africanism plundering and hampering any socio-economic development, credible examples should be emulated from how the late President Magafuli steered the turnaround strategy for Tanzania. SADC needs an overhaul as a bloc to strengthen funding and compliance to its principles challenges such as incompatible political and economic systems, poor political governance, and game theory-driven nationalist rivalry. Changes from grandiloquence to action will wait to be established under his leadership as he has promised to steer the SADC objectives and drive whilst strengthening the regional bloc. SADC member states have and are still amassed by a litany of challenges s Angola, Mozambique and Zambia face a staggering debt crisis, South Africa faces an economic recession, and Zimbabwe and DRC are always in a crisis the regional bloc is on tenterhooks.

4. Conclusion

Conclusively the study concludes that SADC as a regional bloc has failed dismally to uphold electoral principles, guidelines, and the upholding of human rights issues in member states owing to lack of coherent policy establishment to address the bloc's needs. Tantamount to this development has established confusion and big brother politicking that has left the regional block as an egalitarian pseudo partnership to which it is only beneficiary to South Africa. The Zimbabwean challenge has presented SADC with a torrid time. The organizations' principles and guidelines on democratic elections are nothing but pure caricature, which has failed to uphold democratic principles. The secretariat in 2018 was

entirely unfazed by the flaunting of electoral principles and progressed to grant Zimbabwe the Deputy Chair on Politics and Defence at a time the opposition had launched a court petition challenging the poll results. The handling of the appeal was retrogressive and repugnant with the verdict dismissing the lawsuit with cost and denial of South African lawyers to represent their client as a setback catalyst to democracy [20].

To address these concerns in the SADC region, a thoughtful development strategy grounded in substantial reforms is essential. Building stronger institutions with clear mandates and adequate resources is pivotal to ensure impartial evaluations. Aligning national policies with international human rights standards would enhance regional consistency. Training for officials and local organizations supports skills in advocacy and governance, while integrating technology into monitoring systems facilitates transparency and accountability. Enforcing compliance through peer reviews and potential penalties is important for adherence. Public participation, driven by civic education and a free press, cultivates a culture of accountability, ensuring leaders uphold democratic principles. Partnering with international bodies and NGOs can offer crucial technical and financial support to reinforce these initiatives.

To further reinforce SADC's independence and reduce reliance on external aid, particularly from sources like Chinese funding, it is essential to pursue comprehensive policy reforms and establish sustainable, internal funding mechanisms. Thomas Sankara's idea that dependence limits autonomy serves as a reminder that true self-governance stems from financial independence. This means SADC should prioritize innovative revenue strategies and sustainable development. Moving beyond rhetoric to real action is vital, calling for visionary leadership committed to reform. Malcolm X's call for candid leadership evaluation emphasizes that progress hinges on accountable, educated, and service-minded leaders who confront systemic issues. Such leaders are key to fostering a resilient, self-sustaining region where policies reflect genuine progress rather than empty promises. Collectively, these efforts could ultimately aid SADC's mission and pursuit for sustainable development, robust democracy, and stability within the region.

Conflicts of Interest: The author declares no conflicts of interest.

References

1. Nathan, L. The disbanding of the SADC Tribunal: A cautionary tale. *Human Rights Quarterly* 2013, 35(4), pp. 870–892.
2. Booyesen, S. *Dominance and Decline: The ANC in the Time of Zuma*; NYU Press, New York, United States, 2015; pp. 21–25.
3. Takunda, M. SADC demands an end to sanctions. *The Sunday Mail*, August 19–25, 2018. Available online: <https://www.heraldonline.co.zw/sadc-demands-end-to-sanctions/> (accessed on 03 April 2025).
4. Haas, E.B. *Beyond the Nation-State: Functionalism and International Organization*. ECPR Press, 2024, pp. 22–25.
5. Saunders, R. Zimbabwe: liberation nationalism – old and born-again. *Review of African Political Economy* 2011, 38(127), pp. 123–134.
6. Communication and Public Relations Unit of the SADC Secretariat. Available online: <https://www.sadc.int/latest-news/inside-sadc-newsletter-month-august-2018> (accessed on 04 March 2025).
7. Ndlovu-Gatsheni, S.J.; Willems, W. Making sense of cultural nationalism and the politics of commemoration under the Third Chimurenga in Zimbabwe. *Journal of Southern African Studies* 2009, 35(4), pp. 945–965.
8. CNBC Africa. Moeletsi Mbeki on the real state of the nation. Available online: <https://www.youtube.com/watch?v=G8oT1XjDjpA> (accessed on 02 March 2018).
9. Ndlovu-Gatsheni, S.J. Making sense of Mugabeism in local and global politics: 'So Blair, keep your England and let me keep my Zimbabwe'. *Third World Quarterly* 2009, 30(6), pp. 1139–1158.

10. Badza, S. Zimbabwe's 2008 harmonized elections: Regional & international reaction. *African Security Review* 2009, 17(4), pp. 149–175.
11. Landau, L. Introducing the demons in exorcism: The demons within xenophobia, violence and statecraft in contemporary South Africa. *United Nations University Press* 2012, pp. 1–30.
12. Loffman, R. Kabila's decision to step aside won't change the DRC's power dynamics. *Mail & Guardian*. Available online: <https://mg.co.za/article/2018-08-14-kabilas-decision-to-step-aside-wont-change-the-drcs-power-dynamics/> (accessed on 07 April 2025).
13. Reuben, L. Kabila's decision to step aside won't change the DRC's power dynamics. *Mail & Guardian* 2018. Available online: <https://mg.co.za/article/2018-08-14-kabilas-decision-to-step-aside-wont-change-the-drcs-power-dynamics/> (accessed on 07 April 2025).
14. Clapham, C.S. *Africa and the International System: The Politics of State Survival*. Cambridge University Press, United States, 1996, pp. 34–38.
15. Bere, D. Strong man or Strong institutions? *The Standard* 2017, 30(5), p. 7.
16. Frantz, F. *The Wretched of the Earth*. Grove Press, NY, SUA, 1963, 315 p.
17. Clapham, C.S. *Africa and the International System: The Politics of State Survival*. Cambridge University Press, United States, 1996, pp. 34–38.
18. Herbst, J. *States and Power in Africa: Comparative Lessons in Authority and Control*, Princeton University Press, New Jersey, United States, 2000, pp. 5–7.
19. SADC Secretariat. *Inside SADC Monthly Newsletter*. Available online: https://www.sadc.int/sites/default/files/202106/Inside_SADC_August_2018_mail.pdf?utm_com (accessed on 01 April 2025).
20. Peberdy, S. Imagining immigration: Inclusive identities and exclusive policies in post-1994 South Africa. *Africa Today* 2001, 48(3), pp. 15–32.

Citation: Akinrinde, O.O.; Chidhume, F.J.; Isayomi, A.S.; Oladipo, A.D. A study of the politics of regional integration dynamics: the case of Zimbabwe's role in the southern African development community. *Journal of Social Sciences* 2025, 8 (2), pp. 171-182. [https://doi.org/10.52326/jss.utm.2025.8\(2\).13](https://doi.org/10.52326/jss.utm.2025.8(2).13).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).14](https://doi.org/10.52326/jss.utm.2025.8(2).14)
UDC 32:342:332.135(67)



STATE-BUILDING: AN OVERLOOKED APPROACH FOR REGIONAL INTEGRATION IN THE HORN OF AFRICA

Thomas Adino*, ORCID: 0000-0003-3021-1637,
Dechasa Abebe, ORCID: 0000-0001-6684-4968

Addis Ababa University, Center for African and Asian Studies, Ethiopia
* Corresponding Author: Thomas Adino, thomas.adino16@gmail.com

Received: 04.02.2025

Accepted: 05.13.2025

Abstract. The study perceives the 'state' as a collection of various institutions that execute core functions that are all basic for the survival of a certain political community. Based on this definition, state-building refers to the process of constructing new institutions, reconstructing old institutions, and consolidating the existing state institutions for the protection of social cohesion and the promotion of economic development and political stability within a given state. Accordingly, the principal objective of this study is to examine the symbiosis between state-building and regional integration in the Horn of Africa by taking the Intergovernmental Authority on Development (IGAD) Member States as a Case Study. The researchers argue that any attempt at regional integration will never be achieved in regions that consist of weak, failed, or fragile states. Unlike other regions in Africa and elsewhere, regional integration in the Horn of Africa is at an early stage, as the region is dominated by fragile and insecure states. The study used both primary and secondary data to reveal the symbiosis between state-building and regional integration.

Keywords: *State, State-Building, Integration, Regional Integration, Horn of Africa, IGAD.*

Rezumat. Studiul percepe „statul” ca pe o colecție de diverse instituții care îndeplinesc funcții de bază, fundamentale pentru supraviețuirea unei anumite comunități politice. Pe baza acestei definiții, construcția statului se referă la procesul de creare a unor noi instituții, reconstrucția instituțiilor vechi și consolidarea instituțiilor existente pentru protejarea coeziunii sociale și promovarea dezvoltării economice și a stabilității politice. Prin urmare, obiectivul principal al acestui studiu este de a examina simbioza dintre construcția statului și integrarea regională în peninsula estică a Africii, luând drept studiu de caz statele membre ale Autorității Interguvernamentale pentru Dezvoltare (IGAD). Cercetătorii susțin, că orice încercare de integrare regională nu poate fi realizată în regiunile care constau din state slabe, eșuate sau fragile. Spre deosebire de alte regiuni din Africa și din alte părți, integrarea regională în peninsula de est a Africii se află într-un stadiu incipient, deoarece regiunea este dominată de state fragile și nesigure. Studiul a utilizat atât date primare, cât și secundare pentru a dezvălui simbioza dintre construirea statului și integrarea regională.

Cuvinte cheie: *Stat, Construirea Statului, Integrare, Integrare Regională, Cornul Africii, IGAD.*

1. Introduction

The Horn of Africa is a sub-regional system where peace and security problems have been persisting with no sign of decreasing. The Horn of Africa is the most conflict-prone region in Africa and the world as well [1,2]. It is certain that since the end of colonial rule, the Horn of Africa region has been affected by catastrophic intra-and inter-state wars [3]. As a result, “the region is the laboratory of types of intervention and thus of conflict resolution” [2, p. 48]. Nonetheless, the general climate of conflict and instability in the Horn of Africa has affected the whole spectrum of life. This hostile situation in the region influences states and societies to reduce their activities to the level of survival and defense. The absence of long-term socio-political and economic policies and strategies in the region comes from enduring conflicts and tensions between states and societies.

The Horn of Africa region is widely known for many peculiar things, such as long intra-state wars (Ethio-Eritrea war, Sudan-South Sudan war), destructive wars among governments (Ethio-Somalia, Ethio-Eritrea, Ethio-Sudan, Eritrea-Djibouti, and Eritrea-Sudan were a few among the many wars that have been fought in the region), de facto states (Puntland and Somaliland), seceded states (Eritrea, and South Sudan) and failed states (Somalia and South Sudan) [4,5]. Furthermore, the region still consists of many insurgent groups and guerillas who have been fighting for political power, freedom, and/or independence.

The lively armed conflict that began on 15 April 2023 between rival factions of the paramilitary Rapid Support Force (RSF) and the Sudanese Armed Forces (SAF) can be used as an illustration for this kind of case. Due to this armed conflict, as of 20 June 2023, between “3000 and 5000 people have been killed” [6]. In addition to this, between “6000 and 8000 other citizens were injured” [7], “while 2 million were internally displaced” [8] and more than 600000 Sudanese had left the country as refugees to various neighboring states [9]. Moreover, the current clashes between the Federal Democratic Republic of Ethiopia (FDRE) government and the Oromo Liberation Front-*Shenie* (OLF) in different parts of the Oromia regional state, *Fano* in Amhara regional state, and the Tigray People Liberation Front (TPLF) in the northern, northwestern, and northeastern parts of Ethiopia are the best examples of this situation.

The existence of these conflicts and fragile states in the Horn of Africa is an impediment to socio-political and economic integration in the region. We argue that state weakness remains one of the main constraints of regional integration in the Horn of Africa region. Hence, the fragility of the Intergovernmental Authority on Development (IGAD) Member States and the recurrent conflicts in the entire region affect the smooth functioning of regional cooperation and integration. In support of this argument, Hersi and Akinola [10, p. 120] claimed the following assertion:

One of the challenges of the IGAD regional integration process has been the abundance of conflict in the region and its enduring impact on the performance of the IGAD. Since 1996, IGAD’s regional integration initiative has been constrained by the lack of cooperation between the Member States, in many cases due to active hostility between them.

Nonetheless, with all the above conflicts and state failures in the Horn of Africa, several attempts have been made by national, regional, and so-called international actors and institutions to realize regional integration in the Horn of Africa. More specifically, IGAD and its Member States have agreed to integrate the entire region of the Horn of Africa socially, economically, and politically. However, the process of creating viable regional integration is

not successful in the Horn of Africa. Recently, the project of regional integration has become the most difficult task in the Horn of Africa. Accordingly, this study tries to unfold questions such as why the task of integration is difficult in the Horn of Africa region; what exact problems has regional integration become entangled with; and what should be done for regional integration to happen in the region.

Concerning these research questions of the study, the researchers argue that the project of regional integration in the Horn of Africa has failed due to the existence of fragile states, and for this problem, state-building should be taken as an approach and key duty by actors to smoothly integrate countries in the Horn of Africa. Our key informants such as Abebe, Amare, Asmamaw, Ayele, Haimanot, and Tages identified state failure as one of the huge challenges of regional integration in the Horn of Africa and they indicate state-building as a panacea for regional integration to happen in the region.

As far as our preliminary review of related literature is concerned, there is no scientific article that shows the symbiosis between state-building and regional integration in the Horn of Africa. No exhaustive research has to date attempted to identify state fragility as a main challenge to regional integration in the Horn of Africa. Besides, there is also a research gap that boldly indicates the practice of state-building as a prime assignment of responsible bodies to better realize the project of regional integration in the Horn of Africa. However, there have been a lot of studies done on other challenges of regional integration as well as remedies for the problem of integration in the region.

To address the main objectives of the study, the article is organized as follows: after introducing the nature of states in the Horn of Africa and problematizing the topic under investigation, section two shows the way how the research is conducted. Section three describes the economy, demography, and geography of the greater Horn of Africa region. Section four explains the concepts of the state and state-building. In section five, the article familiarizes the most common typologies of the state. Section six presents the contemporary debates on the project of state-building. Section seven demonstrates the symbiosis between state-building and regional integration. Finally, the conclusion part highlights the major points that have been discussed in the previous sections and gives recommendations for the furtherance of socio-economic and political integration in the Horn of Africa region.

2. Research Methodology

A qualitative research approach is employed to critically examine the importance of state-building for successful socio-economic and political regional integration in the Horn of Africa region. The researchers consider that qualitative research is the best method to investigate one of the primary agendas of the IGAD region i.e., regional integration in connection with state-building. Moreover, we used a qualitative research approach due to its relevance in examining the various contexts and settings of state-building in regions like the Horn of Africa. Furthermore, the qualitative research approach is the best method that fits to investigate cross-national issues like regional integration [11].

We employed more balanced primary and secondary data. The primary data was collected using semi-structured in-depth interviews and conference participation. Purposive sampling was used to select twenty-three (23) informants based on knowledge and expertise on the topic under investigation. Interviews and conference discussions were recorded, transcribed, and categorized into themes. To this end, three major themes such as the features of IGAD member States, the nature of relations among IGAD member States, and the

symbiosis between state-building and regional integration in the Horn of Africa have been carefully chosen for data analysis. In connection, the data collected from key informants were examined by employing thematic analysis to properly interpret the viewpoints of participants. Furthermore, secondary sources like books, articles, dissertations, reports, conference papers, and newspapers were employed to scientifically investigate the major questions of this study: what we know about the nature of states and state-building in the Horn of Africa and what it means for regional Integration. The data obtained via the above sources were handled using thematic and content analysis to easily manage and critically review secondary sources.

3. A Brief Description of the Greater Horn of Africa Region

The concept of the Horn of Africa is difficult to define because it has geographical, political, social, cultural, economic, historical, and other related meanings. Due to its multifaceted nature, scholars have been unable to come up with a universally accepted definition for the concept of the 'Horn of Africa'. "The Horn of Africa, both as a political concept and a physical entity, does not lend itself to precise definition" [12, p. 2]. The Horn of Africa is described differently depending on socio-cultural, economic, historical, geographical, and political considerations. For instance, some scholars described the region from a geographic perspective, while others from historical, political, social, and economic dimensions. As a result, the researchers observe the Horn of Africa not only as a physical reality having a horney shape but also as a sub-region made up of people who share strong socio-cultural, historical, political, and economic relationships. In their extensive historical ties, the people of the Horn of Africa have formed shared ways of life and identity [12,13].

Furthermore, because of their strategic location, the states that constitute the IGAD region are involved in the socio-political and economic realities of the Middle East, the Indian Ocean, Europe, and Africa because the Horn of Africa links these regions through the Red Sea, the Suez Canal, and the Mediterranean Sea. For instance, oil from Iran to Europe, and the flow of other commodities between East Africa, Asia, and the Gulf pass through the Straits of Babel-Mandeb and the Suez Canal, near the coast of the Horn of Africa countries. As a result, the Horn of Africa is a distinct region due to its geostrategic value to external powers [14,15].



Figure 1. The Greater Horn of Africa Region, Member States of IGAD [16, p. 1].

Despite its abundant natural resources and geopolitical importance, the Horn of Africa remains one of the world's most impoverished regions. With a population of 226 million and an enormous land area of 5.2 million square kilometers, the income per capita of IGAD is significantly less than that of sub-Saharan Africa, which averages USD 1624. An estimated 80% of the area is categorized as semi-arid or arid (ASALs), while over 40% is considered unproductive. The GDP of the IGAD member states as a whole was just 167 billion in 2011, a significant amount less than the 232 billion GDP of Egypt [10].

4. Conceptualizing the State and State-Building

The existence of diversified theories such as evolutionary theory, divine right theory, force/conflict theory, social contract theory, and Marxist theory on the origin of the state makes its definition more elusive and contested. In other words, the variations in the definition of the state are derived from the ongoing disagreements among scholars on the exact origin of the state.

From this point of view, we presented the most common definitions given by commentators in the area. "The state is an ancient human institution dating back some 10000 years to the first agricultural societies that sprang up in Mesopotamia" [17, p. 1]. This definition associates the creation of the state with the development of agrarian societies in the distant past. However, some other definitions also connect the creation of the state with the flourishing of human civilization, urbanization, and complex city life. From this perspective, Harrison and Boyd [18, p. 17] defined the state as: "The state in some form has existed since urbanized and complex societies arose in Egypt, China, India, and Mesopotamia over five thousand years ago. Since then, the more 'civilized' members of humanity have never been without the state". In the second definition, the age of the state reduces by half and it holds the idea that the state is an important machinery for the survival of human society. It underlines the importance of the state for a modern and civilized way of living. Meaning, a modern or civilized human life ultimately depends on the existence of a functional state.

The state is a political concept that comes into existence either by war or social contract. The history of the world shows the fact that some states degenerated from war, while others came out from social contracts. Meaning that ancient states all over the world were the outcome of war and conquest, while modern states are the product of people's consent. Political scientists associate the reasons behind the emergence of a modern state with the need for peace, security, justice, equality, and liberty. For example, Max Weber defines the state as "a political-institutional organization whose administrative staff can successfully exercise a monopoly of legitimate physical force in the execution of its orders" [19, p. 11]. This definition depicts the point that the state is all about accumulating strong physical power at hand and being able to use it legitimately to enforce laws, provide essential public services, and maintain order in a defined territory.

As it has been stated in the literature, the 'state' is the most contested concept in the area of social sciences. From earlier times till now, elites have been advocating ambivalent views about the 'State'. To be clear, scholars of political science and sociology defined the term 'state' from two extreme (i.e. positive and negative) viewpoints. From a positive perspective, the concept of 'state' refers to a political association that "provides an infrastructure in which conflict is mitigated by providing institutional checks and balances on power and/or through the redistribution of resources" [20, p. 300]. According to Greven [21, p. 45], the concept of the state refers to: "a human community that (successfully) claims the

monopoly of the legitimate use of physical force within a given territory". Greven [21, pp. 45-46] also further adds a positive definition of 'state' that was originally drawn by Theda Skocpol as: "a set of administrative, policing, and military organizations headed, and more or less well coordinated by, an executive authority. Any state first and fundamentally extracts resources from society and deploys these to create and support coercive and administrative organizations." Social contract theorists and their apostles also defined the concept of the state positively as: "the state is a political society constructed through an implicit social contract to provide certain basic functions to its members by those who are entrusted with political authority" [22, p. 3].

In light of the above positive definitions, one can deduce the point that the 'state' is the highest form of political association that provides basic services to its people. It is formed to defend an individual and/or society from internal and external threats. Its ultimate aim is to preserve peace and security within a defined territory. To this end, the state works to realize equality, liberty, law and order, prosperity, and ameliorate the conditions of disadvantaged members of a polity.

From a negative perspective, for example, followers of K. Marx consider the 'state' as: "an institution that stands for the interest of the dominant class" [22, p. 3]. They viewed the state as: "a vehicle for predatory elite interests that exploit society" [20, p. 300]. In other words, for these groups of thinkers, the state is a political organization that keeps the property of the haves from the have-nots. For Marxist scholars, the state is created not to preserve peace but to interrupt it; not to realize equality but to sustain inequality; not to defend the poor/disadvantaged but to exploit them. Supporters of this position work day and night not to build the state but to break down it. They further argue that if the state loses legitimacy and power, then the exploitation and domination of the lower class will automatically wither away. Thus, for them, the state should be abolished at the last stage of socialism i.e. communism to have a good life and polity. To be precise, Fukuyama [17, p. 1] viewed the opposite dimensions of the state as:

States have a wide variety of functions, for good and ill. The same coercive power that allows them to protect property rights and provide public safety also allows them to confiscate private property and abuse the rights of their citizens. The monopoly of legitimate power that states exercise allows individuals to escape what Hobbes labeled the "war of every man against every man" domestically but serves as the basis for conflict and war at an international level.

In addition to the above opposing definitions, recently, commentators brought a definition that seems neutral and dominant. Accordingly, this neutral and commonly used definition views the state as "an embodiment of people, territory, government, sovereignty, and recognition" [22, p. 3]. In short, the state must comprise at least these five essential components to claim the status of 'statehood'. To this end, the control of a recognized people, the control of an identifiable territory, the existence of relative permanency, the enjoyment of internal and external sovereignty, and international recognition can be considered the common features of all modern states regardless of the specific system of the state, the size of population and territory, the level of the economy, its ideological foundations, or the government bureaucracy that guides it [18]. Therefore, for this study, the term 'state' must be seen as a collection of various institutions that execute core functions that all are basic for the survival of a certain polity. We believe that these definitions and features of the 'state'

provide an adequate foundation to conceptualize the subsequent discussion on the nature of 'state-building'.

Questions such as what is state-building, when did the idea of state-building originate, what are the rationales behind the project of state-building, and how is the project of state-building become successful are the most important questions that will be examined subsequently. As works of literature, there is no universally agreed definition of the term 'state-building'. Like "state", the concept of "state-building" is more contentious and scholars discuss it in an obfuscated manner. However, most people use the term state-building to refer to "the intervention strategies of superpower countries like the USA to restore and rebuild the institutions and apparatus of the post-conflict states, for example, the bureaucracy" [23, p. 27]. In this sense, state-building is fundamentally institution-building.

State-building also refers to the process of constructing, re-constructing, and consolidating state institutions to better serve the local population. In a more related sense, Bogdandy et al [24, pp. 583-584] defined the concept as "State-building means the establishment, re-establishment, and strengthening of a public structure in a given territory capable of delivering public goods." As cited in Greven [21, p. 4], Francis Fukuyama defined state-building as: "the creation of new government institutions and the strengthening of existing ones." The philosophy of state-building holds a central claim that international communities should first, identify weak and post-conflict states and second, should design mechanisms through which to transfer their bureaucratic systems and best institutions into those states. The state-building activity gives a full mandate to superpowers and international organizations to intervene in the internal affairs of fragile or weak states. It was primarily the USA's and UN's, but later also the European countries' responsibility to resolve institutional weaknesses and bureaucratic deficiencies in post-conflict environments and failing states.

As Greven quoted, "State-building refers, at its core, to militarized interventions by a foreign state or coalition with the explicit goal of creating a new regime, where the previous one has already collapsed, or of changing a regime that would otherwise fail" [21, p. 48]. This definition allows an international community to the extent of armed oppression to build peace and preserve security in weak states. The recent military interventions in Somalia, Iraq, and Afghanistan are typical examples and parts of the USA's state-building project.

Scholars also connected the core tenets of state-building with modernization, liberalization, security, the rule of law, free and fair elections, a peaceful transition of political power, and many other democratic principles. In this perspective, state-building refers to the transformation of Western liberal values and democratic principles to pre-modern and undemocratic states across the world. Westerners attempt to implant the legacies of modernization and liberalism in the non-Western world [25].

By and large, for this study, we will be confined and guided by the following definition: "State-building refers to the processes used to build a state's institution or set of institutions (formal or informal, economic or political, military or civil) that increase the state's capability to wield the 'legitimate use of physical force'; establish order; and seek economic means that support and sustain state functions" [21, p. 50]. The researchers believe that one of the major challenges to development in the Horn of Africa is the lack of capacities and institutions to execute governmental policies and strategies. Moreover, this definition gives also attention to the consolidation of formal and informal societal institutions as part of the state-building

project. Therefore, we believe that state-building in the Horn of Africa should create a striking balance between formal and informal institutions.

As our practical experience, the leaders in the Horn of Africa simply held the supreme political power of a state (either by fair or foul means) at hand, but they are practically incapable of enforcing laws, preserving order, providing basic services, and maintaining peace in their respective jurisdiction. Moreover, the most peculiar thing in the region is not only the existence of incompetent rulers but also the prevalence of too few as well as too weak institutions together with inefficient and politically divided public servants. Let us take Fukuyama's view cited by Krasner [26, p. 67] to verify this line of argument: "A key feature of many countries in the developing world is the gap between the formal claims of state authority, which mimic patterns in the advanced industrialized democracies, and the actual capacity to govern".

When did the idea of state-building emerge? "State-building developed and used from the late 1890s through the end of the Cold War, emphasized building loyal and politically stable subordinate states" [27, p. 257]. Writers of the area argued that since the beginning of the 20th century, the USA and Western European countries have been using the idea of state-building as an instrument to create loyal, ideologically identical, and politically stable states across the globe. Historically, the glimpse of state-building has progressed around the late 1890s, but it has become dominant and common in academia since the end of the Cold War. The contemporary discourse for state-building in the field of international politics has evolved in the post-Cold War period [28]. Regarding this, Algaw [22, p. 1] supplements:

The end of the Cold War ushered in the resurgence of internal conflicts across the Third World. These conflicts caused humanitarian disasters, and the breakdown of political authority, notably in Somalia, Rwanda, Liberia, Sierra Leone, and the Democratic Republic of Congo. In response to these dynamics, peace-building, and state-building has become the twin goal of Western intervention policies and United Nations programs toward conflict-prone countries.

Accordingly, the theory and practice of state-building evolved in the 1890s but gained wider recognition and application since the 1990s. After the end of the Cold War, state-building was seen as a logical response to fragile states that have divided communities, legitimacy crises, weak institutions, security problems, neo-patrimonial systems, clientelistic political arrangements, and the like. These types of states characterized by the above traits are leveled as volatile and considered to be dangerous for their people and the international community due to their vulnerability to civil war, anarchy, conflict, instability, terrorism, human trafficking, drug trafficking, and dangerous diseases [22].

5. Typologies of the State

As contemporary researchers, there is no generally accepted classification of states due to the existence of variations among states in terms of ideology, capacity, legitimacy, efficiency, recognition, economy, technology, and system [29]. Political scientists call states by different names based on the levels of control, the sources of political power, the type of constitution, the degree of acceptance by the international community, the ability to provide political goods, and the like. The states across the world are not perfectly divided into socialist and capitalist, democratic and autocratic, liberal and developmental, strong and weak, etc. due to their mixed and inconsistent practice. We believe that this nature of the

state impedes the possibility of attaining universally agreed classifications of states. For example, Richmond [30, pp. 33-34] has persuasively described the multiple typologies of the state as:

Despite the conceptual framing of Westphalian sovereignty for the modern state and indeed because of historical debates about its provenance, there are many terms available to describe different types of states. Communist, socialist, capitalist, democratic, monarchical, constitutional, authoritarian, expansionist, totalitarian, bureaucratic, post-colonial, patrimonial, failed, failing, weak, and collapsed remain in the lexicon of terms to describe states.

However, for this study, our categorization hereunder is based on the level of capacity that the states have at hand. As we observe, states across the world are not found at the same level of economy, capacity, and efficiency. "States are much more varied in their capacity and capability than they once were" [31, p. 2]. In other words, some states are capable of preserving peace and security, and providing essential services to their citizens, while others are incapable of doing such basic functions that are expected from a modern state. Some states occur in a better position to sustain the socio-political and economic benefits of their inhabitants, while others appear in a volatile situation where the rights and freedoms of citizens fall under a temporal or permanent threat. For example, Max Weber [32] classified states as modern (i.e., they can preserve societal values and orders via formal institutions), and primitive/traditional (i.e., they can't guarantee the fundamental rights of human beings such as life, liberty, equality, and property) based on the ability to deliver political goods to their people. The subsequent lengthy quotation may illustrate this difference meticulously:

...the basic functions of the "state" are the enactment of the law (legislative function); the protection of personal safety and public order (police); the protection of vested rights (administration of justice); the cultivation of hygienic, educational, social welfare and other cultural interests (the various branches of administration); and, last but not least, the organized armed protection against outside attack (military administration). These basic functions are either totally lacking under primitive conditions, or they lack any form of rational order. They are performed instead, by amorphous ad hoc groups, or they are distributed among a variety of groups such as the household, the kinship group, the neighborhood association, the rural commune, and completely voluntary associations formed for some specific purpose [32, p. 905].

Recently, scholars of the area typologies modern states into four (Strong, Weak, Failed, and Collapsed) after a careful evaluation of the state regarding human and national securities, protection of human and democratic rights, provision of essential basic services, and the like [31]. Practitioners and policymakers launch the project of state-building when states are supposed to be incapable of providing these basic functions. It is demanding to understand the concept and objective of state-building without having adequate knowledge about the recent attributes (such as weak, fragile, volatile, failed, and collapsed) given to some third-world or post-conflict states. For example, how to create authoritative, legitimate, and effective bureaucracy in weak states and prevent state failure or collapse are the prior questions of the state-building project in the 21st century [31,33].

Richmond [30] further substantiates this claim as the state-building discourses and practices emerged in the 1990s mainly to construct or reconstruct failed states that could not maintain peace and security, and fulfill the material and non-material needs of their people.

Subsequently, we will clarify the imprecise and vague nature of the above states which are classified based on their potential in satisfying the basic needs of a political community. After that readers may easily comprehend the rationales behind the questions of why, when, and where the project of state-building is initiated by responsible bodies.

In strong states, citizens have a feeling of comfort and security because the government has a sufficient amount of power to effectively control its territory from internal and external threats. These states are successful in preventing and resolving conflicts at the local and national levels. Strong states can answer the socio-political and economic questions of their people quickly, fairly, and transparently. The existence of democratic institutions together with ethical and impartial public servants, a higher level of socio-political cohesion, peaceful transition of political power, protection of human and democratic rights, and provision of quality services are some of the manifestations of a strong state [29,31,33]. More broadly, Rotberg [31, p. 4] characterizes strong states as:

Strong states offer high levels of security from political and criminal violence, ensure political freedom and civil liberties, and create environments conducive to the growth of economic opportunity. The rule of law prevails. Judges are independent. Road networks are well maintained. Telephones work. Snail mail and e-mail both arrive quickly. Schools, universities, and students flourish. Hospitals and clinics serve patients effectively. And so on. Overall, strong states are places of enviable peace and order.

As Rotberg [31], the above basics must be easily accessible to call a given state as strong. Most of the time, these kinds of states presume themselves as superior and global moral agents to resolve the socio-political and economic crises of quasi or fragile states. When we see the practice and history of state-building, strong states such as the USA and Western European countries aim at the realization of a peaceful and legitimate state and effective bureaucracy in the Third World based on liberal norms and principles [30]. For them, being strong means, shouldering an extra-territorial responsibility to ensure international peace and security and to preserve world order. That is why strong states together with their multilateral corporations and regional organizations have been intervening in the domestic affairs of post-conflict states since the end of the Cold War. Their institutional, financial, and military strength gives them the chance to do whatever they want in weak or failed states [34].

In contrast to strong states, weak states fundamentally show poor performance in providing essential services such as justice, security, health, education, transportation, communication, electrification, and clean water to their inhabitants. "In weak states, the ability to provide adequate measures of political goods is diminished or diminishing. Physical infrastructural networks have deteriorated" [31, p. 4]. In these states, people feel insecurity and discomfort due to the existence of internal and external threats to peace. It is common to observe antagonistic religious, ethnic, linguistic, and other identity-based groups in weak states mainly to scramble for political and economic resources. Moreover, the prevalence of corruption, internal displacement, crime, illegitimate groups, unrepresentative leaders, and the like are the most known features of weak states [31]. Above all, there is a low level of socio-political unity among the entire community due to the unfair distribution of benefits and burdens in the state.

As Kreijen [29, p. 64] argued "State failure is a matter of degree and essentially a relative notion". As a result, all states that are called failed or fragile by the international community don't have the same legitimacy, capacity, and internal situation. For example, in

the Sub-Saharan African case, “Somalia, Sierra Leone, Liberia, and the Democratic Republic of the Congo are commonly understood as failed states” [29, p. 65]. However, they do not have identical failures in all functions that are expected from a rational state. Regardless of slight differences, failed states are known for endured violent conflicts and the inability to control some parts of their territory [30]. Rotberg [31, p. 5] explained this commonality among failed states as “there is no failed state without disharmonies between communities.”

In failed states, the ruling elites are busy not in building development projects and democratic institutions, but in resolving the perennial civil wars and conflicts between antipathetic groups. The presence of insurgent and terrorist groups, lawlessness, deep socio-political factions, high levels of human and drug trafficking, famine, tragic incidence, destruction of physical infrastructure, uncontrolled area, politically affiliated military, paralyzed police force, local currency plummet, foreign intervention, and the like are the exact manifestations of a failed state [29,31]. More precisely, Rotberg [31, p. 5] explained the conditions of failed states as:

Failed states are tense, deeply conflicted, dangerous, and contested bitterly by warring factions. In most failed states, government troops battle armed revolts led by one or more rivals. Occasionally, the official authorities in a failed state face two or more insurgencies, varieties of civil unrest, and different degrees of communal discontent.

Finally, state collapse is an extreme form of failure in which there is no legitimate authority or responsible central government to administer the internal and external affairs of the state. In collapsed states, anarchy prevailed and law and order completely failed. Moreover, “security is equated with the rule of the strong” [31, p. 9]. The political and economic resources of the state easily fall into the hands of non-state warlords or local strongmen. These sub-state warlords started to govern a certain local area due to the complete disappearance of the previous central government. In the long run, these illegitimate sub-state actors can simply build their local security apparatus and claim a quasi-state just like current Somaliland [29,31,33]. As an empirical observation, this situation is rare when we look at the political histories and dynamics of states across the globe. However, some states couldn’t escape from collapse. In the book entitled “State Failure and State Weakness in a Time of Terror”, Rotberg [31, p. 9] mentioned states that fulfilled the criteria of collapse as “when Somalia failed in the late 1980s, it soon collapsed.”

In a nutshell, one thing that should be remembered when we discuss the issues of state strength, failure, weakness, and collapse. All of the manifestations of strong, weak, failed, and collapsed states are not eternal. State failure is not a stagnant reality, but it is a changing phenomenon. “Failure is a fluid halting-place, with moving forward to weakness and backward into collapse always possible” [31, p. 10]. Strong or weak states may unexpectedly enter into an undesirable failure or collapse, but they can recover from such a situation through the consistent implementation of sound policies and strategies. We believe that state failure and collapse are not inescapable and unpreventable circumstances. Committed people and leaders can easily curve their worst conditions if they develop a culture of rational dialogue. The evils of state failure and collapse can be avoided if the root causes are identified and functioning solutions are applied [30, 31,35].

Concerning these typologies of the state, all of our interview participants leveled the majority of IGAD member countries except Kenya and Djibouti as failed and fragile. For them, the states in the Horn of Africa are characterized by weak institutional capacities,

antagonisms between formal and informal state institutions, economic and social disruption, economic and geographic isolation i.e., Eritrea, intra and interstate wars, low level of government performance, persistent social tensions, and the like.

That is why the researchers argue that countries in the greater Horn of Africa should first build their own respective states and preserve their peace and security before any attempt at regional integration. Because states of a certain region cannot solve their shared problems and cannot arrive at any phases of integration without having efficient and functional institutions (formal and informal) at national levels. Based on the above rationale, therefore, weak and fragile states in the Horn of Africa should consolidate formal and informal institutions that can effectively execute basic functions for the common good of their respective citizens. In turn, the state-building project would finally serve as a bridge to integrate the Horn of African countries on various issues. Therefore, we argue that to ensure regional integration in the IGAD region, both formal and informal state institutions should be impersonal, fair, and strong enough to execute transnational objectives.

6. Contemporary Debates on State-Building

The rationales behind the project of state-building are many. Scholars associated the theory and practice of state-building with many things, sometimes to opposing functions. For some groups of elites, state-building is the practice of creating effective governance, making peace, conducting free and fair elections, inviting opposing political parties to power, advancing state legitimacy, and strengthening state bureaucracy. For example, as Greven [21, p. 50] cites “State-building is the construction of institutional networks supplanting notables and linking the state to social classes and groups and the expansion of the state’s provision of public goods, particularly as the state assumes responsibility for establishing infrastructure, regulating the economy, and managing ties to the global economy.” However, others viewed state-building as a weapon of superpowers to easily control and intervene in the internal affairs of post-conflict states. It is a well-designed project to re-colonize Africa, Asia, and some other weak Latin American states in the cover name of institution-making and peace-building.

Due to the above contradictory views, there is an ongoing debate regarding the meaning, feasibility, and desirability of state-building both in academic and policy circles. Besides the positive things mentioned in support of state-building, there are also manifold problems associated with the theory and practice of state-building. The first criticism posed by scholars regarding state-building is its inclination to the ideology of neoliberalism. As we have stated earlier, the American project of state-building aims to create strong and legitimate states that are effective and consistent in implementing Western neoliberal values and principles such as judicial independence, accountability, individual liberty, transparency, rule of law, fair election, political pluralism, and so on. However, “liberalism is not a universally shared philosophy that flourishes everywhere” [27, p. 271]. The philosophy has no intellectual and societal foundations in the non-Western world. That is why the attempt at state-building has failed in Africa and other continents having too weak states. To strengthen this argument, Lake [27, p. 270] adds, “In less religious societies that nonetheless lack experience with democratic institutions, liberalism may clash with local practices and political thought, and will also fail to confer legitimacy on states.”

The second criticism pronounces that the practice of state-building privileges militarized and influential groups of fragile states to control governmental power. In the

name of state-building, the international community assigns an influential group to state power and this is witnessed in many African, Asian, and Eastern European countries. The history of the USA's directed state-building project has shown us armed groups of shadow states had a chance of controlling political power. For example, in Somalia, the powerful militarized group was led by General Mohamed Farrah Aidid, and in Iraq, the armed majority Shiites were pushed to the front with the support of the USA to control the central state administration [27]. The succeeding text may support this criticism:

In Somalia, for instance, the United Nations initially negotiated with the principal warlords, who enjoyed political power roughly in proportion to the size of their militias. By spring 1993, however, it began a process of democratization by building elected district-level councils, with the ultimate goal of creating a new country-wide representative body. This enraged the warlords who correctly saw this as a deliberate attempt to sideline them and empower others in society. The strongest warlord, General Mohamed Farrah Aidid, quickly broke with the United Nations process [27, pp. 271-272].

Therefore, the historical incident that we saw from the quotation tells us that "rules that preserve the power of formerly privileged groups will, by definition, not be democratic" [27, p. 278]. To this end, the theory and practice of the state-building project were criticized by many intellectuals due to its favor of armed groups and formerly privileged entities.

The third criticism is that the practice of state-building may finally create autocratic states. As we understand from the definition of state-building, one of its objectives is to constitute strong states in post-conflict regions to effectively enforce law and order. If post-conflict states become stable and strong, then they could be transformed into a predatory form of government. Because, in principle, if states once realized effective institutions like the military, then they would have a chance to oppress their people for a long time. In other words, these states, unfortunately, start to use their strong institutions not to serve the people but to subjugate and persecute them until another strong group emerges. In this regard, Lake [27, p. 279] puts the following:

Strong states may also be predatory states. In turn, populations need some safeguards against state power before they willingly accept its authority. Democracy is a primary but not the only means of regulating state power. By minimizing the importance of democracy, state-building risks creating states that are, ironically, too strong. Even though democracy may not be an end in itself, as in state-building, it should be accorded a higher priority for the instrumental reason that it helps control the state and thereby makes it easier for groups to trust and support their leaders.

So, this is a severe criticism that frequently comes from intellectuals who are living in shadow states. They usually offend and interrupt the attempt at state-building in their respective nations. For them, states should be neither too weak nor too strong.

Last but not least criticism that we found from the discourse of state-building is ineffective and therefore legitimate states may not be loyal to the values of their builders. As we deduce from the theory and practice of state-building, the intention of international communities (i.e. state-builders) is to create small, effective, and democratic states which are typically loyal to their socio-political and economic ideologies. To have a historical illustration of this critique, we put the subsequent note:

Implicitly, Americans have assumed that democratically elected leaders would support the United States and its interests around the globe. This rests on the notions that small-d democrats are inherently alike, and that democracies are innately peaceful and therefore favor the status quo, which largely complements America's position in the world today. This belief may also rest on the lessons learned from the successful state-building efforts in Germany and Japan after World War II, although as I argued above both cases were more complicated than any simple notion of democratization can explain. Nonetheless, the recent wave of democratically elected leftist governments in Latin America, including Hugo Chavez in Venezuela and Evo Morales in Bolivia, challenge this liberal notion [27, p. 273].

Therefore, the above historical account shows that states built by the USA and other Western European countries acted and behaved out of the interests and traditions of those states. Finally, this kind of situation may produce another round of conflict and affect international politics, and world orders and systems.

As we tried to show above, those criticisms and opposing perceptions emerged because countries have used the project of state-building to achieve various overt and covert objectives. However, this study looks at state-building from the perspective of its contribution to regional integration. For this, Kathryn Langat, one of the staff at IGAD head of mission to Ethiopia, indicated the point that the relative stability and strength of every Member State of the European Union have contributed a lot to their successful socio-economic integration. Accordingly, for Kathryn, states in the IGAD region must have functional institutions and internal peace to effectively carry out any kind of agreements and treaties aimed at regional integration. This is because shared cross-border problems can be solved only when Member States of the IGAD region have internal stability as well as permanent and functional institutions (formal and informal) at all levels of government, i.e., local, regional, and national.

7. The Synergy between State-Building and Regional Integration

Many states have been using the European Union as a model to build their respective regional organizations [36]. Some regional organizations are built to overcome a single regional problem, while others are established to tackle multiple problems. Having this rationale in mind, regional organizations across the world don't have identical objectives, functions, builders, interests, capacities, and sizes. When we examine the history of regional integration, each regional organization developed uniquely, responding to local circumstances informed by culture, language, ideology, history, and geography [37].

Why do adjacent states build regional organizations by denouncing their sovereignty? The answer to this question is obvious i.e. to integrate the states' cultural, socio-political, and economic resources to improve the living standards of inhabitants of a wider region. Hence, states constitute either supranational or intergovernmental organizations to make regional integration possible in all important aspects of a sub-region. The term regional integration has existed for more than half a century, a precise definition is not yet easy to articulate. Accordingly, we will state some of, but related definitions for the term regional integration. Regional integration can be connected with a voluntary association in which people from diverse socio-cultural backgrounds and economic settings, with different histories and unique ways of thinking, come together and simultaneously form a legal entity to achieve long-observed sub-regional or continental problems. The philosophy of regional integration

connects peoples and states in pursuit of identical socio-political as well as economic objectives [38]. To validate this definition, Peace [39, p. 7] portrays:

Regional integration refers to a situation where nation-states decide to pool their efforts towards achieving specific objectives. It may not necessarily involve committing themselves to integrate their independent economies. These states are interested in actualizing objectives, which may not be possible if they were acting unilaterally. Regional integration connotes a form of interdependence among nation-states. In establishing regional integration arrangements, sovereign states within a geographical space enter into a formal agreement to work together to actualize political and socio-economic benefits. More importantly, regional integration requires independent nation-states to cede their national sovereignty, make political commitments and sacrifices, and forego certain benefits in the interest of the larger body.

In general speaking, regional integration is the process of unifying sovereign states into a larger whole or a supra-national body to mitigate the overall spectrum of life. In this dynamic regional integration process, individual states willingly share their sovereign power with a newly established supra-state organization. This action paves the way for the supra-national authority to directly intervene in the socio-political as well as economic issues of member states. In this sense, individual states give up their sovereign power to enrich the standard of living at a sub-regional or continental level [40]. In uniformity of this assertion, Solomon [40, pp. 2-3] summarizes the definition of regional integration as:

Regional integration can be defined as the process or arrangement, where countries in a defined geographical area voluntarily surrender their sovereignty in one or more areas to carry out specific transactions, in the view of achieving a goal or enjoying specific benefits to a higher degree than they would individually. In regional integration arrangements, a supranational body is usually required to make decisions and participating States lose their sovereignty over some issues. Thus, regional integration involves some compromise on the part of member states' sovereign power but, should enhance the general quality of life for the citizens of those states.

Regional integration can be explained from three dimensions based on the definitions presented above. The first dimension of regional integration focuses on geographic issues (i.e. scope). This dimension of regional integration shows us the number of nation-states involved in an arrangement and the area incorporated in a sub-regional or continental organization. The second dimension of regional integration concentrates on substantive topics (i.e. width). Under this dimension, the sector, or activity (for example, trade, security, infrastructure, and the like) will be performed by the regional arrangement portrayed. The last dimension of regional integration rests on the degree of integration (i.e. depth). In this dimension, the amount of sovereignty that a state is ready to sacrifice for the sake of eradicating sub-regional or continent-wise problems [40].

To this rationale, both IGADD and its successor IGAD were constituted in 1986 and 1996 respectively by numerous actors, drivers, and institutional designs to alleviate transnational problems in the Horn of Africa region. The transition from IGADD to IGAD can be described as a kind of advancement from environmental-related objectives to broader objectives of regional cooperation and integration [41].

Article 7 of the IGAD Establishing Agreement comprises a long list of regional cooperation and integration objectives such as-promote joint development strategies, harmonize macro-economic policies and programmers in various fields; harmonize policies with regard to trade, customs, transport, communications, agriculture, and natural resources; promote free movement of goods, services, and people and the establishment of residence; create an enabling environment for trade and investment; achieve regional food security; assist efforts of Member States to collectively combat drought and other disasters; initiate projects for sustainable development of natural resources; develop a coordinated and complementary infrastructure, particularly in the areas of transport and energy; promote peace and stability in the sub-region; mobilize resources for the implementation of emergency, short-term, medium-term and long-term programs within the framework of sub-regional cooperation; and facilitate cooperation in research, development and application in the fields of science and technology [41].

As enshrined in Article 7 of the IGAD Establishing Agreement, the Horn of Africa region was envisioned to be open and competitive in an environment that allows the free movement of goods, services, persons, and capital. However, “the IGAD region, in comparison with the rest of the RECs in Africa (Such as the EAC and COMESA) has lagged in terms of economic and security integration” [10, p. 96]. Over the last three decades, IGAD has failed to put in place a regional strategy that avoids intra- and inter-state conflicts and a regional trade policy that facilitates closer socio-political and economic integration between Member States [42,43].

To this end, we argue that one of the major challenges for the poor performance of IGAD regarding regional integration is the existence of antipathetic and weak states in the region. The weakness of the IGAD Member States in maintaining peace and security, avoiding intra- and inter-state wars, mobilizing resources and knowledge to integrate the region, and promoting people-centered transnational cooperation is the major challenge of regional integration. The project of regional integration needs capable states to implement regional policies and strategies for the benefit of transnational communities. Regional integration is easier in regions having stable and capable states in addressing shared problems. Concerning this, Hersi and Akinola [10, p. 146] examined the question of how the project of regional integration is connected with the behavior of states in the Horn of Africa as:

Because of the lack of political stability of some of the member States of IGAD, like Somalia and South Sudan, the enmity between Eritrea and Djibouti, and Ethiopia’s political transitions, IGAD’s regional economic integration has suffered vital setbacks.

The above discussion, therefore, manifests that state-building is a cornerstone for successful regional integration. One of the synergies between those concepts is that the project of regional integration demands state-building. State-building plays an irreversible role in fulfilling the objectives of regional integration. The other symbiosis between state-building and regional integration that we found from this discourse is that both projects compromise the sovereign power of a state for the common good. It means that surrendering some sort of national sovereignty is a must during the process of state-building and regional integration. For example, in the process of state-building, superpowers like the USA, the UK, Germany, and others directly intervene in the internal affairs of weak states. Similarly, a different actor i.e. supra-national body or regional organization which is constituted by voluntary agreement regulates the internal business of member states.

8. Concluding Remarks

This study creates a bridge between state-building and regional integration and analyzes how state-building could be used for regional integration in the Horn of Africa. It is about state-building and its importance in realizing socio-political and economic integration in the Horn of Africa. In other words, the study attempted to answer the questions of what is state-building and how can it lead to regional integration in the IGAD region. The researchers argue that state-building must be seen as an approach and a necessary strategy to integrate the IGAD Member States successfully. To this end, the paper discussed the characteristics of strong or functional states and their ability to offer high levels of peace and security, political freedom, civil liberty, and economic development. For this, the study showed several illustrations of successful state-building leading to regional integration in other parts of the world. One such illustration is the European Union, which includes 27 stable and peaceful states, has become a major political and economic power in the world by promoting economic cooperation and preventing future conflicts between member states. Another illustration is the Association of Southeast Asian Nations, which incorporates 10 functional states and has contributed a lot in promoting regional integration in the Southeast Asian region.

However, the existence of weak and fragile states in the Horn of Africa has affected the process of regional integration. The Horn of Africa region is staffed by either weak or fragile states that show poor performance in providing essential services and are characterized by intra and inter-state wars, maladministration, corruption, migration, etc. The existence of these stark realities in the Horn of Africa has served as a prohibiting factor in the implementation of regional integration agendas. Accordingly, state-building is necessary for weak and fragile states of the Horn of Africa to create a conducive environment for peaceful cooperation and regional integration. This is because state-building in the Horn of Africa would facilitate regional integration by creating strong institutions and systems at a national level and by connecting Member States in areas such as transportation, communication, trade, healthcare, education, agriculture, manufacturing, and mining at a regional level.

As a result, the study recommends the following important points for successful state-building: First, the states in the Horn of Africa should be built by their people and government because effective state-building depends upon the ownership and initiative of local people at the grassroots level. If a state is built by external actors, then it will be doomed to failure. Second, state builders should consolidate the state without eliminating or affecting some important informal institutions. The formal and informal institutions of the state should co-exist peacefully. In this sense, actors of state-building should balance the striking difference between modern apparatuses and traditional institutions inherited from the past. Third, IGAD should invest more in the people of the region to ensure socio-political and economic cohesion by crafting homegrown policies, designing appropriate institutions, and critically appraising the neoliberal norms of regional integration.

Finally, the researchers believe that this study hasn't provided sufficient and satisfactory answers to the research questions raised. However, it will serve as a reference for scholars in the field to conduct further research in the Horn of Africa and other regional arrangements. The research questions that have been raised in this study should be further investigated by other scholars to provide functional solutions to challenges of state-building and regional integration in the Horn of Africa and elsewhere.

Acknowledgments. First and foremost, we would like to thank all key informants of the study for providing insightful thoughts. Next, we would like to convey gratitude to the reviewers of the study for their valuable comments and constructive criticisms. Last, we also wish to thank the UK Research and Innovation (UKRI), the African Research Universities Alliance (ARUA), and the Institute of Peace and Security Studies (IPSS) at Addis Ababa University for giving financial support to undertake this study.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Assefa, F. *Federalism, Devolution, and Cleavages in Africa*. Springer Nature Switzerland AG, 6330 Cham, Switzerland, 2024, pp. 1-72.
2. Ferras, P. Security Stakes and Challenges in the Horn of Africa. In: *State and Societal Challenges in the Horn of Africa: Conflicts and Processes of State Formation, Reconfiguration, and Disintegration*, Dias, A.M. (Ed.), Center for African Studies Press, University Institute of Lisbon, Portugal, 2013, pp. 48-58.
3. Dias, A. M. Understanding Conflict and Processes of State Formation, Reconfiguration and Disintegration in the Horn of Africa. In: *State and Societal Challenges in the Horn of Africa: Conflicts and Processes of State Formation, Reconfiguration, and Disintegration*, Dias, A.M. (Ed.), Center for African Studies Press, University Institute of Lisbon, Portugal, 2013, pp. 3-13.
4. Bereket, H. *Conflict and Intervention in the Horn of Africa*. Monthly Review Press, London, UK, 1980.
5. Redie, B. *State-building and National Identity Reconstruction in the Horn of Africa*. Palgrave Macmillan, London, UK, 2017, pp. 3-21.
6. More than 3,000 people killed, 6,000 injured in Sudan Conflict. The Jerusalem Post, 17 June 2023. Available online: More than 3,000 people killed, 6,000 injured in Sudan conflict - The Jerusalem Post (accessed on 20 June 2023).
7. More than 5,000 reportedly killed in El Geneina genocide. Radio Dabanga, 20 June 2023. Available online: More than 5,000 reportedly killed in El Geneina 'genocide' - Dabanga Radio TV Online (accessed on 23 June 2023).
8. UN: Sudan's war displaces over 2 million, as fighting ranges in Darfur region. The Independent, 14 June 2023. Available online: UN: Sudan's war displaces over 2 million, as fighting ranges in Darfur region | AP News (accessed on 27 June 2023).
9. Battle for key police base kills at least 14 Sudan civilians. The Jordan Times, 26 June 2023. Available online: Battle for key police base kills at least 14 Sudan civilians | Jordan Times (accessed on 27 June 2023).
10. Hersi, M.; Akinola, A. *IGAD and Multilateral Security in the Horn of Africa: Through the Lens of Somali Conflict*. Springer Nature Switzerland AG, 6330 Cham, Switzerland 2024, 233 p.
11. Creswell, J. *Research design: Qualitative, quantitative, and mixed methods approach*. 4th Ed., Sage Publications Inc, California & London, USA and UK, 2014, pp. 300-375.
12. Tafesse, O. Conflicts and Conflict Resolution in the Horn of Africa: Toward the Study of Regional Peace and Security. *Ethiopian Journal of Social Sciences and Humanities/EJOSSAH*, 6(2), pp. 1-24.
13. Henze, P. *The Horn of Africa: From War to Peace*. The Macmillan Press Ltd, Houndmills, Basingstoke, Hampshire, and London, UK, 1991, pp. 1-68.
14. Ferguson, M. The Horn of Africa: Historical Patterns of Conflict and Strategic Considerations. MA Thesis, the University of the State of New York, National Security Affairs, USA, 1978, 318 p.
15. The Horn Institute. The Horn of Africa in 2023: A Geographical Analysis. *The Horn Bulletin* 2023, 6(1), pp. 1-8.
16. IGAD. The IGAD Member States, 2015. Available online: The IGAD Member States – geonode.igad.int (accessed on 27 June 2023).
17. Fukuyama, F. *State-building: Governance and World Order in the 21st C*. Cornell University Press, New York, USA, 2004, 120 p.
18. Harrison, K.; Boyd T. *Understanding Political Ideas and Movements*. Manchester University Press, Manchester and New York, UK and USA, 2003, 80 p.
19. Anter, A. *Max Weber's Theory of the Modern State: Origins, Structure, and Significance*. Palgrave Macmillan Publishers, Hampshire and New York, UK and USA, 2014, pp. 23-98.
20. Richmond, O. The Legacy of State-formation Theory for Peace-building and State-building. *Journal of International Peacekeeping* 2013, 20(3), pp. 299-315.

21. Greven, R. Y. An Analysis of State-Building: The Relationship Between Pashtun 'Para-State' Institutions and Political Instability in Afghanistan. Ph.D. Dissertation, University of South Florida, Department of Government and International Affairs, USA, 2014, pp. 250 p.
22. Algaw, A. State Building, State Capacity and Non-State Conflicts in Sub-Saharan Africa. Conference Proceedings No.8, King's College-London, UK, 2013, pp. 1-29.
23. Scott, Z. Literature Review on State-Building. The University of Birmingham, International Development Department-Governance and Social Development Resource Center, UK, 2007, pp. 1-42.
24. Bogdandy, A.; Häubler, S.; Hanschmann, F. State-building, Nation-building, and Constitutional Politics in Post-conflict Situations: Conceptual Clarifications and an Appraisal of Different Approaches. *Max Plank Year Book of United Nations* 2005, 9(1), pp. 579-613.
25. Clausen, M.L. State-Building in the Fragile States: Strategies and Embedment. Ph.D. Dissertation, Aarhus University, DK-8000 Aarhus C, Denmark, 2 September 2006, 308 p.
26. Krasner, S. International Support for State-building: Flawed Consensus. Memo Prepared for the IGC State-building Workshop, Prism 2. No. 3, Oxford, UK, 27 September 2010, pp. 65-74.
27. Lake, D. The Practice and Theory of US State-building. *Journal of Intervention and State-building* 2010, 4(3), pp. 257-284.
28. Robinson, N. State Building and International Politics: The Emergence of a New Problem and Agenda. In Hehir & Robinson (Eds.), *State Building: Theory and Practice*. Routledge: Taylor and Francis Group, London and New York, UK and USA, 2007, pp. 1-19.
29. Kreijen, G. *State Failure, Sovereignty, and Effectiveness: Legal Lessons from the Decolonization of Sub-Saharan Africa*. Martinus Nijhoff Publishers, Leiden & Boston, Netherlands and USA, 2004, pp. 1-64.
30. Richmond, O. *Failed State-building: Intervention and the Dynamics of Peace Formation*. Yale University Press, New Haven and London, USA and UK, 2014, 152 p.
31. Rotberg, R. Failed States, Collapsed States, Weak States: Causes and Indicators. In Rotberg, R. (Ed.), *State Failure and State Weakness in a Time of Terror*. Brookings Institution Press, Washington D.C., USA, 2003, pp. 1-28.
32. Weber, M. *Economy and Society: An Outline of Interpretive Sociology*. University of California Press, Berkley, Los Angeles, and London, USA and London, 1978, 1469 p.
33. Sisk, T. *State-building: Consolidating Peace after the Civil War*. Polity Press, Cambridge and Malden, USA, 2013, pp. 1-58.
34. Kaldor, M.; Rangelov, I. Introduction: Global Security Policy in the Twenty-First Century. In Kaldor, M. and Rangelov, I. (Eds.) *The Handbook of Global Security Policy*. John Wiley and Sons Publishers Ltd, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK, 2014, pp. 1-19.
35. Gros, J. Failed States in Theoretical, Historical, and Policy Perspectives. In Heitmeyer W. (Ed.) *Control of Violence in Modern Societies*. Springer Science and Business Media LLC, Berlin, Germany, 2011, pp. 535-562.
36. Oloruntoba, S. *Regionalism and Integration in Africa: EU_ACP Economic Partnership Agreements and Euro-Nigeria Relations*. Palgrave Macmillan Publishers, London and New York, UK and USA 2016, pp. 1-88.
37. Fawcett, L. Region-building Debates in a Global Context. In *Region-building in Africa: Political and Economic Challenges*, Levine, D.; Nagar, D. (Eds.), Palgrave Macmillan Publishers, Cape Town, Hampshire, and New York, 2016, USA, pp. 21-36.
38. Vincent, I.; Constance, H. Challenges and Opportunities for Regional Integration in Africa: The Case of SADC. *IOSR Journal of Humanities and Social Science* 2014, 19(12), pp. 103-115.
39. Peace, J. The Challenge of Regional Economic Integration in Africa: Theory and Reality. *Africa's Public Service Delivery and Performance Review* 2014, pp. 5-24.
40. Solomon, G. Regional Integration in the Horn of Africa: State of Affairs and Challenges. *Center for European Integration Studies* 2016, pp. 1-42.
41. IGAD Agreement Establishing the Intergovernmental Authority on Development (IGAD). Nairobi, Kenya. Available online: <https://igad.int/download/agreement-establishing-the-intergovernmental-authority-on-development-igad/> (accessed on 27 June 2023).
42. Gaas, A. Towards a New Paradigm for Regional Integration in the Horn of Africa: A Case Study of Intergovernmental Authority on Development (IGAD). *Intergovernmental Research and Policy Journal (IRPJ)* 2023, 10 (1), pp. 1-14.
43. Seble, M.; Kewir, K. Conflict Prevention in Sub-Regional Institutions: The Case Study of IGAD in Ethiopia from 2015-2020. *Journal of Education, Society and Behavioral Science* 2023, 36 (12), pp. 93-113.

Citation: Adino, T.; Abebe, D. State-building: an overlooked approach for regional integration in the horn of Africa. *Journal of Social Sciences* 2025, 8 (2), pp. 183-202. [https://doi.org/10.52326/jss.utm.2025.8\(2\).14](https://doi.org/10.52326/jss.utm.2025.8(2).14).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).15](https://doi.org/10.52326/jss.utm.2025.8(2).15)
UDC 32:342:340.128(6)



POST-INDEPENDENCE STATE FORMATION IN AFRICA: A THEORETICAL REVIEW

Dawit Mezgebe *, ORCID: 0009-0007-9395-2236

Addis Ababa University, Ethiopia

* Corresponding author: Dawit Mezgebe, dawitmezgebe@gmail.com

Received: 04.02.2025

Accepted: 06.08.2025

Abstract. This article reviews key essential theories to understand the actors, nature, and characteristics of the post-independence African state that emerged since the early 1960s decolonization period. In conducting academic research, a theory has multiple scholarly valuable purposes, including the quest to understand how the social world works. Theorizing state formation is the quest to understand how state formation in post-independence Africa differs from other parts of the world. Scholars argue that theorizing state formation in post-independence Africa incorporates deeply analysing the challenges originating from the progress of global economic and political systems, identifying the key roles of prominent individuals, investigating major establishments of the state, and examining the power struggle between social groups and classes. Methodologically, qualitative approach is employed that is exploratory and descriptive by collecting qualitative data from respective sources. This study is aimed at emphasizing on examining the existing theories of state formation in postcolonial Africa. The findings of this study that post-independence African states are artificially crafted by the coercive European colonial rule based on these two key theories: - the Leadership/Nation-Building and the Marxist theories of state formation.

Key words: *theorizing, post-independence African states, Leadership/ Nation-Building & Marxist theories.*

Rezumat. Articolul trece în revistă teoriile esențiale pentru a înțelege actorii, natura și caracteristicile statului african post-independență, apărute încă din perioada de decolonizare de la începutul anilor 1960. Teoretizarea formării statului în Africa post-independență este căutarea de a înțelege ceea ce diferențiază formarea statului în Africa post-independență de alte părți ale lumii. Cercetătorii susțin că teoretizarea formării statului în Africa post-independență încorporează analiza aprofundată a provocărilor care decurg din progresul sistemelor economice și politice globale, identificarea rolurilor cheie ale unor persoane proeminente, investigarea principalelor instituții ale statului și examinarea luptei pentru putere dintre grupurile și clasele sociale. Metodologic, se folosește o abordare calitativă exploratorie și descriptivă prin colectarea de date calitative din sursele respective. Acest studiu își propune să pună accentul pe examinarea teoriilor existente privind formarea statului în Africa postcolonială. Constatările acestui studiu arată că statele africane post-

independență sunt create artificial prin dominația colonială europeană coercitivă, bazată pe aceste două teorii cheie: teoriile conducerii/construcției națiunii și teoriile marxiste ale formării statului.

Cuvinte cheie: *Teoretizare, state africane post-independență, conducere/construcție națiunii și teorii marxiste.*

1. Introduction

In conducting academic research, a theory has multiple scholarly valuable purposes, including "the quest to understand the way the social world works. It 'foregrounds' certain aspects of the world and provides a guide as to what to investigate, [and it is] a framework within which to place observations to reality, enabling patterns of ideas to develop" [1]. Therefore, the major logic of theorizing state formation in post-independence Africa is the quest to understand what post-independence African state is, and it 'foregrounds' the key political, economic and social elements and features of post-independence African state, and offers a guide in theoretically investigating on the emerging differences in its formation, nature, characteristics (political, economic and social), and actors which have mainly and crucially contributed in this process.

Theorizing state formation in post-independence Africa is related to the need to search for an all-inclusive way of examining and scholarly understanding how and why the post-independence state is formed in Africa through employing vital theoretical lenses enabling patterns of thoughts to develop in describing its overall growth and decline over time. According to Stark [2], this incorporates deeply analyzing the challenges originating from the progress of global economic and political systems, identifying the key roles prominent individuals played, investigating major establishments of the state, and examining the power struggle between social groups and classes. These are vital to have explicit knowledge about the origin, nature, and political, economic and social characteristics of the post-independence African state, including the actors who mainly played a crucial role in its formation.

According to Keller [3], some scholars of social science sturdily argue for the absence and lack of a precise model or theory in analyzing the origin and formation of the post-independence African state; hence, this study is aimed at disproving the above argument by emphasizing on examining the existing theories of state formation in postcolonial Africa. In this study context, understanding of the postcolonial state formation of Africa mainly relies "on the analysis of attempts made by Africans to build political institutions which suit their needs in an era when they have been faced with many constraints" [2].

Therefore, the theoretical reference of post-independence state formation in Africa can be analyzed from the Coercive theory of state formation perspective because, according to Carneiro [4], historically, it is the coercive theory that takes enormous credit for the emergence of the state through the use of force, and not rational self-interest of individuals/members of society. This is true in African colonial history since it constitutes the manifestation of the coercive imposition of European colonialism on Africa. Colonialism has made state formation and construction an ongoing political process after independence [5], which is mainly related to African states' artificial nature.

Post-independence African states are politically characterized as being artificial, externally imposed, and patrimonial. Because of this, they are susceptible to intra- and inter-state war [6], which has contributed to the rise of negative political consequences and spillover effects on the continent politically, economically, and socially.

2. Objectives

Since the topic of the article is "Post-Independence State Formation in Africa: Theoretical Review," it has the primary academic objective of reviewing key theories which are essential to clearly understand the actors, nature, and political, economic, and social characteristics of a post-independence African state that has emerged since the early 1960s decolonization period. Therefore, by conducting separate scholarly investigations and reviewing each of these two key theories: - the Leadership/ Nation-Building and the Marxist theories of state formation which are identified by their specific characteristics, features, and elements, this study scientifically attempts to analyze the fundamental actors and the significant features (political, economic and social) on the nature and characteristics of the post-independence African state. These theories are also essential in clarifying the key roles prominent individuals played in postcolonial state formation, exploring the major establishments of the state, and examining the power struggle between social groups and classes.

3. Methodology

Methodologically, this study employed and applied a qualitative research approach with the primary task of "exploring a problem and developing a detailed understanding of a central phenomenon" [7]. By using the qualitative approach, this study generated "results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis"[8], and they are purely exploratory and explanatory. The following method of collecting qualitative data from various sources was used: peer-reviewed journal articles, books, and institutional publications.

Peer-reviewed articles were accessed through e-journals and online academic databases, ensuring up-to-date research and scholarly insights were used. Books, monographs, and edited volumes provided in-depth historical and theoretical perspectives, offering comprehensive background knowledge. These sources were carefully selected to ensure a well-rounded analysis, integrating perspectives from academic and policy-oriented literature being acknowledged and appropriately referenced. This paper has five significant parts: part one deals with the introduction, part two deals with the objectives of the study, part three mainly focuses on methodology, part four meticulously discusses each of the two key theories in the formation of the post-independence African state, namely: the Leadership/ Nation-Building and the Marxist theories separately, and then forwards its findings, and the conclusion with the references at the end.

4. Theories of post-independence state formation in African

According to Smith [9], politically, economically, and socially, sub-Saharan Africa has profound differences in state formation with Europe in particular and the collective West in general. In theorizing state formation in postcolonial Africa, it is imperative to explore, examine, and analyse the two dominant theories, namely: - Leadership/ Nation-Building (Weberian) and the Marxist theories of state formation, because the demise of colonialism in African political science gave priority and emphasized on investigating post-independence state-formation, hence it credited "studies in state-formation as achievement" [10]. Leadership/ Nation-Building (Weberian) and the Marxist theories of state formation are important in understanding how the African postcolonial state is formed, in identifying the fundamental actors, and the significant features of its nature, including its political, economic and social characteristics which are very vital in providing in-depth knowledge on the

historical link and continuity between the colonial and post-independent states, because according to Kanyinga [11], the postcolonial state is the continuity of the colonial state with the existence of marked political and economic similarities. Therefore, these theories are important in making scholarly investigation and forwarding significant insights into why and how the post-independent African state was formed, thereby analyzing its common nature and characteristics.

4.1 Leadership / Nation-Building Theory of State Formation

The leadership/nation-building (Weberian) theory is critical in this study context because it is usually concerned with the circumstances of statehood rather than the limitations on institutional development. The Leadership/Nation-Building (Weberian) theory is largely labelled as "the individualistic and idealistic approach in the philosophical sense of emphasizing the creative powers of men,"[2].

This theory mainly focuses on the contribution of independence-era individual political leaders of Africa who, according to Southall [12], effectively established the party that organized adequate backing in making the assertion of political independence. In understanding this theory of state formation in postcolonial Africa, it is essential to recognize the African experience of colonial domination at the global level and emphasize Africa as "a political idea as well as a geographical fact with a distinctive ideology: African nationalism" [13], that contributed for the emergence of individual political leaders and major political groups in the anti-colonial struggle. The prominent scholars of this theory include David Apter, Edward Shils, Aristide R. Zolberg, and John Cartwright. Specifically, Apter, Shils, and Zolberg, who quoted Max Weber as their theoretical referent, are very dominant.

Theoretically, David Apter and his scholastic contribution are predominantly governing and scholarly authoritative in the era of African independence during the early 1960s. Apter's position in this theory gave emphasis to personal popularity. He strongly argued that individual acceptance and support by the African mass "may give legitimacy to new state institutions, following Weber's notion of charisma, [and Apter] viewed Kwame Nkrumah as such a charismatic figure in pre-independence days of the Gold Coast, and bestowed upon him individual responsibility for the new state of Ghana" [2]. According to Stark [2], in the African context, structural-functionalists stress the created aspect of state formation with the effort of 'constitutive' individuals who have some control over their political life and the political institutions which are aiming at ensuring the order of the newly emerged post-independence African states.

This theory mainly relies on recognizing the individual's political effort, commitment, and influence of early independent African leaders because with the immediate independence, the leaders of the new African states took for granted the formation of the nation-state as the best strategy for consolidating their interest within the domestic politics [14]. This has been taken as a living testimony of how dominant political figures' intelligence and capacity were used to transform the colonial state in the newly emerged independent states in which they became presidents and opposition leaders [2]. According to Keller [3], post-independence African leaders had shared views on the priority and goal of the newly emerged state system, which was mainly attached with its new role and involvement in advancing, employing, and spearheading development efforts irrespective of ideological differences among themselves.

Therefore, state formation in postcolonial Africa became the individual responsibility of leaders of anti-colonial struggle. Immediately at independence, the new African leaders were forced to recognize and inherit the artificial states created by Europeans and forced to adopt, recognize, and fully accept the new state as the only entity of organization with its artificially drawn colonial boundaries [14], making post-independence African leaders both the icon of the state and "the embodiment of a social movement at its base" [2].

The significant theoretical outcome of the theorists of Leadership/Nation-Building can be deduced that the new post-independence African states are the political outcome of the leaders of the anti-colonial struggle in Africa who were designated with an individual 'function' of building their own states, which are explicitly designed by the European colonialists being the product of "arbitrary colonial administrative units designed as instruments of domination, oppression and exploitation" [15]. The theorists of Leadership and Nation-Building concluded that post-independence African states are the consequence of the rubrics implemented by colonialists and independent African leaders [14]. According to this theory, the political effort, responsibility, and commitment of the individual political leader in forming the new independent state depended not only on himself but also on the strength and influence of his ideas, and the men who held them during the decolonization struggle.

4.2 The Marxist Theory of State Formation

The classical Marxist theory is well identified on its key emphasis in "the class nature of the state" [16], and it credits the existence of structured/hierarchical relationship between those who control state power, i.e., exploiting /colonial /state class) Moreover, those who are colonized/ oppressed/exploited. In his prominent philosophical contribution, Marx identified two separate approaches to analyzing the state-class relationship in which he regarded the state as somewhat autonomous from the dominant class. He also described the state as an instrument that serves the interests of the dominant class [17].

The Marxist theory of state formation in post-independence Africa emphasizes how the state is being used to serve the interests of the dominant class. It is mainly concerned with the thorough examination and analysis of the concept of class that "denotes a grouping of individuals who share a common position in the process of production concerning the ownership of the means of production" [18], and its relationship to the state apparatus. The literature of Marxist theory analyses the political, economic, and social destructive legacy of colonialism and imperialism imposed on post-independence African states, and this can be understood in investigating the artificial colonial nature of the African states, which is characterized by core-periphery economic domination over the postcolonial period that has perpetuated in coercing and governing their institutional development [2].

Colonialism is important in examining post-independence state formation in Africa through the Marxist theoretical lens, because "the mode of production in African countries underwent fundamental change during the colonial period with the consequent implication for class formation" [18]. Class formation has its root in the distinct unstable and uncertain political nature/feature of colonialism, and it is "always caught between strategies of incorporating people more fully into an empire or marking the differentiation and subordination of conquered people" [19]. One of the major contributions of colonialism in African politics is its introduction of capitalism that had shifted/ replaced pre-colonial mode of production in Africa paving the way for the advent of new class structure [18], and apparently social stratification in Africa became more differentiated with the imposition of

selective Western education which contributed on the growth of state machinery both at the national and local level.

In understanding the Marxist theory of state formation in post-independence Africa, Hamza Alavi is a prominent scholar whose work is entrenched in the framework of imperialism and colonialism. Alavi intellectually stated his political view of the Marxist theory of state formation in the article "The State in Postcolonial Societies - Pakistan and Bangladesh." Alavi's views do not directly address the African issue in examining post-independence state formation through the Marxist theoretical lens of structured class relationships within the state. However, it is the most important theoretical pillar because it forced and interested 'Africanists' to retort in different ways to Alavi's ephemeral theoretical views [2]. According to Alavi, the colony is identified as "overdeveloped" state or political entity "because the basis of its superstructure lies in the metropole from which it is later separated at independence" [2].

After independence, the ex-colonial state or the "overdeveloped" state is handed over to the newly emerging local governing class, and this enabled it to unrelentingly exploit the local economy of the newly independent state, instrumentalizing the state apparatus for its own political and economic advantage [3]. According to Stark [2], Alavi defined a post-independence "overdeveloped" state as a class structure that is organized based on 'foreign imperialist bourgeoisie', and it fully duplicated not only the thoughts, values, and state apparatus but also the government institutions and organizations used as tools of controlling the local social groups and classes. According to Stark [2], other prominent scholars of the Marxist theory of state formation in Africa include John Saul, based on his Tanzanian experience. He described Alavi's theoretical formulations as the best example and very informative. However, Saul proposed that the ideological 'function' of the postcolonial state has been neglected, which is the basis of creating a hegemonic position arising from the artificiality of its boundaries and the requirement of 'peripheral capitalism' that is very important for the newly emerging territorial unity and legitimacy.

The Marxist views of Alavi and Saul provoked interesting debate by several Marxist Africanists, leading to several important reactions. One of them is Colin Leys, who counterattacked Saul's emphasis on ideology and attempted to confirm the emphasis on class as the basis of his analysis of the state. Leys supported an indirect instrumentalism of class in his book on *Underdevelopment in Kenya: The Political Economy of Neocolonialism* [20]. Another prominent scholar of the Marxist theory of state formation is Michaela von Freyhold, who argued in her work published in 1977, "The Postcolonial State and its Tanzanian Version," that the postcolonial state is not as much under the control of class within the society over which it rules as the bourgeoisie state, and can act more independently because it is the class of "petty bourgeoisie which views itself as a group best constituted to develop the societies after independence" [16].

Marxist theory places principal emphasis on the class nature of the state. In the African context, it demonstrates the structural determination of the postcolonial state in postcolonial society. Therefore, it is important to locate the origins of class and identify its types to clearly understand the Marxist theory of state formation in post-independence Africa. According to Tangari [18], the mode of production is the determinant factor in identifying social classes. Post-independence African states are the victims of their colonial legacy [3], which incorporated Africa into "the capitalist world system and the capitalist mode of production [which] has become dominant in the continent" [18]. It is at this historical juncture that not

only the origin of class in the modern African politics can be traced which is located "in the socio-economic structure of the colony and the relation between colonizer and colonized"[16], but also on the "bases of economic and political dependence [which] were laid, and the foundations of bureaucratic, aristocratic welfare states were established" [3] with distinct classes in African politics. Being in the early phase of formation, the class arrangement in the newly independent states is very intricate and fragile [16]. However, it is vital to identify and categorize classes in African politics that hugely contributed to its independence struggle and state formation process. According to Tangari [18], classes in modern African politics are categorized into three: peasantry, the proletariat/African working class, and the bourgeoisie/state class.

The African peasant class is the largest when compared with the other two social classes. Its political contribution in the struggle against colonialism is very immense, because "in the colonial countries the peasants alone are revolutionary, for they have nothing to lose and everything to gain" [21]. The peasants in post-independence Africa represent the largest section of the population [14]. They are the pillar of the agricultural sector and the national economy because agriculture is the source of subsistence with food production, the backbone of national economies generating huge foreign revenues from exports, and the largest employing sector [22]. In terms of its political role in post-independence Africa, "the peasantry is systematically disregarded for the most part by the propaganda put out by the nationalist parties" [21], making it a highly divided, demobilized, docile, and marginalized silent majority class, and in contemporary African politics it is distinctly very weak social base [18]. Therefore, as a political force and social class, the African peasantry has been marginalized because "rural interests are not likely to be courted by the ruling elite [in Africa]" [23].

The African peasantry has not posed significant political threats and challenges to post-independence regimes and its ruling state class since organized peasant rebellion is rare or does not exist in Africa [18]. According to Kanyinga [11], this is mainly related to the political marginalization of the African peasant class by the state after independence in which rural Africa is given little attention by the state with its loose link with vital state institutions, only taking part in elections which under no circumstance resolve and address its political, economic and social challenges of African peasants.

Relatively small, the African working class (the urban wage-earning force) is "an underdeveloped industrial proletariat" [16] that emerged with the advent of European colonialism and the establishment of new urban centers in the late 1930s subject to harsh oppression and exploitation of direct and indirect rule of European colonizing powers. The African working class was mainly engaged in the following economic activities: "public work programs, in the extractive industries, on the railways and harbours, as well as being employed by the colonial administration and private sector in such positions as clerks, drivers and messengers" [18]. According to Cooper [19], during the colonial period in the 1940s and 1950s, the French and British acknowledged the emergence of the African working class, and it had played decisive political role in social and political organization of Africans paving the way of political struggle against the colonial rule targeting independence.

In contrast to the working class of the Capitalist West, which has played a crucial role in advancing democratic rights through organized political struggle, the African working class is small in size and a minority of the urban population that slowly expanded since independence. After independence, the African state actively and directly took part in the production and appropriation of surplus. The African proletariat indulged in political and class

struggles to attain power [16] with the ever-expanded political consciousness. This paved the way for the African proletariat to independently organize in competing for political power in challenging the state's power [18], which has been dominated and controlled by the African state class since independence.

The African working class and peasants played the principal role during the colonial period. They contributed hugely in the anti-colonial and national liberation struggles (Thomas, 1984). However, in post-independence Africa, both classes in urban areas are taken as a legitimate threat to the existing political status quo, and they "are being dispossessed and oppressed every day" [11] by the ruling class of the regimes. In post-independence Africa, the most important social class concerning state power control in African politics is the bourgeoisie (the propertied classes and state personnel). The bourgeoisie class is developed within the womb of colonial administration. Through time, the colonial masters politically groomed it to inherit state power at independence, and state power was shifted from colonial authority to the local petty bourgeoisie during decolonization. The principal justification of this includes the propertied status and class nature of the bourgeoisie associated with its education, which are its basic defining features [16].

The bourgeoisie in Africa has played an important political, economic, and social role in forming class and the administration of the post-independence African state. Politically, the rise, progression, and expansion in size of the local petty bourgeoisie and its transformation to the ruling class is a significant achievement of the post-independence state of Africa [18]. This has contributed to the emerging new political status quo after independence where, according to Kanyinga [11], state power politically and economically is controlled by a limited number of affluent people (the ruling elite). Political and civil rights have been guaranteed only to members of this group in a limited fashion. The bourgeoisie class in Africa comprises multiple entities from various economic sectors, including "small-scale farmers, petty traders, artisans, shopkeepers, [plus] the owners of large capital [local and foreign]" [18], who favored and assumed to be the leader of the anti-colonial struggle with its level of advanced political consciousness and close relation with the colonial administration. In due time, the indigenous bourgeoisie class has transformed itself politically, economically, and socially, entrenching itself in power politics (the state class). Hence, it has become highly influential and dominant in African politics [3].

The African bourgeoisie class expanded over time after independence, thanks to the economic resources and political power it inherited from the colonial masters. It recruited members from the "upper echelon of the party, civil service, and parastatals" [18]. The African state class is composed of: - "the reigning political authority, the central bureaucracy, and regional functionaries, the top echelons of the military, and member of, where it exists, the dominant political party" [3]. The African state class has mainly developed itself with the benefaction of the postcolonial state. Examining and analysing African politics through the Marxist theoretical lens of state formation is essential because this class entirely depends on the newly emerged state's political, economic, and social institutions in advancing its financial and other administrative and managerial interests [18]. This close relationship of the state class/ bourgeoisie to the state and its vital resources can be used as a political, economic and social mechanism of inclusion and exclusion of individuals, groups, society and others within the state where the state is practically used as an instrument serving the interests of the dominant class (state class).

5. Overview of Post-Independence African State

Since 1957, continental Africa has been composed of artificially formed new states with the weakest economy and frail institutions, and global recognition has emerged, gaining its independence through various means of political struggle [19]. In understanding politics in post-independence Africa, the state is the most indispensable political, economic, and social actor because it is the very influential political might and apparatus of governance that cannot be undermined and ignored [11]. Economically, post-independence African state is characterized by the following standard defining features where exclusive and extractive economic institutions with the weakest structures of statehood inherited from the colonizers have perpetuated with the ownership/ monopoly of the state and its resources by the new indigenous ruling class making individual leaders and the state class advantageous economically [24]. According to Mazuri [25], the modern European state is the product of a social contract between the rulers and the ruled, establishing a vital institution for ensuring and sustaining public order and stability by guaranteeing the duties and responsibilities of citizens within the state's political, economic and social jurisdiction [26]. However, in contrast, post-independence African leadership/nation-building (Weberian) and Marxist theories are the basis of state formation. Hence, these theories are essential in this study context in providing an in-depth knowledge which is important to understand, theorize and politicize common defining political, economic and social features derived from the post-independence African state's colonial legacy.

6. Major Findings of the Study

The overview of the major findings of this study emphasized theoretically reviewing post-independence African state formation through the separate scholarly investigation conducted separately in the previous section on each of the two theories of state formation, which are identified by their specific features and elements. The central epistemological rationale of theorizing about the post-independence state of Africa is to make "a clear specification of the basic concepts" [27], and one of these basic concepts is the post-independence African state itself that is identified and marked by: - the fundamental actors which contributed for its formation, and the distinctive political, economic and social features, and characteristics that define it. When theoretically reviewing post-independence African state formation through the Leadership/ Nation-Building (Weberian) and Marxist theories, the key political factors that contributed to its formation are European colonialism, the individual responsibility of leaders of anti-colonial struggle, decolonization and the three political classes of the modern African politics which actively participated in the independence struggle include: the peasantry, the proletariat/African working class and the bourgeoisie class [18]. Hence, the next section of this study focuses on theoretically reviewing post-independence African state formation through the Leadership/ Nation-Building (Weberian) and Marxist theories consecutively.

In theorizing post-independence African state formation through the Leadership/ Nation-Building (Weberian) theory, the leaders of anti-colonial struggle who assumed power immediately after independence laid the basis for legalizing and institutionalizing nepotism, corruption, and patron-clientelism across Africa, which even nowadays are its cancerous and malign political features [3]. These features are employed to intensify the process and practice of exclusion of large segments of society politically, economically, and socially. The leaders of the anti-colonial struggle who later became heads of state and government after

independence played a crucial role in gradually prioritizing their interests politically and economically through nepotism, patrimonialism, and corruption which are deeply rooted and associated with ethnic affiliation since the early independence period creating subservient citizens in patron-client political systems in Africa, in which "by their ethnic affiliation some hold better positions on the citizenship ladder than others" [5].

The most important argument in theorizing post-independence African state formation through the Leadership/ Nation-Building (Weberian) theory is that African independence has paved the way for its leaders not only to politically institute patron-client, neo-patrimonial and exclusive systems of rule but also to economically benefit from resource extraction which "independence created an opening for unscrupulous leaders to take over and intensify the extraction the European colonialists presided over" [24]. When scrutinized through the Leadership/ Nation-Building (Weberian) theory, post-independence African state negatively affected the political, economic, and social aspirations of citizens sowing huge mistrust and suspicion towards their leaders and the entire state apparatus, and what characterizes commonly post-independence African state is after independence the newly formed African states mostly failed in achieving their duties to the public in all aspects of life politically, economically and socially. The subsequent leaders exacerbate this as a typical continuous political culture [11]. Independence-era leaders also had weaknesses with negative political repercussions where they rationalized the newly formed state to their own individual political and economic advantage the same way as their colonial masters [3], and this has politically made post-independence African states highly centralized, authoritarian and more unstable [12].

This political scenario hugely contributed and ushered in the politics of citizenship that is defined as a "contentious interactions over the institutionalization and realization of substantive membership, legal status, rights, and participation" [28] in the newly independent states of Africa since the early decolonization period. The personalization of political power by the immediate post-independence leaders has privatized the state, where corruption has become the discernible trademark of contemporary politics in Africa in which "politics has become more like business" [3]. This hugely deteriorated state-citizen relation in Africa sidelining the masses after independence with clear and open political, economic and social exclusion of the majority of citizens [11], and with this trend postcolonial African states "encouraged a passive vision of national unity-a celebration of state and ruler-instead of the citizen activism they had ridden to power" [19].

The next most important scholarly question that has to be raised in theoretically reviewing post-independence African state in this study context is: -What are the overall political, economic and social defining features and characteristics of post-independence African states when investigated through both the Leadership/ Nation-Building (Weberian) and Marxist theoretical lenses? Politically, the artificial nature of state formation is one of the standards defining features of the post-independence African state. Hence, state formation in Africa is an ongoing process that has not yet been completed [5]. Moreover, this has made the newly formed African states externally imposed and alien on its relation with the locals [15]. Post-independence African state has been conceptualized politically in multiple ways. Claude Ake theorized that economically, based on the high degree of domestic political instability associated with its inherent political weakness (it is identified with juridical/abstract/ weak sovereignty), it is very underdeveloped. Socially, it has very feeble structures [12].

Other prominent scholars of African studies conceptualized post-independence African state, labelling it as a "shadow state (Reno), rhizome state (Bayart), bifurcated state (Mamdani), and disconnected state (Dia)" [15], and this is mainly attached with the deeply rooted mismanagement of the state institutions and resources after independence. The nature of sovereignty (statehood/ fundamental levels of state's existence/ power practices) is the core political defining feature of the state. The state is identified and characterized as "a presence, a structure, which delivers power, an action" [10], pinpointing the level and degree of sovereignty it exercises. According to Keller [3], state sovereignty has the abstract /legal/ juridical, and the concrete/ empirical/ sociological components of statehood.

Post-independence African states have juridical (abstract) sovereignty that is derived from the novel "model of international relations, epitomized by United Nations' General Assembly Resolution 2621" [14], which automatically granted state sovereignty with its immediate decolonization. Post-independence African state is theorized as a political entity that is identified with juridical/ abstract sovereignty (power practices or statehood), because it is very feeble in many cases composed of "semi-autonomous and complicated configurations of centers and their hinterlands" [29], unable to provide essential services such as security, and other functional public infrastructures to its population. The juridical/ abstract sovereignty has botched the post-independence African state economically and led to the emergence of a catastrophic governing structure with self-serving corrupt bureaucracy, and this openly marginalized Africans from actively participating in state affairs [18], and politically personal dictatorship and authoritarianism have become the hallmark of African states negatively affecting state-citizen relation.

Economically, Africa is characterized by the following standard defining features after independence where exclusive and extractive economic institutions with the weakest structures of statehood inherited from the colonizers have perpetuated with the ownership/ monopoly of the state and its resources by the new indigenous ruling class, making individual leaders and the state class advantageous economically [24]. The colonial exclusive and extractive economic institutions have led to the establishment of the new post-independence local extractive narrow ruling class that "was dependent on enclave economies for the bulk of their economies" [23]. Dependent on enclave economies, the extractive narrow ruling class has visible political, economic, and social control over state-wide resources, structures, and institutions in post-independence African states with the rapid expansion of various configurations of systemic corruption, which mainly relied on patron-client relations with the very deteriorating mismanagement of state resources and power for the self-interest of the narrow ruling class [15]. According to Kanyinga [11], the hierarchical patron-client system of relations adopted by the narrow ruling class has been used as a political instrument, opportunity, and path of facilitating the power relations locally between the citizens and state with the provision of political, economic and social benefits to its clients. Patron-client ties are political and economic instruments of the powerful ruling class's exclusion of rival individuals and groups. They are used to garner political support and loyalty from local/domestic clients [23]. Through time, the extractive narrow ruling class in postcolonial Africa advances its political interest by conducting public administration with the implementation of neopatrimonialism "at the expense of formal statehood" [15]; hence, post-independence African governments are labelled as neopatrimonial regimes of the narrow ruling class (Locust class) which are identified with and characterized as "hybrid, uncertain, unstable, and usually authoritarian systems of governance" [6]. The neopatrimonial regimes

of narrow ruling class in postcolonial African states have established exclusionary and extractive (political-economic) institutions which hugely advanced politics of citizenship through the rise of intense inequality among citizens leading to violence and war [24]. Hence, those excluded from this political-economic activity adversely contributed to making the structures, institutions, and the entire state apparatus the culprits of economic injustice and neopatrimonialism, which is the best catalyst in advancing political discontent in Africa.

Socially, the common defining features of post-independence African state include the following: - it is well identified with special social marks (weakness) inherited from its colonial legacy like the "fundamental changes in many social practices as foreign languages, religions, and ideologies were introduced" [14] which seriously deconstructed the indigenous pre-colonial organic social fiber, network, interaction and institutions with the formation of new states having borders irresponsibly drawn by colonial masters separating identical social and identity groups deliberately. Socially, compared with the modern state of the West, the post-independence African state is the victim of a legitimacy deficit because it is alien and isolated from its citizens [11]. This social reality has adversely contributed to postcolonial African state-citizen relation, which is the socio-political outcome associated with the lack of "embeddedness [within the society at large and], its divorce from underlying norms and networks of social organization" [15].

7. Conclusion

In theoretically reviewing the overall political, economic, and social defining features and characteristics of the post-independence African state through both the Leadership/ Nation-Building (Weberian) and Marxist theories, it is possible to conclude that African independence is the change of ruling elites color/ race from white to black, or briefly it is "Africanization" of the newly ruling elite of the independent state with the confines between the citizen and the subject remain the same way as the colonial era. The Leadership/ Nation-Building (Weberian) theory confirms that independence-era leaders are the key political actors in institutionalizing the highest degree of neo-patrimonial rule and patron-client relations by forming the "Locust" ruling class, which transformed the postcolonial African state into a "Social Darwinist" state without significant political, economic and social changes for African masses. In wrapping up the theoretical review of state formation in post-independence Africa (Leadership/Nation Building and Marxist theories), both theories claimed that the post-independence African state is not organic/ indigenous. It is superficially imposed against the will of Africans by colonialists lacking deep-rootedness within the society. This makes both theories vital theoretical instruments because the state class is the dominant class in modern African politics, having an exogenous origin, where the post-independence African state is used as a vital political, economic, and social apparatus and instrument of achieving the needs of the dominant class, i.e., state class in classic Marxian sense. In support of the Marxist theory of state formation in post-independence Africa, Claude Ake concluded that the capitalist mode of production is the root of the postcolonial African state identified with its peculiar way of state class domination. It is this powerful class where African leaders belong, having huge influence and control over the state politically, economically and socially, playing an important role directly and indirectly in including and excluding rival groups in nation-building and citizenship construction. This has contributed to the emergence, advent, and expansion of massive political discontent in the form of intra-

state war, conflict, violence, and recurrent coups, which are being identified as hallmarks of African politics.

Conflicts of Interest: The author declares no conflict of interest.

References

1. Stokker, G. Introduction. In: *Theory and Method in Political Science*, 2nd ed.; Marsh, D.; Stokker, G., Eds. Macmillan Press Ltd., London, UK, 1995, pp. 3–20.
2. Stark, F.M. Theories of Contemporary State Formation in Africa: A Reassessment. *J. Mod. Afr. Stud.* 1986, 24(2), pp. 335–347. <http://www.jstor.com/stable/160696>.
3. Keller, E.J. The State in Contemporary Africa: A Critical Assessment of Theory and Practice. In *Comparative Political Dynamics*; Rustow, D.; Erickson, L., Eds.. Macmillan Press Ltd., London, UK, 1991, pp. 134–159.
4. Carneiro, A.R. A Theory of the Origin of the State. *Science* 1970, 169, 733–734. <http://industrydocuments.library.ucsf.edu/tobacco/docs/tghk0127>.
5. Bezabeh, S.A. Citizenship and the Logic of Sovereignty in Djibouti. *Afr. Aff.* 2011, 110(441), 587–606. <http://www.jstor.com/stable/41240237>.
6. Williams, P.D. *War & Conflict in Africa*; Polity Press: Cambridge, UK, 2012; pp. 306 p.
7. Creswell, J.W. *Research Design: Qualitative, Quantitative and Mixed Methods Approach*, 3rd ed. SAGE Publications, Thousand Oaks, CA, USA, 2012, 260 p.
8. Kothari, C.R. *Research Methodology: Methods & Techniques*. New Age International, New Delhi, India, 2004, 320 p.
9. Smith, L. *Making Citizens in Africa: Ethnicity, Gender, and National Identity in Ethiopia*. Cambridge University Press, Cambridge, UK, 2013; pp. 19–43. doi:10.1017/CBO9781139547468.005.
10. Lonsdale, J. States and Social Processes in Africa: A Historiographical Survey. *Afr. Stud. Rev.* 1981, 24(2/3), 139–225. <https://www.jstor.org/stable/523904>.
11. Kanyinga, K. Subjects of the State: Citizenship and Governance in Eastern and Southern Africa. In: *Proceedings of the IDRC's Consultative Meeting on Governance*, Ottawa, Canada, September 7–9, 2000, pp.1-27.
12. Southall, A. State Formation in Africa. Available online: www.annualreviews.org (accessed on 16/02/ 2022)
13. Jackson, R.H.; Rosberg, C.G. Why Africa's Weak States Persist: The Empirical and the Juridical in Statehood. *World Politics* 1982, 35(1), 1–24.
14. Herbst, J. *States and Power in Africa: Comparative Lessons in Authority and Control*. Princeton University Press, Princeton, NJ, USA, 2004, 280 p.
15. Englebert, P. Feature Review: The Contemporary African State: Neither African nor State. *Third World Q.* 1997, 18(4), pp.767–775.
16. Thomas, C.Y. *The Rise of the Authoritarian State in Peripheral Societies*. Monthly Review Press, NY, USA, 1984, 151 p.
17. Taylor, G. Marxism. In *Theory and Method in Political Science*, 2nd ed.. Marsh, D.; Stokker, G., Eds.; Macmillan Press Ltd., London, UK, 1995, pp. 248–267.
18. Tangari, R. *Politics in Sub-Saharan Africa*. James Currey: London, UK, 1985, 155 p.
19. Cooper, F. *The Politics of Citizenship in Colonial and Postcolonial Africa*. THEMA New York, NY, USA, 2005, pp. 14-23.
20. Leys, C. *Underdevelopment in Kenya: The Political Economy of Neo-Colonialism*; Heinemann: London, UK, 1975; pp. 1-220.
21. Fanon, F. *The Wretched of the Earth*; Penguin Books: London, UK, 1965, 255 p.
22. Sikod, F. Conflicts & Implications for Poverty & Food Security Policies in Africa. In: *The Roots of African Conflicts: The Causes and Costs*; Nhema, A.; Tiyaambe, P., Eds. James Currey Ltd., London, UK, 2008, pp. 199-213.
23. Grabowski, R.; Self, S.; Shields, M. P. *Economic Development: A Regional, Institutional and Historical Approach*. Prentice-Hall of India, New Delhi, India, 2007, 1-320 p.
24. Acemoglu, D.; Robinson, J.A. *Why Nations Fail? The Origin of Power, Prosperity, and Poverty*. Manipal Technologies Limited, Manipal, India, 2013, 529 p.
25. Mazuri, A. Prologue: Conflict in Africa: An Overview. In: *The Roots of African Conflicts: The Causes and Costs*; Nhema, A.; Tiyaambe, P., Eds. James Currey Ltd., London, UK, 2008; pp. 36–50.
26. Skinner, Q. Two Concepts of Citizenship. *Tijdschr. Filos.* 1993, 55(3), pp. 403–419.
27. Bill, J.A.; Hardgrave, R.L. *Comparative Politics: The Quest for Theory*. Merrill Publishing Company, Columbus, OH, USA, 1981, 272 p.

28. Stokke, K. Politics of Citizenship: Towards an Analytical Framework. *Norsk Geogr. Tidsskr.* 2017, 71(4), pp. 193–207.
29. Von Lieres, B. Review: New Perspectives on Citizenship in Africa. *J. South. Afr. Stud.* 1999, 25(1), pp. 139-148.

Citation: Mezgebe, D. Post-independence state formation in Africa: a theoretical review. *Journal of Social Sciences* 2025, 8 (2), pp. 203-216. [https://doi.org/10.52326/jss.utm.2025.8\(2\).15](https://doi.org/10.52326/jss.utm.2025.8(2).15).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md

[https://doi.org/10.52326/jss.utm.2025.8\(2\).16](https://doi.org/10.52326/jss.utm.2025.8(2).16)
UDC 347.2:656



PROPERTY RIGHTS TO A MOTOR VEHICLE FROM THE THEORY OF LEGITIMACY PERSPECTIVE

Mohammad Ali*, ORCID: 0000-0003-2237-6845,
Afifah Kusumadara, ORCID: 0000-0001-7167-8044,
Shinta Hadiyantina, ORCID: 0000-0001-7413-7008,
Amelia Sri Kusuma Dewi, ORCID: 0009-0005-5985-7230

University of Brawijaya, Mayjen Haryono Street 169, Malang, 65145, East Java, Indonesia

* Corresponding author: Mohammad Ali, alialwahid07@gmail.com

Received: 03.21.2025

Accepted: 05.12.2025

Abstract. Property rights are included in the scope of civil law, including ownership rights to motorized vehicles as movable objects. However, the status of civil ownership rights needs to be clarified and reaffirmed in line with the existence of motor vehicle administration policies. Based on civil law provisions, ownership rights to an item can be recognized if the owner can prove ownership according to law. The most prominent object/zaak in civil law is the division of movable and immovable objects. Motorized vehicles are included in movable objects because ownership is easily transferred. It will have an impact on his property rights. Ownership rights to motorized vehicles through bezit/control are not sufficient for the principle of bezit which is understood by the term '*the position of controlling or enjoying an item controlled by oneself or through the intermediary of another person as if the item were one's own*'. However, for motorized vehicles, proof of documentation is required, because motorized vehicles are movable objects and are registered in traffic regulations and local tax levies. A new policy that upholds civil property rights is needed so that people's property rights to objects such as motor vehicles are lost due to arbitrary tax administration.

Keywords: *property rights, motorized vehicles, traffic, registered, civil law.*

Rezumat. Drepturile de proprietate sunt incluse în domeniul de aplicare al dreptului civil, inclusiv drepturile de proprietate asupra vehiculelor motorizate ca obiecte mobile. Cu toate acestea, statutul drepturilor de proprietate civilă trebuie clarificat și reafirmat în conformitate cu existența politicilor de administrare a vehiculelor cu motor. Pe baza prevederilor dreptului civil, drepturile de proprietate asupra unui bun pot fi recunoscute dacă proprietarul poate dovedi proprietatea conform legii. Cel mai important obiect/zaak în dreptul civil este divizarea bunurilor mobile și imobile. Vehiculele motorizate sunt incluse în categoria obiectelor mobile, deoarece proprietatea este ușor transferabilă. Acest lucru va avea un impact asupra drepturilor sale de proprietate. Drepturile de proprietate asupra vehiculelor motorizate prin bezit/control nu sunt suficiente pentru principiul bezit, care este înțeles prin termenul „*poziția de a controla sau de a beneficia de un bun controlat de sine sau prin intermediul*

unei alte persoane, ca și cum bunul ar fi al său". Cu toate acestea, pentru vehiculele motorizate, este necesară dovada documentelor, deoarece vehiculele motorizate sunt obiecte mobile și sunt înregistrate în regulamentele de circulație și în taxele locale. Este necesară o nouă politică care să susțină drepturile de proprietate civilă, astfel încât drepturile de proprietate ale oamenilor asupra obiectelor, cum ar fi vehiculele cu motor, să fie pierdute din cauza administrării fiscale arbitrare.

Cuvinte cheie: *Drepturi de proprietate, vehicule motorizate, trafic, înmatriculare, drept civil.*

1. Introduction

Property rights in Indonesian law are closely related to civil law. So material rights are also known as civil rights. There are absolute and relative civil rights. Absolute rights provide direct power and can be maintained by anyone. Meanwhile, relative rights provide limited power and can only be defended against other parties in a legal relationship. Property rights are also civil rights regulated in Book II of the Civil Code or *Burgelijk wetboek* [1]. The rights of an object are usually called material rights (*zakelijkrecht*). Property rights give direct power over objects and can be maintained by anyone. The right of objects is a set of norms that regulate the legal relationship between people (legal entities) and the objects, such as motorized vehicles are property rights objects, it may create rights (*zakelijkrecht*). Property rights give direct power to the owner regardless of where the object is located [2].

Property rights have several characteristics. The first is absolute, it is controlled freely and defended against anyone; for example, property rights and copyright. Second, *zaak gevolg* or *Detroit de suite* is to follow the object rights to which those are attached. For example, the right to rent, the right to collect profits, and to follow the object whoever the object is. Third, the first level is higher, for example, if a mortgage is attached to a house, then the next mortgage is attached, so the position of the first mortgage is higher than the second mortgage. Fourth, priority is given, for example, mortgage rights on a house, if the owner of the house goes bankrupt, then the mortgage gets priority for settlement without regard to the effects of bankruptcy. Fifth, the right to sue can be exercised against anyone who disturbs the object to defend it. Sixth, property rights can be transferred to anyone. Seventh, Giving direct control over objects [3].

Several experts explain the rights to objects. Sri Soedewi Masjchoen Sofwan said that property rights (*zakelijkrecht*) are absolute rights to an object, where this right gives direct power over an object and can be maintained against anyone [4]. According to van Apeldoorn, material rights are property rights that provide direct power over an object, direct power means a direct relationship between people and the object [5]. According to Subekti, a material right (*zakelijk recht*) is a right that gives direct power over an object, the power of a name can be maintained over every person [6].

Regarding ownership rights to objects, in the civil law system in Indonesia, there is a closed ownership system, a person cannot have substantive rights (*zakelijrecht*) other than those regulated by Book II *Burgelijk Wetboek*, other governing law, or customary law. Therefore, people can only have substantive rights as determined by law. In other words, the number of substantive rights is limited to what is regulated by law. This is different from contract law, which adheres to an open engagement system. That is, someone can exercise personal rights (*personalrecht*) other than those limited by law. In this open system, everyone is free to enter into agreements that may or may not lead to legal relations, whether regulated by law or not. This means that the number of individual rights is not limited to the number

determined by law as long as it does not violate, public order and morality. Everyone can exercise their rights based on a collective agreement [3].

Based on these two systems, a person cannot arbitrarily revoke material legal provisions regulated by law, but only with mutual consent. This means that everything that is determined by law as an object has substantive rights in itself, and cannot be contested, eliminated, or voluntarily exceeds what is determined by law or at another's will. In other words, a property right is an absolute right that gives direct power over an object that can be maintained by every person and has an inherent nature, including in this case over motorized vehicles based on the basic concept of property rights in civil law.

Objects or *zaak* according to civil law as stated in Article 499 of the Civil Code are anything that can become an object of property rights. Objects (*zaak*) can have various meanings, namely; objects as legal objects (Article 500 of the Civil Code), objects as interests (Article 1354 of the Civil Code), objects as legal facts (Article 1263 of the Civil Code), objects as legal acts (Article 1792 of the Civil Code). So what can become an object of property rights can be goods and be in the form of rights, such as copyrights, patent rights, etc. Based on this description, regarding rights to objects which have been divided into various types of objects, the most important thing is the distinction between movable and immovable objects, as well as the difference between registered and unregistered objects. This also includes rights that may accompany, especially rights to registered movable objects such as motorized vehicles as one of the objects in civil law [4].

2. Research methods

This research is normative research methods; namely legal research carried out by examining library materials (such as laws and other legal references). It is then called Library Law research [7]. Using this type of research, the author intends to analyze, understand, and explain property rights to motorized vehicles as registered movable objects from a civil law perspective. This research uses a statutory approach because the main data material is statutory regulations such as the Civil Code and other statutory regulations along with other references related to the regulation and explanation of rights and objects, especially registered movable objects such as motorized vehicles.

Material rights are absolute rights which in some discussions are also confused with relative rights, however, both rights are still within the scope of civil law. Absolute rights consist of; personality rights, for example, the rights to one's name, life, liberty, rights in family law, such as rights arising from the husband and wife relationship, a person and a child relationship; as well as absolute rights over an object, this is what is called material rights. Then experts call relative rights, relative rights, or personal rights, namely all rights that arise because of a debt relationship that can only be maintained temporarily [4].

Property rights have several main characteristics compared to individual rights. These characteristics include [8]:

1. Property rights are absolute rights, which can be defended against anyone, not only contract partners but also other parties who may be involved in it in the future. For example, material rights, such as ownership rights to an object such as a movable object, especially a motorized vehicle, the owner can claim wherever the object is located with the rights granted by law, namely the Right of Revindication (Article 574 *Burgerlijk Wetboek*). This is different from individual rights or relative rights which can only be enforced by certain parties.

2. Property rights have zaaksgevolg or droit de suit (following rights), these rights follow the object to whoever the object is. So property rights are attached to the object, if the object changes ownership then the person concerned is obliged to respect it.
3. Property rights apply the principle of priority; it means that property rights that exist first will take priority over those that come after. In this way, the existence of this right plays an important role, because those who are born first will be paid, while those who are later have to wait for those who are ahead of them.
4. Material rights have droit de preference (prior rights), this preference is regulated in Article 1133 *Burgerlijk Wetboek*, that the party who has these material rights in terms of repayment must have priority, immediately if the goods which are the object of these rights are sold at auction.
5. A lawsuit against property rights is called a property lawsuit. In this right, people have various requests (actie) if there is interference with their rights, for example, re-prosecution, a lawsuit to eliminate interference with their rights, or a lawsuit for restoration to its original state. As is the right that an owner has by suing for revindication based on Article 574 *Burgerlijk Wetboek*.

Apart from that, material rights also have basic principles, including:

1) The principle of a closed system, property rights have a closed system. It means that rights to objects are limitative, limited to those regulated by law.

2) Principle of rights following objects (zaaksgevolg, droit de suite), This principle says that property rights follow the object wherever and whoever the object is.

3) Publicity principle, publicity (openbaarheid) is the "announcement" ownership status in public. The announcement of rights to fixed objects (land) occurs through registration in the land book, while the announcement of movable objects occurs through actual control of the object.

4) The principle of specialization, in the institution of individual land ownership rights, must indicate the shape, boundaries, location, the land area. This principle is found in the rights (ownership, business use, building use) of fixed objects.

5) The principle of totality, ownership rights are only placed on the object in its totality. In other words, rights cannot be placed only on parts of objects. The owner of a building is automatically the owner of the frames, windows, doors, and tiles of the house.

6) Accessie principle, from this principle arises the attachment principle (accessie). An object usually consists of parts that are attached to one main object, such as the connection between a building and roof tiles, frames, doors, and windows.

7) The principle of horizontal separation, *Burgerlijk Wetboek* recognizes the principle of vertical attachment in Articles 571, 600, 601, 603, 604, and 605 while act no. 5 of 1960 concerning the Basic Agrarian Law adheres to horizontal separation taken from the principles of customary law.

8) The principle of can be given, Ownership rights contain the authority to give objects.

9) The principle of protection is, the protection of parties who have good intentions even if the handover is a party without the rightful authority (beschikkings on bevoegd), as regulated in Article 1977 paragraph 1 *Burgerlijk Wetboek*.

10) Absolute principle (coercive law), the provisions governing property law are absolute, which means that property rights must be respected and obeyed by everyone [9].

3. Results and Discussion

3.1. Property rights, types of objects, and how to obtain and remove according to civil law

In general, there are several ways to obtain property rights based on civil law provisions, including [1]:

1. **Confession.** Objects whose owner is unknown (*res nullius*). Then it is recognized by someone who gets it, then they are considered the owner.
2. **Discovery.** An object that is separated from its owner, for example, if it falls while traveling, if someone finds the object and he does not know who the owner is, then that person becomes the owner of the item he found.
3. **Handover.** Property rights are obtained through handover based on certain rights (*rechts Titel*), such as sale and purchase, lease, gift, inheritance, etc. By handing over the title passes to the person to whom the object is handed over.
4. **Expired.** Anyone who controls a movable object for which he does not know the owner of the object (for example because he found it), then ownership rights to the object are obtained after 3 years have passed since that person took possession of the object. For immovable objects, the expiration date is: 1). If there is a 20-year rights pad; 2). If there is no title pad, 30 years; 3). Through Inheritance, property rights can be obtained based on applicable inheritance law, customary law, Islamic law, or Western law.
5. **Creation.** A person who creates a new object, either from an existing object or completely new, can obtain ownership rights to the object he created.
6. **By following/deriving.** For example, if someone buys a pregnant cow and then the cow gives birth, then the owner of the cow has the right to the new calf.

About material rights, *Burgerlijk Wetboek* divides them into two types of material rights, based on their nature, namely:

1) Material rights that provide enjoyment consist of property and *bezit* rights, the right to harvest, and the right to use and inhabit.

2) Material rights that provide collateral consist of Pawn, Fiduciary, Mortgage, Mortgage, and Warehouse Receipt System. Apart from these material rights, Book II of the Civil Code also regulates other rights but they are similar to material rights because they provide guarantees, such as privileges, retention rights, and advertising rights. Based on this, there are various ways to obtain material rights that provide enjoyment, depending on the type of object [10].

a. *Bezit* Rights

Subekti said that *bezit* is a birth circumstance, that a person authorizes an object as if it were his own, which is protected by law, regardless of who the object belongs to [2]. In the Civil Code, *bezit* is translated as a position of authority, namely the position of a person controlling an object, either by himself or through another person, and who maintains or enjoys it as the person who owns the object (Article 529 of the Civil Code). From this definition, *bezit* is the right of a person who controls an object, either directly or through the intermediary of another person, to act as if the object were his own. For a *bezit* to exist, the conditions must be met, namely:

1. For a corpus, the object and the person in question must be related.
2. For an animus, the relationship between a person and an object must be desired by

that person.

Thus, for bezit must have two elements namely authority and the determination to possess something. In this case, bezit is differentiated from "detentie", where someone governs an object according to a certain legal relation to someone else (the owner of that object). So, a "detentor" has no desire to have the object for himself. Bezit's functions include [6]:

1. *Polisionil* function, this means that bezit gets legal protection, regardless of who the object belongs to. So, anyone who uses an object will receive protection from the law until it is proven that he or she does not have the right to the object. Thus, for those who feel their rights have been violated, they must ask for a solution through the police or court.
2. *Zakenrechtelijk* function, this means that a bezitter has owned an object and has been operating for a certain period without any protest from the previous owner, then the bezit turns into property rights through a verjaring institution (after time/expiration).

How to get bezit; According to Article 538 of the Civil Code, ownership of an object is obtained by carrying out an act of withdrawing the object into one's control, to retain it for oneself. According to Article 540 of the Civil Code, there are two ways to obtain bezit, namely:

1. Through occupation (taking objects) means obtaining bezit without help from the person who took bezit first. So bezit is obtained because of his act of taking the goods directly.
2. Through tradition (passing) means obtaining bezit with the help of the person who made bezit first. So bezit is obtained due to handover from other people who have mastered it first.

Apart from these two methods, bezit can also be obtained by inheritance. According to Article 541 of the Civil Code, everything bezit which is the bezit of a person who has died passes to his heirs with all their characteristics and defects. According to Article 593 of the Civil Code, people with memory problems cannot obtain bezit, but minor children and married women can obtain bezit. Meanwhile, regarding the removal of bezit; people can lose bezit if [10]:

1. Power over the object is transferred to another person, either by handing it over or being taken by another person.
2. The object under his control has been abandoned.

Then based on Article 542 to Article 547 of the Civil Code, the bezit is abolished, because:

1. The object has passed into someone else's hands.
2. The object has been abandoned.
3. Destruction of objects.
4. Loss of objects, because they have been taken by someone else or stolen.

b. Proprietary/ *eigendom*

It is explained in Article 570 of the Civil Code, which states that proprietary is the right to enjoy and freely control an object, so long as it doesn't contravene any laws or general rules issued by the relevant agencies so long as it doesn't infringe upon the rights of others, reduces the likelihood that such rights could be revoked in the public interest, pays fair remuneration, and complies with legal requirements. This means that property rights give their owners two fundamental rights, namely:

- 1) The right to take pleasure in using a thing, and

- 2) The right to exercise complete freedom over the object, which means that the owner is free to sell, give away, or hand over the object to anyone, so long as it doesn't clash with any provisions that compel or violate the public interest or the rights of other people. This also includes encumbering, placing other property rights, pledging, or using the object as collateral for a debt.

The characteristics of proprietary as material rights, proprietary are the most perfect right, which has the following characteristics:

- 1) Proprietary is the parent of other property rights, while other Proprietary is children of property rights.
- 2) Proprietary in terms of quality are the most complete rights.
- 3) Proprietary is permanent, they will not disappear in the face of other material rights, while other material rights can disappear if they encounter property rights.
- 4) Proprietary rights are the most basic (main) rights, while other material rights are only part of property rights.

How to obtain ownership rights based on Article 584 of the Civil Code, there are 5 ways to obtain ownership rights to objects, namely[11]:

- 1) Ownership/claim (articles 585, 586, and 587 of the Civil Code).
- 2) Attachment (articles 500 to 502 and articles 586 to 609 of Civil Code).
- 3) Overdue/expired (article 610 of Civil Code, and regulated book IV article 1955 jo article 1963 and article 1967 of Civil Code).
- 4) Inheritance (article 611).
- 5) Handover/ *levering* (article 612, 613, 616 Civil Code, see also Article 1459 of the Civil Code).

How to hand over ownership rights:

- 1) For tangible movable objects (Article 612 of the Civil Code).
- 2) For intangible movable objects (Article 613 of the Civil Code).
- 3) For immovable objects (Article 616 of the Civil Code).

c. The right to collect (use) the proceeds (*vruchtgebruik*)

Article 756 of the Civil Code explained about collect profits right is a material right to take profits from other people's property, as if they were the owner, with the obligation to maintain the property as well as possible. According to Article 759 of the Civil Code, the right to collect profits can be obtained by law or because of the owner's will. Meanwhile, the abolition of the right to collect proceeds as regulated in Article 807 of the Civil Code is:

- 1) Because the owner died.
- 2) Because the period for the right to collect the proceeds has expired or the conditions for that right have been fulfilled.
- 3) Because the rights holder changes to the owner (due to mixing).
- 4) Because the right holder waives his rights.
- 5) Because time has passed.
- 6) Because the object is destroyed:
 - a) Rights of use and occupancy.
 - b) Right to encumber yard/services.
 - c) The right to own buildings or plants on someone else's land/ postal.
 - d) The right to take other people's land income by paying money or income every year/*erfpacht*.

e) Land interest rights and one-tenth yield.

Then Article 818 of the Civil Code determines that use and occupancy rights are acquired and terminated like usufructuary rights. The right to use is the same as the right to occupy. The term right of residence is used for objects such as houses (Article 826 of the Civil Code). Meanwhile, the right to inhabit cannot be handed over or rented to another person (Article 827 of the Civil Code).

Usage rights are differentiated between movable and immovable goods. The right to use movable property is regulated in Book II of the Civil Code. In contrast, the right to use immovable property (land) is regulated in basic agrarian law No. 5 of 1960. According to the Civil Code, the right to use does not include a mortgage object (Article 1164 of the Civil Code), because the right to use is not a material right. Usage rights are individual rights and cannot be transferred without the owner's consent.

Table 1

The existence of Property Rights by Providing Enjoyment		
No	Kinds of Objects	How to obtain
1	Tangible moving objects	Article 612 paragraph 1 <i>Burgerlijk Wetboek</i> is done by giving actually or giving from hand to hand.
2	Intangible moving objects	a) Delivery of Aan toonder's receivables is regulated in Article 613 paragraph 3 <i>Burgerlijk Wetboek</i> carried out by actual delivery, for example paper Money. b) Delivery of receivables (bordering op naam (on behalf of) regulated in Article 613 paragraph 1 <i>Burgerlijk Wetboek</i> is carried out by cassie, namely making an authentic deed or private deed. c) Delivery of receivables from an order is regulated in Article 613 paragraph 3 <i>Burgerlijk Wetboek</i>, carried out by handing over the letter and dissertation with endorsement (writing on the back of the receivable letter stating to whom the receivable is transferred), for example, a money order, check.
3	Property rights to immovable objects (land rights)	Since the juridical handover (transferring of ownership) was carried out, the sale and purchase deed was signed before the Land Titles Registrar.
4	Bezit of moving objects	Real control in good faith, namely such as having an appropriate price as a sacrifice, so that it receives protection from Article 1977 paragraph 1 <i>Burgerlijk Wetboek</i> .
5	Bezit of immovable objects (land rights)	The provisions of Article 1977 paragraph 1 <i>Burgerlijk Wetboek</i> do not apply to immovable objects.

By the provisions of Article 1131 of the Civil Code, collateral covers all existing and new assets of the debtor that will exist in the future. Thus, without the need for a special agreement, these objects become collateral for all of the debtor's debts.

Thus, the concept of publicity governs the emergence of tangible rights that offer guarantees, specifically through registration at the Registration Office.

Specifically for the birth of property rights at a pawn guarantee institution, there are no provisions regarding registration, and material rights at a pawn guarantee institution arise when the object is handed over to a third party [12].

Table 2

The existence of property rights that provide guarantees		
No	Guarantee Agency	The existence of property rights
1	Pawn	When the pawned object is handed over to the creditor or third party. This is a manifestation of the principle of inbezitstelling [13].
2	Mortgage of a ship weighing 20 m ³	Registration is carried out with the Registrar and Transfer of Name Registrar Officer at the place where the ship is registered and recorded in the Master Register of Ship Registration [14].
3	Mortgage right	The existence of a mortgage right based namely on the date of the land mortgage book as referred to in paragraph 4. The land mortgage book date is the seventh day after complete receipt of the documents required for registration [15].
4	Fiduciary	States that it is born on the same date as the date the fiduciary guarantee is recorded in the Fiduciary Register Book [16].

The abolition of property rights in civil law occurs in the following ways [2]:

- 1) The object is destroyed,
- 2) Because an object is destroyed, the rights to that object also disappear,
- 3) Due to transfer,
- 4) Ownership rights, the right to collect profits, or the right to use are extinguished if the object is transferred to another person,
- 5) Due to waiver of rights,
- 6) Due to expiration.

The expiry date for immovable property is generally 30 years (there is a legal basis), while for movable property is 3 years.

d. Due to Revocation of Rights

Public authorities can revoke a person's ownership rights over certain objects, by fulfilling conditions based on a law and carried out in the public interest (with appropriate compensation). Related to objects/zaak within the scope of civil law is divided into several types of objects, including [17]:

1. Tangible and intangible objects as regulated in Article 503 of the Civil Code.
2. Movable and immovable objects in Article 504 of the Civil Code.
3. Objects can be used up and cannot be used up in Article 505 of the Civil Code.
4. Objects that already exist and objects that will exist in Article 1334 of the Civil Code.
5. Objects in trade and outside trade Articles 537, 1444 and 1445 of the Civil Code.
6. Objects that can be divided and cannot be divided Article 1296 of the Civil Code.
7. Registered and unregistered objects are regulated separately in the Mortgage and Fiduciary Rights Law.
8. Objects in the name and not in the name of Article 613 of the Civil Code in the form of basic agrarian law and PP No.24 of 1997 concerning Land Registration.

According to Prof. Soediman Kartohadiprodjo, objects are all tangible goods and rights except property rights. According to Prof. Sri Soedewi Masjchoen Sofwan, the definition of objects is tangible items that can be captured with the five senses, but intangible items include objects too. Prof. Subekti said that objects (*zaak*) are everything that people can judge, and in the narrow sense are things that can only be seen. According to Prof. L.J. van Apeldoorn, according to juridical law, an object is an object of law. The essence of objects (*zaak*) is an essence given by objective law [10]. The division of objects according to these experts into tangible objects and intangible objects; means tangible objects such as land, motor vehicles, and the like. Conversely, intangible assets like patents and copyrights are governed by a different statute rather than the Civil Code, namely in the IPR Protection Law (Intellectual Property Rights) [17].

3.2. Ownership rights to motorized vehicles as movable objects are registered based on the theory of legitimacy

Burgelik Wetboek recognizes the division of many types of objects, but in the development of society, there is a tendency to increase the division of these objects with other new types, namely registered objects and unregistered objects. This has been very important since the *Burgerlijk Wetboek* codification event. Based on the division of various objects in *Burgerlijk Wetboek*, the important and prominent division of objects is the division of movable and immovable objects; because the division brings different legal consequences. In the *Burgerlijk Wetboek*, there is sufficient detail regarding the division of types of objects, but in reality development, there is a need to add new divisions of objects other than those already known in the *Burgerlijk Wetboek*, namely the existence of registered objects and unregistered objects which until now have not been regulated in The *Burgerlijk Wetboek* [4].

This was said by Sri Soedewi that Continental European countries since the Roman Law reception still attach importance to the distinction between movable and immovable objects. Although the importance of the difference between registered and unregistered objects is starting to be recognized/ register goederen en nietregister goederen. Then in Indonesia, the division of objects became known after *Burgerlijk Wetboek* was codified and enforced. Objects that must be registered are regulated in various separate regulations such as regulations on land registration, regulations on ship registration, regulations on motor vehicle registration, and so on [18].

Meanwhile, the difference between immovable and movable objects is important, namely because there are special provisions that apply to each class of objects, for example, regulations regarding the following matters [19]:

a. Regarding bezit rights

Related to bezit regarding movable objects, there is a provision in Article 1977 paragraph (1) *Burgerlijk Wetboek* which determines that anyone who controls movable objects is considered to be the owner. So the bezitter of a moving object is the eigenaar of that moving object. This is not the case with immovable objects. Anyone who controls a movable object cannot be considered the owner of the immovable object.

b. Regarding charges (*bezwaaring*).

Regarding encumbrances on movable objects, a pawn guarantees institution (*pand*) must be used, while for immovable objects a hypothec guarantee institution must be used

(Article 1150) and Article 1162 *Burgerlijk Wetboek*). In particular, regarding the transfer of ownership rights to land, after it is a permanent jurisprudence, the transfer of ownership rights occurs at the time the sale and purchase deed is made in advance of the PPAT, so not after the transfer of name.

c. Regarding handover (*levering*).

Regarding handover (*levering*), Article 612 *Burgerlijk Wetboek* determines that the handover of movable objects can be done by actual handover, while the handover of immovable objects, according to Article 616 *Burgerlijk Wetboek*, must be done by transferring the name on the general list.

d. Regarding expiration (*verjaring*).

Expiration (*verjaring*) for movable objects is not known to expire because *bezit* is the same as *eigendom*, while immovable objects are about expiration. A person can obtain property rights because it has passed 20 (twenty) years (in the case of a legal basis of rights) or 30 (thirty) (in the case of no rights) which is called “*acquisitive verjaring*”.

e. Regarding confiscation (*beslag*).

Revindication *beslag* is a confiscation to reclaim a movable object belonging to the applicant that is under the control of another person. *Beslag* revision is not possible for immovable objects. Then executory *beslag* is a confiscation carried out to implement a court decision. If the price of the movable objects is deemed insufficient to pay the debt owed to the creditor, then execution is carried out on the immovable objects, Table 3.

Table 3

Difference between movable and immovable objects		
How to get	Movabe objects	Immovable objects
Domination / <i>Bezit</i>	This can be done through <i>Bezit</i>	Cannot
Imposition/ <i>Bezwareing</i>	Through pawning, fiduciary, etc.	Through a mortgage
Handover/ <i>Levering</i>	It's real / <i>hand to hand</i>	Through a formal process in line with the provisions of Article 19 basic agrarian law
Expiring / <i>Venzaring</i>	Cannot	Through venturing
Confiscation/ <i>beslag</i>	<i>Executoir</i> (especially movable objects whose value does not cover the debt owed)	<i>Executor beslag</i> / must pass a court decision.

Registered objects are objects registered in a general register managed by an authorized agency. Unregistered objects are objects that are not registered in a general register. Registered objects tend to follow the rules of the immovable object game. This means that the difference between registered and unregistered objects lies in proving ownership. Registered objects are proven by proof of registration, which generally takes the form of a certificate or document in the name of the owner, such as motor vehicles, land, copyright, and so on [20]. One of the purposes of objects that must be registered, such as motorized vehicles, is to make it easier for the Government to exercise control, both in terms of orderly administration of ownership and payment of taxes. Meanwhile, for unregistered objects, it is difficult to know the legal owner of the object is, because the principle applies 'whoever controls the object is considered the owner' [18].

Based on their nature, motorized vehicles, within the scope of civil law studies regarding property, are included in movable objects which are also registered. Civil law, as stipulated in Burgerlijk Wetboek and the Civil Code, does not regulate gambling-registered objects like other types of objects. However, civil law in principle has given recognition to registered objects such as motorized vehicles, one of which is through the principle "as long as it is regulated in law", so concerning motorized vehicles in civil law they are considered moving objects because of their nature as well as registered objects because There is already a law that regulates that motorized vehicles must be registered, namely based on the tax law and the traffic and road transport law [21].

Based on Article 1 number 7 of Law Number 22 of 2009 concerning Road Traffic and Transportation, called Traffic and Road Transport Laws, A vehicle is a kind of transportation on the road that includes both motorized and non-motorized vehicles. Meanwhile, what is meant by motorized vehicles as explained in Article 1 number 8 Traffic and Road Transport Laws is any vehicle, excluding rail-driven vehicles, that is powered by mechanical devices such as an engine. Also based on Chapter VII concerning vehicles, types of motorized vehicles are divided into Article 47 (1) Law Number 22 of 2009 about Traffic and Road Transport Laws 'motorized vehicles and non-motorized vehicles'. Article 47 (2) Law Number 22 of 2009 about Traffic and Road Transport; Regarding the types of motorized vehicles are divided into several types, including; motorcycles, buses, passenger cars, cargo trucks, and other special vehicles. Then based on Article 47 (3) Law Number 22 of 2009 concerning Road Traffic and Transportation, motorized vehicles are grouped based on their function, namely individual and public.

Motor vehicles, as regulated in tax law, are all types of wheeled vehicles used on land roads and moved by motorbikes or other technical devices. The function of the motor is to convert certain energy sources, such as fuel, electricity, or other power, into vehicle propulsion. In the context of tax law, this definition includes; public and private motorized vehicles; Including cars, motorbikes, and other vehicles operating on highways. Towed and Attached Vehicles: Vehicle units towed by the main motor vehicle to transport goods or passengers. Heavy Equipment and Similar Vehicles: Equipment such as excavators, bulldozers, and other vehicles that use wheels and motors as propulsion, as long as this equipment is mobile and not permanently installed. Motorized Vehicles in the Air: Motorboats, speedboats, or other vehicles operating on water. This definition was created to ensure that all types of motorized vehicles that use technical power to move, both on land and in the air, are included in the objects of tax regulation and collection, according to their contribution to the use of public infrastructure and services [22].

Then motorized vehicles which in civil law are included in the type of moving objects because of their nature, also based on Law Number 22 of 2009 concerning Road Traffic and Transportation, motorized vehicles are included in the moving objects which must be registered. Namely by the provisions of part seven concerning registration and identification of motorized vehicles, article 64 of Law Number 22 of 2009 concerning Road Traffic and Transportation that every motorized vehicle must be registered, whether new motorized vehicles, changes in the identity of motorized vehicles and owners, renewal registration and validation. Registration of motorized vehicles has the aim of orderly administration; planning, operational management, engineering for road traffic and transportation, national development planning, and the regulation and oversight of motorized vehicles operated in Indonesia; to aid in the investigation of infractions and/or crimes [23].

Regarding the obligation to register motor vehicles, the government, through Law Number 22 of 2009 concerning Road Traffic and Transportation, used the Motor Vehicle Registration Management System to designate the Republic of Indonesia Police Agency as the implementer. Police forensics uses motor vehicle registration and identity data, which is a component of the Road Traffic and Transportation Information and Communication System [23]. The owner is then issued a motor vehicle owner's book, a motor vehicle registration certificate, and a motor vehicle registration number as evidence that the vehicle has been registered under the information provided to the authorized agency [23]. And to the owner, by issuing and giving these letters, the owner is charged with obligations including; registration and identification of motor vehicles, payment of motor vehicle taxes as well as the required contributions to the road transport and traffic accident funds [24].

Regarding the imposition of taxes by the state on motorized vehicles, especially individual motorized vehicles, it cannot be separated from the tax provisions as a source of regional income; as regulated in Chapter II, Part One concerning types of taxes, Article 2 (1) letter a of Law of the Republic of Indonesia Number 28 of 2009 concerning Regional Taxes and Regional Levies, stipulates that motorized vehicles are subject to provincial tax. In Article 1 number 12 which explains that The tax on motor vehicle ownership or control is known as the motor vehicle tax [25]. This is the basis for motorized vehicles as registered movable objects so that they have consequences both civil and administrative.

In civil terms, material rights to motorized vehicles can be through ownership rights (eigendom rights) and bezit/possession. Property rights over motorized vehicles as movable objects as well as objects that must be registered, based on *Burgerlijk Wetboek*, Traffic And Road Transport Laws, and the Tax Law, the property rights are not sufficient to bezit/possession alone, but the parties holding the property rights must be able to provide proof that they are registered goods. Bezit as regulated in article 529 s/d 568 *Burgerlijk Wetboek*; explained that bezit is compassion; it means that 'whoever controls an item is considered the owner'. Based on the provisions of article 529 *Burgerlijk Wetboek*, Bezit is the state in which an individual maintains or enjoys an object as though they were its owner, either directly or through a third party. Subekti then emphasized that the meaning of bezit is more of a state of birth (fact), where a person controls an object as if it were his own, without questioning who the object is [6].

Then in article 530 *Burgerlijk Wetboek*, it is stated more clearly that there are two kinds of bezit, namely those who have good faith (te goede trouw) and those with bad intentions (te kwader trouw). In this case, a bezit element is also needed; First, there must be a relationship between the thing and the person in question, or corpus; second, is animus, the relationship between a person and an object must be desired (there is a will) by the person to have it. This is related to the basic elements of a bezit holder, namely that those who can have bezit rights are people who are adults, mind, free not under coercion [26].

Motorized vehicles generally have an owner or an object that has an owner, so possession/control over a motorized vehicle that already has an owner, has two possibilities, namely with the help of another person who previously controlled it/the owner and without the help of other related people. Control with the help of the person who controlled it first/owner is called 'tradition control' or 'derivative control', namely through the transfer of the object in the form of control over property rights, pawning, use rights, rental rights, and the right to collect the proceeds depending on the agreement between the parties. Meanwhile, gaining control without the help of the person who controlled it first/owner is

called 'control without leveraging', for example controlling a motor vehicle found on the road, another person's lost motor vehicle. Based on the provisions of Article 1977 paragraph (1) *Burgerlijk Wetboek*, control acts as a basis for perfect rights. Thus the person who controls the object is the same as the owner [27].

Property rights as the basis for perfect rights are limited by paragraph 1977 (2), namely that the legal protection provided by paragraph (1) does not apply to lost or stolen objects. Looking at the provisions of the *Burgerlijk Wetboek*, Article 1977 more clearly regulates the expiry which frees you from obligations, namely whoever controls the movable object in question immediately will be free from the demands of the owner because the time limit/expiration has already passed [11].

This means that for an object, such as a lost or stolen object, *bezit* as a perfect right does not apply. Anyone who loses or has an object stolen, within three years from the time the object is lost or stolen, has the right to ask for the object back from its holder. However, if the holder of the object controls it because he obtained or bought it from a trader who usually trades in the object or at a public auction place, the owner who loses the object or has the object stolen must return the price of the object that the holder has paid or redeem it by the purchase price that has been paid [28]. This is also in line with Legitimacy Theory, namely that ownership rights to an item can only be legally transferred if someone obtains it from the person who has the right to transfer ownership rights to the item, namely the owner. It can be understood that in the context of property rights for motorized vehicles as movable and registered objects (registered objects), it is not only sufficient to possess/control the property rights but also requires administrative proof through valid ownership documents as determined by traffic law, the Tax Law; so that its control cannot be disputed or challenged by anyone.

4. Conclusions

Property rights are divided into 2 (two): material rights that provide enjoyment (*zakelijk genotsrecht*) and legal subjects' right to enjoy an object in full. These material rights are divided into two: 1) material rights that provide enjoyment of the object itself, for example; Ownership rights over land are regulated in the basic agrarian law, while those regulated in the Civil Code are, for example, ownership rights over movable objects/objects that are not land, *bezit* over movable objects/objects that are not land; 2) property rights that provide enjoyment of other people's objects, for example, Business Use Rights, Building Use Rights, Rental Rights, Harvesting Rights, and Management Rights over land, all of which are regulated in the basic agrarian law. Second, material rights that provide collateral (*zakelijk zakeheidsrecht*), including pawning rights; Mortgage of a ship weighing 20 m³; Mortgage right; and Fiduciary. Meanwhile, according to the Civil Code, objects are divided into tangible and intangible objects; movable and immovable objects; objects that can be used up and cannot be used up; objects that already exist and objects that will exist; objects in trade and outside trade; divisible and indivisible objects; registered and unregistered objects as regulated separately in the Mortgage, Fiduciary Rights Law, and objects in the name and not in the name. Based on the provisions of statutory regulations, property rights to motorized vehicles are by way of control/*bezit* as civil provisions are not sufficient because civil law principles recognize the existence of objects that may be regulated by other laws, such as motorized vehicles which are also included in movable objects. Including registered objects,

so that property rights require proof of ownership in the form of a document with the owner's name registered by the provisions of the law.

Conflicts of Interest: The authors declare no conflict of interest.

Reference

1. Djumikasih, R.; Sulistyarini, Y. E.; Widyanti, R.; Suwardiyati; Wicaksono, S. *Private Law: Textboot*. Brawijaya University Press, Malang, Indonesia, 2022, 95 p. [in Indonesia].
2. Muhammad, A. *Indonesian Private Law*. PT Citra Aditya Bakti, Bandung, Indonesia, 1993, 137 p. [in Indonesia].
3. Asyhadie, H. Z.; Kusumawati, R. *Guarantee Law in Indonesia*. Rajawali Pers, Depok, Indonesia, 2018, p. 91. [in Indonesia].
4. Soedewi S.; Sofwan, M. *Civil Law Security Rights to Land*. First Edition. Liberty, Yogyakarta, Indonesia, 1981, p. 24. [in Indonesia].
5. Van Apeldorn, L. J. *Introduction to Law*. Translated by Mr. Oetarid Sadino, XVI Edition. Pradnya Paramita, Jakarta, Indonesia, 1980, pp. 214-215.
6. Subekti, S. *The Basics of Civil Law*. PT. Internusa, Jakarta, Indonesia, 2001, p. 54. [in Indonesia].
7. Marzuki, P. M. *Legal Research*. Kencana, Jakarta, Indonesia, 2014, p. 92. [in Indonesia].
8. Usanti, T. P. *Civil Law Textbook*. Law Faculty of Airlangga University, Surabaya, Indonesia, 2012, p. 20. [in Indonesia].
9. Badruzaman, M. D. *Looking for a National Property Law System*. Alumni, Bandung, Indonesia, 2010, p. 33. [in Indonesia].
10. Simanjuntak, P. N. H. *Indonesian Civil Law*. First edition. Kencana, Jakarta, Indonesia, 2025, p. 187. [in Indonesia].
11. Tjitrosudibio R.; Subekti, R. *Civil Code*, translation of Burgerlijk Wetboek. Prandya Paramita, Jakarta, Indonesia, 2006, p. 115 [in Indonesia].
12. Fialová E.; Matejka, J. Data Protection and Privacy Issues in The Use of Autonomous Vehicles. *The Lawyer Quarterly* 2022, 12(4), pp. 408-415.
13. Indonesian Burgerlijk Wetboek. Available online: <https://www.hukumonline.com/pusatdata/detail/17229/burgerlijk-wetboek/> (accessed 24/08/2024).
14. Burgerlijk Wetboek in conjunction with Article 60 of Law No. 17 of 2008 concerning Shipping. Available online: <https://natlex.ilo.org/dyn/natlex2/natlex2/files/download/80281/IDN80281%20Idn.pdf> (accessed 25/08/2024).
15. Law of the Republic of Indonesia Number 4 of 1996 concerning Mortgage Rights on Land and Objects Related to Land. Available online: <https://peraturan.bpk.go.id/Details/46093/uu-no-4-tahun-1996> (accessed 25/08/2024).
16. Law of the Republic of Indonesia Number 42 of 1999 concerning Fiduciary Guarantees. Available online: <https://peraturan.bpk.go.id/Details/45374/uu-no-42-tahun-1999> (accessed 10/09/2024).
17. Meliala, D. S. *Development of Civil Law Concerning Objects and Contract law*. Nuansa Aulia, Bandung, Indonesia, 2015, pp. 4-5.
18. Syahrani, R. *Ins and Outs and Principles of Civil Law*. PT. Alumni: Bandung, Indonesia, 2006, pp. 36-109. [in Indonesia].
19. Sudrajat, D. D. *Principles and Classification of Object Law*, First edition. Yrama Widya, Bandung, Indonesia, 2019, pp. 211-221. [in Indonesia].
20. Isnaeni, Moch. *Aircraft Mortgage in Indonesia*. Dharma Muda, Surabaya, Indonesia, 1996, p. 19. [in Indonesia].
21. Nantoi, V.; Nantoi, D.; Pădure, O. Models for Real-Time Traffic Flow Manageability and Decision-Making in Intelligent Transportation Systems. *Journal of Social Sciences* 2024, 7(3), pp. 35-70.
22. Law of the Republic of Indonesia Number 28 of 2009 concerning Regional Taxes and Regional Levies. Available online: <https://peraturan.bpk.go.id/Details/38763/uu-no-28-tahun-2009> (accessed 30/09/2024) [in Indonesia].
23. Law Number 22 of 2009 concerning Road Traffic and Transportation Indonesia. Available online: <https://peraturan.bpk.go.id/Details/38654/uu-no-22-tahun-2009> (accessed 06/10/2024) [in Indonesia].
24. Habiburrahman, M.; Fadli, M.; Hamidah, S.; Djumikasih. Form of Constitutional Rights of Wife and Children as Victims of Sirri Polygamy. *Journal of Social Sciences* 2023, 6(2), pp. 159-171.

Citation: Ali, M.; Kusumadara, A.; Hadiyantina, S.; Kusuma, D. A. S. Property Rights to a Motor Vehicle from a Theory of Legitimacy Perspective. *Journal of Social Sciences* 2025, 8 (2), pp. 217-232. [https://doi.org/10.52326/jss.utm.2025.8\(2\).16](https://doi.org/10.52326/jss.utm.2025.8(2).16).

Publisher's Note: JSS stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright:© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Submission of manuscripts:

jes@meridian.utm.md