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Contents

Articles

In-Service Training of Local Servants in Croatian Local Self-Government: between old Habits and new Ideas Gordana Marčetić, Tijana Vukojičić Tomić, Iva Lopžić	6
Evolution of the Thoughts of Public Administration and Its Understanding Following the Perspectives of Political Science, Management and Law Bacho Bitari Khuroshvili	20
Globalization: Does it have Effects on Nigeria’s Governance System? Adeleke Adegbami, Charles I. N. Uche	32
The Digital Services Act and the Problem of Preventive Blocking of (Clearly) Illegal Content Marcin Rojszczak	44
Studying the Role of Quality of Governance, Renewable Energy and External Monetary Assistance and Their Repercussions on the Ecological Footprint in the Context of Djibouti Kadir Aden	60
The Efficacy of Public Order Training in Improving Performance of District Reaction Groups (DRGs) in the Zimbabwe Republic Police, Mutare Central District, Manicaland Province, Zimbabwe Admire Mthombeni, Tafadzwa Changara, David Chibhoyi, Nyasha Makiwa, Christabel Nyathi, Patrick Karibe	99
Metropolization Process in the Polish and French Local Governments Monika Augustyniak	111
Emergence of Digitalization and Artificial Intelligence in the Intellectual Property System Gábor Szilágyi, Judit Gyarmathy.	122

Book Review

Kálmán János (Ed.), A pénzügyi jog alapintézményei (ORAC, 2022) Bettina Kozák.	143
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ARTICLES



In-Service Training of Local Servants in Croatian Local Self-Government: between old Habits and new Ideas

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Abstract

The purpose of this paper is to research methods of in-service training of local servants in Croatian local self-government. The research conducted in the paper aims to contribute to scientific literature given that this area is relatively poorly researched and to determine to what extent the in-service training model is in accordance with the strategic model of human potentials development. To determine this, a legal analysis, an assessment of available documents on training programs and reports on local budgets in Croatian cities is being carried out. To examine more deeply the trends in the training of local servants and to answer the paper research question, a questionnaire was sent to Croatian cities. It is concluded that the importance of local servants training, which the scientific and professional literature strongly emphasizes, has not yet been recognized in Croatia as the legal framework does not emphasize the importance of training nor encourage its modernization, while at the same time very little funds for training are allocated from local budgets. The analysis of the questionnaire shows that the new trends in the training of local servants are very poorly represented and that ultimately the traditional (administrative) model of human potentials management still prevails in Croatian local and regional self-government.

Keywords

local self-government in Croatia, local servants, human potentials management, in-service training, strategic model of human potentials management, new trends of in-service training

1 Introduction

In-service training is a key segment of human potentials management (hereinafter: HPM)¹ in public administration. Most developed countries established training systems for public servants after the 1960s (OECD, 1997, 7; Marčetić, 2007, 230), while transition countries began somewhat later, during the 1990s after the fall of the socialist system, following the example of Western European countries.

Modern organizations operate in a changing and dynamic, globally competitive environment and are exposed to continuous advances in technology and innovation, which leads to changes in the meaning of human potentials development (Marčetić, 2007, 249–250). With the exception of senior specialists and key staff, employees became more easily replaceable and available, which is why they must find effective ways to apply and adapt their knowledge and skills to the changing circumstances in the workplace. The traditional approach to HPM was based on organizational stability, and education and training was relatively balanced and focused on employee career development. The contemporary meaning is much more complex, broader, and focused on the strategic development of staff.

Previous empirical research in the field of human potentials management in local self-government (LSG) of the Republic of Croatia shows that elements of traditional, administrative personnel management prevailed in many areas. In addition, legal shortcomings and gaps have opened space for political and/or discretionary decisions of heads of office or managers, which is a feature of the pre-Weberian, political model of personnel management (Marčetić, 2013, 191–192). These include the field of in-service training, which was not conducted in accordance with a well-thought-out HPM strategy and organizational needs, but rather *ad hoc*, according to uneven and discretionary criteria.

Given that the field of in-service training of public servants in LSG administrative bodies (hereinafter: local servants)² is relatively poorly researched, this paper seeks to determine whether local Croatian units have recently adopted new methods of in-service training in accordance with the modern trend of human potentials management which are linked with human potentials planning, strategic and organizational goals, competency models, etc. These methods have been used for a long time in the public administration of many other countries that have introduced elements of the strategic HPM and are gradually being introduced in the Croatian central civil service.

In methodological terms, to examine the possible application of new trends in the training of local servants, the legislative framework and available documentation are analyzed alongside an overview of the official gazettes of local units and their websites. Special emphasis is placed on training programs for local servants and officials in local self-government and reports on local budgets. To analyze the local system of in-service training, a questionnaire was sent to all Croatian cities. The analysis carried out makes it possible to draw conclusions in two directions: (i) whether the traditional approach to the in-service training of local servants prevails in Croatian local units, and (ii) whether new methods of in-service training have been introduced.

¹ The authors used the term “human potentials management” due to its developmental and human meaning, unlike the instrumental and utilitarian term “human resources management” used in economic and managerial literature.

² In this paper, the term local servants will be used for public servants employed in administrative bodies of local and regional self-government units.

2 From traditional to strategic human potentials management approach

The basic feature of the HPM function within the traditional (administrative) approach was centralization and formalization with the central personnel department designed to primarily deal with operational personnel activities and legislation of public servants (Op de Beeck et al., 2021, 60–61; Koprić et al., 2021, 164). The administrative model corresponds to the concept of traditional, Weberian administration and is based on legal and democratic values. Personnel service is centralized, the status of public servants is secure and protected by law because the personnel function is considered a social responsibility (Marčetić, 2007, 108–111). This was followed by the managerial model promoted within the New Public Management (hereinafter: NPM) doctrine, which is based on economic values and market-oriented approach in the public sector. NPM has completely changed the values and goals of the old traditional administration that began to resemble the private sector. Regarding personnel function, its basic features are decentralization of previously centralized personnel administration, increased management autonomy and flexibility and use of outsourcing. Managers are individually responsible for the result, the status of staff is precarious, the employment relationship is flexible and there is a greater emphasis on special skills and abilities, and not on formal education as in the traditional model (Op de Beeck et al., 2021, 60–61, Marčetić, 2007, 108, 112–114).

A strategic approach to HPM appeared in late 1980s under the influence of NPM but was developed at the beginning of the 1990s, after the managerial concept had already displayed certain weaknesses. An integral or strategic model was developed under the influence of the New Public Governance doctrine as a renaissance of traditional public sector values of legitimacy and accountability within the sustainable HPM. It seeks to combine the favorable aspect of the administrative model (acting in accordance with the rules and public interest) and the managerial model (organizational and individual efficiency and effectiveness, performance), while also introducing some new elements that were not represented in the previous models, such as strategic leadership, creation of networks, more active participation of citizens and employees, etc. Therefore, it represents democratic, legal, economic, and social values and thus the status of public servants is flexible, but within the legal rules that protect their rights (Marčetić, 2007, 114–117). Given that it borrows the best of each of both worlds, it is the most viable and relevant model for HPM in public organizations. In this model, the HPM function is combined and decentralized at all managerial levels, but central HPM departments determine strategy and coordinate HPM practice within each organization. Activities that can benefit from such collaboration between personnel bodies and line departments include designing and managing assessment centers, hiring key personnel, and restructuring organizational classification systems (Condrey, 2005, 6–13.; Marčetić, 2007, 114–117).

The strategic model stresses the need of systematic development of human potentials to achieve the strategic goals of organization, organizational competences and efficiency (Beaumont, 2002, 16–19) and represents an integral approach primarily related to strategic human potentials planning (Op de Beeck et al., 2021, 60–61). The most popular usage of the term strategic concerns “the need for an explicit (two-way) linkage between the *substantive* nature of human resource decisions and the *substantive* nature of the external, competitive strategy of the individual organisation” (Beaumont, 2002, 17). This means that HPM determines the successfulness of an organization’s business strategy, while the organization’s business strategy determines the goals, sets the models, and directs the development and methods of HPM. Thus, an organization has two strategies: external, with the purpose of finding ways for competitiveness on the market, and internal, which is oriented towards development, motivation, and the control of internal potentials (Beaumont,

2002, 16–19). This should in turn result in better productivity and performance. To achieve this, organizations must develop two types of human potentials strategy – a general and a series of specific strategies. Collectively, they form a model of strategic management of human potentials. The general strategy refers to an HPM in which business and strategic goals are achieved, and the organization's performance is increased, setting the boundaries and basis for specific HPM strategies. Specific strategies determine 'what' needs to be done in order to achieve the given objectives and include staffing, human potential development, talent management, knowledge management, competence management, performance management and diversity management (Bahtijarević-Šiber, 2014, 58–68).

Despite the many positive aspects of the strategic management of human potential, one should bear in mind that this concept is primarily conceived as a notion in the private sector to enhance the competitiveness of organizations in the market. However, public organizations cannot decide autonomously on the strategic components as organizations in the private sector can. The issues of the mission, objectives, content and financing activities of public organizations, as well as ways for evaluating the execution of tasks, depend on political decisions and numerous conflicting interests that arise from competing values in public administration. In determining the strategies of public organizations, the environment is a crucial factor, while the problems related to HPM in public administration are political rather than technical in nature. In this sense, the strategy-making process is more complex, and the effects it would produce are less predictable (Marčetić, 2007, 166–171).

In accordance with the strategic model of HPM, the general approach to in-service training includes assessing the candidate's training needs in relation to strategic, organizational, and individual goals, the use of the competency model to assess the training needs of individuals, assessing the content and duration of training in relation with workplace needs and connecting training with other methods of HPM (advancement, pay promotion, transfer etc.). Also, several new trends and methods have been developed which will be discussed in the following chapter.

3 Human potentials development in public administration

3.1 Education and training in traditional public administration systems

The need for the education and training of public servants has long been recognized. Following the 1960s, many developed countries established systems for the education and training of public servants. The continental countries of Western Europe, Germany and France in particular, played a leading role in these processes due to their traditional understanding of work in public service as a lifelong career (Marčetić, 2007, 230). In countries with a career civil service system, initial pre-service training, which provides a general framework for working in the public service, and adaptive training, which prepares the candidate for specific functions after or before advancement, prevailed. On the other hand, the Nordic and Commonwealth countries with position-based systems more highly valued specialist knowledge for individual positions, and each specialist had to continuously improve and develop their skills with regard to new technologies and the development of the profession (OECD, 1997, 7). These differences began to disappear over time. Rigid career systems became more flexible and began introducing programs focused on the continuous training of public servants, while position-based systems began introducing some forms of initial and adaptive training, particularly for managers.

However, in the 20th century, there was no continuity in the training and development of public servants not even in the developed countries of western democracies and instead it was

mainly focused on short-term goals of improving the current work performance. The exception was senior civil servants whose careers were carefully planned in some civil service systems such as Germany, Iceland, Japan, Mexico, Sweden and USA, which developed a coherent lifelong learning strategy, while, for example, Australia developed lifelong learning as part of a performance management system (OECD, 2004, 9). On the other hand, post-socialist countries started to establish modern education and training systems only after the fall of socialism, which was one of the conditions for joining the EU. Unlike Western democracies that introduced managerial methods into solidly formed traditional civil service systems, Eastern European countries had yet to establish a classic, Weberian administration, so their goal was also different – the establishment of a professional and depoliticized administration (Marčetić, 2007, 232–233). These education and training programs were mostly implemented partially and ad hoc, not as part of an integral system. Most of the post-socialist countries did not have elaborate public administration strategies and therefore no strategies for the education and training of public servants. For the most part, they did not carry out detailed analyses of the current situation with regard to the competencies of public servants and related training programs, or systems for evaluating the results of such programs (Serban, 2002, 38).

3.2 Shifts in human potential development approach

Modern changes in the market environment, the introduction of new technology and changes in organizational characteristics have significantly influenced new approaches to the education and training of public servants. Many countries have introduced legislation, regulations, initiatives, etc. to influence the level of training and development in organizations. They reflect the widespread opinion that the absence of such activities hinders the competitive performance of the entire national system. The training and development of public servants is seen as an important factor in strengthening organizational performance and the responsibility of public administration (OECD, 2004, 9), as well as a necessary element in the development of the individual careers of public servants. It should generally contribute to implementation of administrative reform and modernization, and more particularly to the adaptation of skills and qualifications to improve performance, increasing efficiency while reducing costs, promoting horizontal mobility, flexibility, and adaptability, improving staff motivation, improving HPM, improving relationship and services provided to the public, supporting staff-development, and developing international cooperation (OECD, 1997, 8–9).

According to Thunnissen and Sanders, the public sector is confronted with several challenges in connection with the changing environment, such as ageing workforce and labor shortage, the importance of the continuous development of skills and lifelong learning, competitiveness in the labor market etc. (Thunnissen & Sanders, 2021, 119). Broader societal changes place new demands and challenges in HPM on organizations and management structures in organizations (Bahtijarević-Šiber, 2014, 13). The economic paradigm and conception are changing, so intellectual capital is becoming an increasingly important part of organizational ‘assets’ and the strategic role of HPM; globalization in the context of increasing competitiveness places demands on new skills and competencies; the development of information technology requires new knowledge and knowledge management; demographic changes, such as population ageing, requires different approaches and ways of HPM.

In a dynamic environment, the approach to HPM is changing from an initial focus on pre-service qualifications and the very beginning of a career in (ultra) stable organizations to a strategic approach that requires continuous training, new skills, learning new concepts and

changing management style and system. Gradually, the importance of training shifted from the individual to the team and organizational level with the aim of improving individual, group, and organizational performance to Thunnissen & Sanders, 2021, 121). The traditional approach is complemented by a modern understanding that considers the individual careers of public servants and links the development of the individual to organizational development (Vukojičić Tomić & Lopižić, 2019, 74–75). In this sense, careers are not the sole responsibility of either an individual or an organization, but rather a process of a series of connected and coordinated activities in which the individual and the organization participate together (Marčetić, 2007, 251).

An important factor on which the success of professional development of employees depends on is the choice of appropriate training methods. The key question for choosing a method is: what should be learned? In order to create a program with the greatest effect, it is necessary to combine certain methods: lectures, discussion methods and conferences, printed material, practical and feedback techniques (writing information, questions, exercises, simulations, tests, role-playing, etc.), the application of technology or various audio-visual techniques, behavioral shaping methods such as mentoring, internship, job rotation, counselling, etc. (Marčetić, 2007, 242–245). In the development phase of the training program, the assessment of training and development needs is carried out at three levels: organizational, departmental, and individual (Van Wart, 2005, 276–283). In the past, training was mainly focused only on the individual and departmental level, while in recent times the analysis of organizational needs has become equally important. Data collected and evaluated in the needs assessment phase are crucial for creating a targeted and appropriate training program. The end product – training objectives, content, methods and techniques – must be agreed on by the training institution and the management of the organization seeking training for its employees (OECD, 1997, 19).

3.3 New trends and practices in human potentials development

The HPM cycle includes standard (traditional) functions, while in modern times, due to the challenges and changes described above, new trends are emerging due to strategic orientation. There are four basic categories of standard functions: human potentials provision (planning, recruitment, selection, employment), education and development, motivation and reward (monitoring and evaluation, motivation, reward, benefits), human potentials maintenance (safety and health, organizational culture, retention), communications and employee relations, services). In modern times, their scope and methods are changing, so we are talking about strategic management instead of ensuring human resources, while the new functions include competence management, knowledge management, diversity management, performance management, and talent management (Bahtijarević-Šiber, 2014, 21–24).

As the purpose of this paper is to examine whether new ideas and trends of HPM are applied in Croatian cities and whether these topics are included in local servants training, some of these trends and functions are briefly explained. The choice of trends that were examined by the research was preceded by a desk analysis that showed which trends are represented in national and local policies and strategic documents. This analysis showed that the competence model and diversity management are applied in the Croatian public administration at the national and local level, with different dynamics and modalities. As we will see later in the text, the competency model is being implemented in the state administration, and its application has also begun in local units. The application of different instruments for diversity management is the result of highly developed anti-discrimination legislation and public policies that, among other things, include the protection of certain social groups that are in an underprivileged

position and, consequently, the application of special measures for their employment in public administration. In addition, since 2017, Croatia has been a signatory of the Charter on Diversity of the European Union³. Knowledge management becomes a very important factor in conditions when the Croatian public administration has problems attracting new and appropriately skilled staff, as well as retaining existing staff (Marčetić et al., 2020).

The idea of *competence management* evolved in the 1980s influenced by managerial reforms. Following the example of those in the private sector, competency models have begun to be introduced in public sector organizations as key tools in many areas of HPM – from recruitment, evaluation, remuneration, to career planning and the development and training of civil servants. It identifies the competencies of public servants that will ensure the achievement of the organization's strategic goals and can be developed for the entire organization or only for certain units, functions, work processes or jobs within the organization (OECD, 2010, 22). Public servants acquire certain input knowledge, specifically related to the service, which related to personal motives, self-image, social role or skill make generic or input competencies (Bahtijarević-Šiber, 2014, 127–128). These are not necessarily related to work performance. The authors distinguish them from performance competencies or professional competencies that make up specific knowledge, skills and traits required by a job or role. This type of competencies has the greatest impact on job performance. Regarding the training and development of HR in public administration, it is possible to single out several key steps in the management of competencies (OECD, 2010, 30–41). First, it is necessary to conduct an analysis of the 'gap' or the lack of competencies and the necessary competencies, which is done in the phase of assessing the needs for learning and training. The second step determines the personal development plan for each employee, which lists the specific competencies that the employee needs to develop for better work performance. In the third step, based on the identified specific competencies for each employee, development goals and learning activities/methods (workshops, courses, etc.) are developed.

Knowledge management is a relatively young field that gained attention at the end of the last century (Colnar & Dimovski, 2017, 146). In today's knowledge society, one of the most important tasks of modern organizations is the constant increase of knowledge and maximum use of knowledge of employees (Bahtijarević-Šiber, 2014, 219). Knowledge management is considered a key strategic resource both for raising organizational performance and for creating competitive advantage and introducing innovation in the organization. Today, public administration organizations are facing a real problem of losing a significant amount of tacit (*know-how*) knowledge with the retirement of employees. Therefore, the sharing of this type of perhaps the most important knowledge and its codification, where possible, is becoming increasingly important (Colnar & Dimovski, 2017, 147). Knowledge management is a cycle that includes several related phases: knowledge acquisition and creation, knowledge storage and preservation, knowledge transfer and sharing, and knowledge use and application (Bahtijarević-Šiber, 2014, 231). There are several methods of knowledge transfer and sharing that refer to training, among other things. These include standard methods (for the transfer of explicit knowledge such as lectures, presentations, case studies, etc.) stories (storytelling of real and imagined events), communities of practice (groups of professionals who share common interests in communication for the purpose of sharing knowledge) and social networks (organized gathering of informal relationships between persons, groups or organizations). However, prescriptive models for knowledge management in public administration are very

³ More information on Croatian diversity charters can be found at: <https://www.hrpsor.hr/povelja-o-raznolikosti/>

rare due to varying degrees of bureaucracy and hierarchy between countries and administrative traditions, therefore it is mostly a modification of models used in the private sector (McEvoy et al., 2015).

In response to the growing diversity of modern societies, various approaches of *diversity management* have emerged. The first approaches appeared as early as the 1960s, through Equal Employment Opportunity (EEO) and Affirmative Action (AA) policies. These approaches are mostly based on the adoption of binding acts that force organizations to employ members of all minority groups in each country. Since the 1980s, diversity management has emerged as an approach based on the voluntary management of HR diversity in organizations and the recognition of the benefits of diversity in human resources for organizations. Diversity management is based on the broadest understanding of the concept of differences and includes a number of measures to ensure the employment of different individuals, but also to ensure the permanent management of such differences in order to benefit the organization (e.g., better organizational performance), employees (e.g., greater satisfaction) and service users (e.g., greater focus on the needs of users and consumers). The diversity management approach is included in various HPM methods. As the approach emphasizes the connection between the introduction of diversity management practices and organizational performance, diversity management is integrated into strategic HPM (Vukojičić Tomić et al., 2021, 310). Measures that benefit the diversity management approach are diverse in nature, from providing support to the leadership of the organization that supports the concept of diversity and introducing changes to the organization (e.g., through the adoption of diversity charters that advocate for employee diversity management); introducing and educating employees about diversity; various measures to monitor the results of the introduction of diversity policies and their impact on cultural change in the organization and organizational results (e.g., research of employees' attitudes towards diversity) and creating an organizational culture that supports diversity (e.g. through organizational change, mentoring programs, building common values and identity organizations) (Bahtijarević-Šiber, 2014, 377, Kellough & Naff, 2004). Training on diversity should include three components: familiarization with the legal framework (e.g. on discrimination), increasing understanding and acceptance of differences between people, creating diversity sensitivity. This can include, for example, role playing, self-awareness programs about one's own prejudices and stereotypes, and difference awareness where participants learn about others who differ on various grounds (e.g., language, culture, gender, age) (Bahtijarević-Šiber, 2014, 386–387).

4 Training of local servants in Croatian cities

Croatia is a centralized, unitary state with two tiers of self-government units: the first layer comprises municipalities (428) and cities (128) as local self-government units and the second comprises counties (20) as territorial (regional) self-government units. The basic features of Croatian local self-government system include the complexity of territorial organization, its insufficient stability, imbalance, insufficient efficiency, weak developmental potentials, and centralistic model of governing the state (s. more in Koprić, 2010). The number of cities in Croatia increased from 69 in 1993 to 128 in 2022. Parallel to this process, the number of local servants has been constantly increasing. In 2020, there were 11013 local servants in Croatian cities (Ministry of Finance, 2023) compared to 5443 local servants in 1995 (Marčetić & Lopžić, 2017, 417). The more detailed analysis of the growing number of local servants in Croatian cities indicates that there were discrepancies in the increase of their number among Croatian

cities which indicates that this trend was not only a result of the broadening of cities' scope of competence, but also of internal factors, and possibly of unnecessary and non-transparent employment in some cities (Marčetić & Lopžić, 2017, 429).

Previous research on local servants' training in Croatian local self-government units showed the growing number of activities aimed at local servants' training (e.g. numerous seminars, round tables, conferences, lectures, workshops) covering an array of diverse subjects (new legislation, finance, strategic planning and management, utilities, economic development, use of EU funds, communication with citizens and NGOs, building partnerships, etc.). However, there was a lack of a systematic approach to local servants' training since these activities had been offered on an *ad hoc* basis, without prior impartial analysis of existing needs for training that would consider specifics of individual local self-government units. Also, the insufficient coordination between the various training providers led to the overlap of the same or highly similar activities in individual municipalities, cities, and counties, while at the same time in other units such activities were not carried out at all. Finally, the lack of a standardized approach (in terms of content / topics, approach / methodology and expertise of the trainers) led to the varying quality of educational activities of the same content directed to the same user group (Kovačić, 2007, 320–321).

The act on local and regional self-government⁴ as a systematic law on Croatian local self-government system provides that local servants are to be supported by continuous in-service training through courses, seminars, and schooling based on the strategy and plan of local civil servants' training adopted by the Government on the proposal of the national alliance of local units and the ministry of public administration (art. 56b). The more detailed provisions on local servants training are prescribed by the Act on local servants and employees in local and regional self-government⁵ that was adopted in 2008. The Act contains several provisions related to the training of local servants including general provisions (art. 81–84) and provisions on internship (art. 85–93). However, these provisions are mostly on the level of recommendations and general principles. E.g., the Act stipulates that “local servants will be encouraged to undergo continuous professional training” (art. 81) and that “local servants are obliged to undergo continuous training for their jobs through workshops, courses, seminars, etc. and that their superiors are obliged to enable them to attend organized programs” (art. 82). As the Act does not specify these provisions or prescribes sanctions for their non-compliance, their meaning has a declarative nature (Marčetić & Lopžić, 2017, 426). Furthermore, the training of local servants is financed through local budgets (art. 84) that often do not have sufficient financial means for this type of expenditure. The Act only explicitly obliges trainees and employees who have been admitted to the local service with work experience for more than 12 months and have not passed the state professional exam (excluding persons who have passed the bar exam) to pass the state professional exam (art. 88 and art. 93). The Act on salaries in local and county (regional) self-government⁶ contains no provisions related to rewarding or promoting local servants for the successful completion of training programs. In 2017, the Act on the system of strategic planning and development management of the Republic of Croatia was adopted (Official Gazette 123/17), obliging local units to adopt strategic development plans

⁴ Official Gazette, 33/01, 60/01, 129/05, 109/07, 125/08, 36/09, 36/09, 150/11, 144/12, 19/13, 137/15, 123/17, 98/19, 144/20.

⁵ Official Gazette, 86/08, 61/11, 4/18, 112/19.

⁶ Official Gazette, 28/10.

that could have incited local units to adopt a more strategic approach to local management and consequently relating HPM practices with strategic goals.

Just as many other countries such as Austria, Cyprus, Finland, France, Germany, Greece, Hungary, Latvia, and Romania (Thijs et al., 2018, 26), Croatia established the State School of Public Administration as a separate national institute for the training of public officials in 2012. Prior to this, from 2006 to 2012, the training of local servants was organized at the Academy of Local Democracy, a training school specialized in the training of local servants. In practice, this institution was inefficient in its work that led to its abolition (Marčetić & Lopžić, 2017, 427). The State School of Public Administration provides following trainings: EU programs, public policies, special programs, programs of public management, public procurement, program for senior officials, and training of trainers (State School of Public Administration, 2022, 4). During the period of 2011 to 2014, the State School of Public Administration conducted 529 programs attended by 12,021 civil servants. Of these, 73 programs were attended by 1,692 local servants working in cities and counties. Some programs were intended for senior civil servants (leadership and management, strategic planning), while others were intended for civil servants (administrative procedure in practice, organization and conduct of meetings, specifics of the EU budget, etc.) and trainees (preparation for taking the general part of the state professional exam) (Marčetić & Lopžić, 2017, 427). The information gathered from the interview conducted with the deputy director of the State School of Public Administration conducted in 2022 indicates that the School played the greatest role in training of senior local civil servants, starting from the European Union IPA project “Establishment of a training system for good governance at the local and regional level” in 2012. The series of trainings took place in 2016/2017, 2017/2018, and 2018/2019 and were attended by 83 senior local civil servants. The training has diverse content, from good governance, European projects, local development, ethics and integrity, and individual coaching.

The data on the execution of local budgets (Ministry of Finance, 2023) provides interesting insights into the financial means Croatian local self-government units spend on the training of their local servants. Compared to county and municipal governments, Croatian cities spend less on the training of their local servants (only 0.04% of the city budget compared to 0.05% of the county, and 0.11% of municipal government budget). These financial means decreased over time: in 2005, they spent 0.07% of the local budget on training while in 2010 they spent 0.1% of the budget on training. However, in 2015 they spent the same amount on training as in 2020, a year marked with COVID-19, which might indicate they would have spent more financial means on training if the circumstances had remained unchanged. Additionally, an analysis of financial resources spent by local units spend on the training of each local servant shows that cities had more money to spend on the training of each local servant (1.018.23kn in relation to 320.15kn in municipalities and 816.33kn in counties in 2005). However, this amount drastically decreased. In 2020, cities could only spend 562.12kn per local servant while municipalities could spend 599.64kn and counties 576.05kn.

To examine whether Croatian cities adopted a strategic approach and new practices in the training of local servants, a questionnaire was dispatched to all Croatian cities. More specifically, the questionnaire examined: (1) whether there is a strategy or long-term training plan, (2) what are the criteria for sending local servants for training and areas of benefit from training, (3) whether training is related to other methods, (4) the fields of training programs, and (5) whether new HPM methods are applied in the training of local servants. Of 128 cities in Croatia, 48 cities (38%) answered the questionnaire.

The analysis of the answers from the questionnaire shows that the majority (83.3%) of cities have not adopted any strategy or long-term plan for the local servants training except for the City of Zagreb which is the capital of Croatia and has a twofold status of city and county. It should be noted that the City of Zagreb employs more than 1/3 of the total number of local servants in Croatia. Only five cities (10.4%) indicated that they are preparing or are developing a long-term training plan for their employees.

The data collected by the questionnaire indicates that most cities (79.2%) do not link the training of local servants to other HPM methods. The training of local servants is only associated with salary increases or salary bonuses in a single surveyed city, while in two cities this is linked to a transfer to a managerial position. In the ten cities surveyed, training was associated with promotion. Given that most cities in Croatia do not have a special HPM city office, the decision on local servants training is the responsibility of the mayor (42%) or the head of city offices (58%). The main criteria for sending employees for training include both the needs of the workplace (58.3%) and new circumstances in the workplace such as the adoption of a new regulation or the introduction of new technology (54.2%). A smaller number of cities expressed the interest of their staff as a criterion for training (27.1%), and it is particularly interesting that only three cities cited insufficient knowledge and skills of their staff as a criterion for training. Therefore, it can be concluded that the system for assessing the needs of candidates for training is insufficiently developed in Croatian cities.

Croatian cities see the greatest benefit from training in increasing efficiency in performing work tasks (89.6%). A smaller number of cities stated the satisfaction of their staff due to the possibility of professional development (29.2%), and only 14.6% of cities cited the satisfaction of citizens with the services provided. In terms of the fields of training programs, cities mostly opted for law (64.6%) and economy (75%), while only six cities saw the need to develop IT skills. Foreign languages or management methods (e.g., project management) have not been recognized as areas where local servants are trained. In only 37.5% of cities, local servants are sent to the State School of Public Administration for training, while other cities rely on the services of consulting firms and private schools and institutions. Only two cities have in-house training. Regarding new HPM methods and their application in the training of local servants, as many as 75% of the surveyed cities failed to introduce them. Ten of the surveyed cities introduced a competency model (20.8%), only 3 cities introduced knowledge management, and one city introduced diversity management.

Given that the results of the research showed that of all the new trends in the training of local servants, only the competency model is being gradually introduced, the reasons for this were additionally examined. The competency model for the training of local servants is a result of the “Development of the Competence Framework for Public Administration Employees” project funded by the European Union and implemented by the Ministry of Justice and Public Administration, which was launched in 2019 and completed in 2022. The aim of the project was to implement the competency framework for public administration and bring about the preconditions for the establishment of HPM in public administration based on the newly established competencies. The State School of Public Administration has recently provided series of trainings on the implementation of the competency model in public administration both for senior civil servants and other civil servants working in state government, local self-government, and public services.

5 Conclusion

The in-service training of public servants, as a key segment of human potentials development, is a continuous process of acquiring knowledge and skills and its ultimate purpose is to improve work performance and achieve organizational goals. In addition, it is important for motivating employees and retaining quality staff but also contributes to creating shared values within the organization. Thus, the entire individual career is associated with organizational development to boost organizational performance, which corresponds to the strategic model of HPM. Integral or strategic models seek to combine the advantages of both the administrative and the managerial model, while also introducing some new elements, such as strategic leadership, creation of networks, more active participation of citizens and employees, etc. It emphasizes the need for the systematic development of human potentials to achieve the strategic goals of organization, organizational competences, and efficiency.

The purpose of this paper was to determine to what extent the in-service training model in Croatian local units is in line with the strategic model of HPM. Specifically, the research covers the following methods: assessing the candidate's training needs in relation to strategic, organizational, and individual goals, assessing the content and duration of training in relation to workplace needs and connecting training with other methods of HPM, and other new trends and methods by using the competency model to assess the training needs of individual, competence management, diversity management and knowledge management.

An analysis of the legal framework for the training of local servants in Croatian local self-government has indicated that it does not emphasize the importance of the training of local servants as a method of HPM, nor does it encourage its modernization. Local units are not legally obliged to adopt a strategic plan for the training of local servants and there is no connection between training and other HPM methods in the normative sense. For this reason, the strategic approach to training and the introduction of new training methods reflect the proactivity and motivation, and often the financial capabilities of individual cities. Additionally, the data from the budget analysis show that Croatian cities allocate very little funds from their budget for training, and the fact that this amount is continuously decreasing over time is of additional concern.

The results of the questionnaire show that there is no strategic approach to training in Croatian cities in line with strategic HPM. The results indicate that the situation has not changed significantly compared to the previous analysis on training in the Croatian local government. This conclusion is derived from the following findings: (i) the vast majority of Croatian cities did not adopt a strategy on local servants' training, (ii) training is not linked to other HPM practices (promotion, salary increase or bonus), (iii) training is not based on local servants' needs, (iv) training is not linked to organizational goals and development even though cities acknowledge the importance of training for overall performance, (v) local servants mostly attend training in the field of law and economics, which is another indicator of the traditional approach to HPM.

With regard to the introduction of new HPM methods and, accordingly, new training methods, Croatian cities started with the introduction of the competence model primarily as a result of a project carried out at the national level (top-down approach). HPM methods such as diversity management and knowledge management are not developed at the national level, which is why the research confirmed the initial assumption that these methods are not recognized at the local level as well.

It can be concluded that the traditional (administrative) model of HPM still prevails in Croatian cities. HRM practices, which include local servants training, are shaped and influenced by national policies rather than intrinsic local initiatives aimed at the improvement of city management and performance.

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Evolution of the Thoughts of Public Administration and Its Understanding Following the Perspectives of Political Science, Management and Law

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Abstract

The article aims to understand, analyze, and explain the evolution of the understanding of public administration from the perspectives of political science, management and law. The paper begins to study public administration from its classical type, where three perspectives of it are studied synthetically, as well as its potential as an independent administrative science. The article answers why and how the field is considered, even at the level of defining the concept of public administration and how it differs from management, law and political science. Additionally, the work demonstrates the visions expressed by such authors as Max Weber, Woodrow Wilson, Frank Goodnow, Leonard White, Herbert A. Simon, Luther Gulick and Dwight Waldo.

Keywords

thoughts of public administration, public administration evolution, public administration perspectives, politics and administration

Introduction

Public administration is a mechanism for implementing the values or preferences of individuals, groups, social classes and/or the entire society (Frederickson, 1976), and more precisely, the definition depends on through which science and/or discipline we consider it (Shafritz et al., 2016). The dilemma of conceptualizing public administration begins when we realize that it refers to and includes issues such as the implementation of government policy, planning and administration of public policy courses, organization of state operations, enforcement of public law, administrative procedure, public management, organizational development, private and public sector coordination, finance, control and accountability.

Political science, law and management perspectives on public administration offer different definitions and approaches (Bouckhaert & Jann, 2020); at the same time, its potential to develop as an independent administrative science is noteworthy (Dzinic & Skarica, 2015). Academic rhetoric about public administration, its understanding, form, and conceptualization does not

lose its relevance in the theoretical and empirical discourse on which many works have been created by international academic authorities¹: the evolution of public administration opinion gives us answers to why the field of different sciences has developed in perspective and how its understanding has been transformed from ancient philosophy to modern public administration thought.

1 The research aims and objectives

This article does not rely on empirical methodology and this paper has two goals: 1) to study the evolution of the understanding of public administration from the perspective of political science, management and law and 2) a systematic study of the thoughts of the main authors on public administration. Taking this into account, we can define the objectives of the research as the following: a review of the academic and scientific literature related to the issue; an overview of the concept of public administration, and a systematic description and analysis of public administration perspectives; an overview of the evolution of public administration thought and its different aspects.

2 Understanding public administration through the prism of political science, law, and management

Public administration from the perspective of political science is the process of governing public activities and the implementation/administration of public policy courses, while the field deals with planning, organizing, directing coordinating, and controlling government operations (Chapman et al., 2023). According to these visions, public administration cannot exist outside the political sphere, as previous definitions indicate its political nature.

In legal discourse, public administration is an activity of the state, and thus it is created by legal foundations and bounded by legislative instruments. According to this view, public administration in itself is the enforcement of public law, and thus the process of administration cannot exist without these legal foundations (Storing, 1965; Christensen et al., 2011). It should also be said here that the “juridification” process brings to the fore the rhetoric that the study of public administration raises questions without law and legal foundations (Hood, 1995).

The management perspective of public administration began to be discussed when the discipline became more applicable. That is why, in some cases, it obeyed the sirens of management (Chandler, 1991, 39), the actual result of which was the development of new forms of public management (Gruening, 2001). In this view, the public manager is responsible for the implementation and interpretation of management policies, as well as the daily work of various organizational units (Shafritz et al., 2016), therefore the study of public administration today is done using the components of management and organizational development. According to this rhetoric, public administration is an art, not a science – or vice versa. “Some people are born

¹ Storing (1965), Nigro & Nigro (1970), Frederickson (1976), Chandler (1991), Rhodes (2000), Bogason (2005), Naidu (2005), Martinez (2009), Politt & Bouckhaert (2011), Christensen et al. (2011), Shafritz et al. (2016), Rosenbloom et al. (2017), Dahl (2018), Chapman et al. (2023), Bouckhaert & Jann (2020), Bustos (2021), Khuroshvili (2021), Nyadera & Dagba (2022), Overman & Schillemans (2022).

with a talent of administration, but an artist is useless without tools – technical skills (science). However, a master's degree or a doctorate in public administration or a related field does not mean that an official can be a high-level public administrator" (Shafritz et al., 2016, 16–17); with these observations, the authors confirm the importance of professional (managerial) skills on the one hand, and on the other hand emphasize the need for science, so we can say that the success of public administration activities is based on many factors, including innate talent, regarding both scientific and professional skills.

A management perspective enriches the field and provides civil servants with professional/managerial competencies and skills. The rise of liberal market economic policy and liberal-democratic political philosophy contributed to the development of "managerialism". A new and narrow definition of government has introduced business-style management practices (Kaul, 1997). In itself, "managerialism" is the opposite of "juridification", and we can consider these two as alternatives to each other in principle. Managerialist approaches have been rejected by the orientations emerging in the wake of "juridification" regarding such principles as formalization, process administration, sophisticated procedure, etc. (Hood, 1995), but this conflict between the "Confucian" and "legalist" approaches of the administrative school already existed in China 2,300 years ago (Creel, 1964).

Obviously, it is difficult to decide which of the above-mentioned sciences are part of public administration, although political science, management, and law have appropriate answers and statements for it. We can say that the nature of public administration is political on the one hand, because when we talk about the instrument of distributing power and resources, we talk about politics, and because of it this is the field of politics. When we talk about public activities and therefore the implementation of government policies, enforcement, and governance, we enter the boundaries of political science. However, is public administration only a part of political science? - No, because we realize that the field is really limited by the legal order and public law. It is clear that the process of public sector administration is not carried out without administrative law and procedure and, thus, public administration as an activity of the state cannot exist without the provision of legal instruments. So how do we relate it to management? - The process of administration and governance today is unimaginable without the participation of business and the public sphere because the public sector is not capable of providing public services independently, which is why the perspective of management enters the field. However, there is also the issue that different states have different public administration traditions and cultures, and therefore the perception of public administration as a discipline is related to their characteristic approach. It is clear that, where the legal perspective prevails in the field and teaching public administration started in university schools of law, public administration has become more closely related to the science of law. It is therefore not surprising that lawyers perceive the field of public administration as a part of the law and, accordingly, a discipline under public law. Where business-oriented management perspectives have entered and liberal market economic principles have prevailed, it is clear that public administration has become more like public management. That is why, where there is talk of management, we are talking about business administration, and that is why educational high schools train managers of the public sector. Finally, governance and politics have always been intertwined issues, the latter does not need scientific proof. Where public administration and the public sector are more closely related to power, the field becomes more political. In principle, this explains why there are different concepts in the field: public governance, public administration, public management and public policy.

When discussing the development of public administration, we have at hand the data for 1966, 1990, and 2014, which allows us to observe its evolution. By calculating and categorizing the published main works, books, reports, citations, and other tools related to public administration in the mentioned years, the percentage among the fields was as follows:

In 1966, 19% of new academic resources focused on core public administration, 34% on political science, 11% on social sciences, 8% on management, and 7% on economics, the share of the field of law was 1% (Shafritz et al., 2017, 26).

In 1990, 37% of academic works were on core public administration, 26% on political science, 5% on social sciences, 12% on management, and 9% on economics, and the share of the field of law was 2% (Shafritz et al., 2017, 26).

In 2014, 41% of academic papers were on Core public administration, 13% on political science, 6% on social sciences, 14% on management, and 11% on economics, the share of the field of law was still 1% (Shafritz et al., 2017, 26).

We can interpret and explain the given results as follows: initially, the potential of the field as an independent science was unclear, because 15% more was written on public administration in political science than on public administration itself. The results show that the social and political sciences are the actual basis for the development of public administration to begin with, which in 1966 accounted for 45% of the total. This share is quite high, even in 1990 when the share of social and political sciences was 31%. According to the data of the same year, the specific share of management and economics has increased, which together is equal to 21%, although according to the data of 1966 and 1990, the specific share of the field of law was 1% and 2%, which is too low conclude that law has an important role in the academic development of the field. It should also be noted here that in 1990, 37% was already written on separate public administration, which implies that the field was developing and its independent scientific potential growing.

As for the data of 2014, public administration is already at the forefront here with 41%, followed by management with a share of 14%, and then political science with 13%. What is interesting here is that the share of political science has significantly decreased, and the share of social sciences has also decreased. Instead, the potential of management and economics in the field is increasing. This data allow us to see directly what the basis of public administration development was years ago and how the trend is changing now.

The question of how public administration thought developed and what conclusions we can find and interpret in the theoretical discourse are discussed in the next chapter.

3 Public administration evolution from the classical type to modern times

When we study the evolution of public administration and its foundations, it is essential to study and review the thoughts of such authors as Max Weber, Leonard White, Woodrow Wilson, Frank Goodnow, Herbert Alexander Simon, Luther Gulick, Dwight Waldo, and others who put forward such perspectives of public administration and governance that are still the subject of practice and rhetoric. Ther the study of and research into the evolution of public administration and thoughts on it are actively continuing, and the list of authors who today present the field from a completely different perspective is not exhaustive (Ventriss, 2015; Whetsell, 2018, Fox, 2019).

Max Weber is a central author for public administration, and despite his ups and downs, he is at least the most important thinker in the field of his time (Drechsler, 2020). Weber is often

associated with the theory of rational bureaucracy or the ideas of the Weberian state, which itself predicates a strict hierarchical structure, the need for qualified personnel, the documentation of bureaucratic procedures, a strict separation of competencies, and a focus on career progression. In itself, Weberian ideas were reflected in deterministic systems, but we can say that “Weber was a Weberian as much as Martin Luther was a Lutheran or Marx a Marxist”. From this point of view, we can say that Weber was not a supporter of the ideas we understand today as “Weberian bureaucracy” (Drechsler, 2020, 1).

According to Max Weber, bureaucracy is a set of structural arrangements: consequently, for him, it represents a set of variables, concepts, and principles that are characteristic of bureaucracy. He introduced into the field of public administration an “ideal type” of bureaucracy, a combination of different values and preferences that itself comprises the Weberian model. According to him, bureaucrats should be free as individuals, but the system should be strictly hierarchical. It is a kind of scalar chain, where each bureaucrat has their place and they are aware of/ the importance of this place. For Weber, the process must be written and documented; career development is based on qualifications and competencies, and the latter is confirmed by an exam/certification. He was in favor of meritocratic values, although the person who must judge and determine who deserves what in the sector is hierarchically superior. According to his vision, public service should be the only and/or main activity of a bureaucrat and, along with this, the bureaucracy is not allowed to appropriate public resources, and finally, the behavior of the bureaucrat should be subject to systematic control and strict discipline. In addition, Weber’s ideas emerged in the “Neo-Weberian” model of the state. This recovered certain values and approaches from the “rational bureaucracy theory”, which includes the return of the role of a strong state and, in this sense, a regulated, centralized system, which opposes the principles of “new public management” (Pollitt & Bouckaert, 2011). Taking this into account, Weber’s ideas are still relevant, problematic and sensitive issues for the field of public administration, which is confirmed by the fact that the author is still constantly discussed in the academic discourse.

Frank Goodnow and Woodrow Wilson are the two central authors of public administration that should be reviewed in parallel. The reason for this is the politics-administration dichotomy, about which the rhetoric began as early as the 19th century, and we find the first essays on the subject (Guo, 2019). Goodnow proposed two functions of government, expressing the will of the state and implementing the will of the state, respectively: “politics” and “administration”, which are characteristic of all governmental systems (Goodnow, 2003). Unlike Goodnow, Woodrow Wilson directly approached political and administrative science as an independent discipline (Wilson, 1887). He believed that the field of public administration was broader than the political and thus public administration crossed the boundaries of politics and became the field of business. With this view, the author promotes the development perspective of “managerialism”.

Wilson believed that public administration meant the detailed and systematic enforcement of public laws, thus approaching the political and legal logic of public administration. Also, this was the structure of activities of government bodies for him. Interestingly, the author was in favor of decentralization on the one hand, but at the same time emphasized the daily growth of government functions and believed that the distribution of responsibility to many people led to the absence of determination, which led to irresponsibility. This in itself is against the logic of decentralization. Also, for Wilson, it was much easier and more effective for one ruler to make a decision than relying on the intervention of the people in the process and the war of ideas; he therefore concluded that in a state where the government takes public opinion into account, reforms were carried out a slowly. In the wake of all this, his work contributed to

the discussion and development of the management perspective of public administration, and this was in the background when Wilson became very skeptical and critical of the continental European public administration systems, accusing them of despotism. Wilson believed that the role of public administration was to implement the activities of government bodies, and at the same time, its function was to make public officials have a sense of executive obligations. On the other hand, he considered public administration as an organized form of state activity, which concerned all areas. With such pronouncements, sometimes Wilson seems a very contradictory and ambivalent author.

Leonard White is one of the most important authors in the field of public administration. His work “The Study of Public Administration” was published for the first time in 1926, wherein the author considers public administration primarily as a research field, the basis of which he sees in management (White, 1928). For White, administration includes all those operations aimed at achieving some goal or task (Storing, 1965). The complex discussion of the field shows us that public administration was above all a field of study (White, 1928). The latter has become more visible today, when the word administration has appeared in many fields. When we talk at the sectoral level, we often use such word conventions as education administration, healthcare administration, security policy administration, and others. This implies that administration, as a process, can characterize any sector, policy or course. For the author, the process of administration is unified, which is why he does not differentiate between federal, state, and municipal levels, and he does not give us sharp differences between private and public administration. However, when we talk about the administration described by White, we should highlight the following four of his conclusions: 1) administration is a unitary, unified process that can be studied at different levels; 2) the basis of administration is management, not law; thus, White is a theorist who supports the managerial approach to public administration and shares the perspective; 3) for him, administration is an art, although it has scientific potential and is therefore in the process of transformation with science; and 4) administration will always be the central problem for modern government.

White is also an outstanding author because he discusses the problematic methods of measuring the effectiveness of public administration. He thought he was pointing out that the measurement of a subject as complex and ambiguous as public administration itself would be the work of many years. At the same time, he emphasized the problem of achieving the latter, although he noted that, despite all this, judging institutions and talking about their success or failure was a kind of attempt to measure this effectiveness (Storing, 1965). From today’s perspective, measurement tools and indicators have been significantly refined, and when we talk about the effectiveness of governance and policy implementation/administration, there are various indices, normative principles, and tools to evaluate them one example of which is OCED SIGMA/PUMA (Torma, 2011).

In reviewing the evolution of public administration thought, we must consider Herbert Alexander Simon. The author wrote two outstanding works, “The Proverbs of Administration” (1946) and “A Comment on The Science of Public Administration” (1947), and it is characteristic of him to review issues in the discourse of counter-criticism. Herbert A. Simon was critical of the thinking of Luther Gulick, Robert Dahl, and other authors. Simon wrote in the last part of Gulick’s criticism that Even “art” cannot be founded on proverbs (Simon, 1946, 67). He created the image that Gulick and other authors seemed to write their thoughts without thinking or understanding (Meier, 2010, 284). Controversial and critical issues for Simon included the unity of command, specialization the span of control and organization by purpose and process.

As already mentioned, what distinguishes him is his style, that he was critical of both other authors and criticism of the field itself.

It is known that Robert Dahl reviewed public administration from a positivist perspective, where he relied on the position that value propositions in the field were not revealed by the scientific method. A continuation of the same logic was that recommendations in the field of public policy and administrative issues could not be purely scientific and substantiated empirically because of its normative narrative. In contrast, Simon developed the view that the applied scientist does not have the same freedom to limit the specific spectrum of the phenomenon as the exact scientist and this is because the administrative scientist deals with all phenomena and, in this direction, the research of the applied scientist is not only to prove which organizational form is more efficient, so their opinion is not just a value judgment.

In Simon's view, the problem lies in the wording of the questions and the perceptions of the issue. So, for example, if we ask the question "What factors determine the degree of efficiency achieved by the organization?" and "Under what circumstances is public responsibility ensured in a government agency?" (Simon, 1947, 201) the answers will not depend on the value system and they cannot be considered normative. Today, even to measure the degree of effectiveness and to investigate the circumstances and factors that lead to the delegation of responsibilities and influence, we will need a complex research methodology, operational definitions, and measurement indicators. Dahl believed that there was no need for a student of public administration to become a psychologist, since the student themselves could use the research findings of a psychiatrist or a sociologist, but here Simon counters the idea that public administration can in no way be considered a passive field, which accepts the findings of psychiatrists or even sociologists on the nature of people and then applies them to the field of organizational behavior (Simon, 1947). Simon believed that there could not be an applied science of public administration any more than there could be an applied science of aerodynamics. If an engineer faces the problem of designing an airplane, of course, they can study the characteristics of the airplane from other sciences: speed, maneuverability, and cruising range, but they will still have to create the design himself - this is the public administration perspective of Herbert Alexander Simon.

Following in Simon's footsteps, Luther Gulick must be mentioned. His impressive work is "Politics, Administration, and the "New Deal" (Gulick, 1933). The author begins his review of the issue with the question that the main goal of the American government reform was to "Take administration out of politics" and asks the question "How do we proceed to take administration out of politics?" (Gulick, 1933, 55). As Gulick explains, America had a simple answer to this question: prohibition and isolation. The author makes it clear that legal designs, prohibitions to take politics out of administration are useless. This can only be considered useful when the policy is pursued by a positive administration and when a rising administration implements the program/policy/course. He believed that good organization and improved schemes of fiscal/administrative control worked much more effectively than regulations dictated by criminal codes or laws dealing with matters of tax collection and licensing. That is why he concluded that sometimes organizational changes could be more effective than banning something. Therefore, for him, the effective tool for fighting corruption was not the prohibition of corruption, but internal organizational changes. Because of it, some authors called him a supporter of what we today call Good Governance when we talk about politics and the administrative process (Lynn et al., 2001). However, in addition to political perspectives, Luther Gulick developed a management perspective in the field. The author believed that integration where necessary represented a significant advantage in the field of management, because when several government

services were integrated and operated as a single unit, administrative mechanisms became more efficient. The author himself defined the advantages of integration as the following: it was the basis of an effective monitoring system, it provided the opportunity to eliminate duplication and to establish cooperative relations between different services, it helped to avoid conflicts and overloaded legalization.

Gulick advocated a unified system that had three advantages, first that government activities were combined into one large body and therefore a larger-scale “enterprise”. The second was the issue of independence of oversight functions among agencies, and the third factor was that integration recognized the principle of economy of citizen attention (Gulick, 1933, 58). Interestingly, Gulick was opposed to the processes of involving citizens on a permanent or extended basis. This is because citizens often do not have the appropriate knowledge and intellectual abilities to solve complex issues. For the author, it is unacceptable for citizens to participate in the intricacies of policy planning, as this is a process that should be handed over to professional administrators.

The author’s view of the issue of politics is an essential part of his thesis, and in this direction, Gulick distinguishes between Politics and “Politics”. According to the author politics is the sphere of controlling governance and rulers. In contrast, the second understanding of “politics” gives rise to the phenomenon of anti-politics, where individuals or groups express strong disapproval, disillusionment, or distrust of traditional political processes, institutions, and politicians. It represents a growing skepticism or rejection of established political systems and practices. As the author explains, until now they were dealing with “politics”, that is, with the vulgar understanding of true politics, which is part of the corruption of the system. However, this “politics” was not the scientific and important understanding of the word, and Gulick considers true politics to be the action related to controlling the rulers, and therefore politics was the control in the direction of the government and the supreme stake of the reform. In such politics, the government serves the common people and there is a concept of “self-government” (Gulick, 1933, 59), so when we talk about the true understanding of politics, it cannot be outside of the administration, just as administration cannot be outside of politics. However, since true politics is part of democratic control, and “politics” is the very author of the system breakdown, the difficulty of distinguishing this is when and how can we measure which is politics and which is “politics”. As examples, Luther uses specific cases. He asks the questions if the government raises aluminum tariffs, or if Congress decides to bail out the Philippines, or if the issue is about sales regulations and mortgage moratoriums – how are we to know which is politics and which is “politics” in these political processes? In principle, this is a question that is still a matter of complex study and assessment. It is different from how we evaluate the phenomena of “good and bad” politics from today’s perspective. However, we understand that the effectiveness of the political process is already measurable today, and this measurement has appropriate methods and indicators to assess what has yielded results and what has not.

Gulick himself distinguished the two policies based on the purpose of the person acting and also believed that “politics” was related to selfish advancement and the advantages that rulers obtained through control. For example, if the senators supported the issue of liberating the Philippines because of personal interests then he considered it “politics”, and if behind it was the belief in the liberation of the people then it was politics. However, if one part of the political course (policy) was supported by public interests and the other was guided by personal interests, then what would happen here? Gulick therefore, appears here as a rather contradictory author and says that, taking this into account, there is no objective method of distinguishing between

politics and “politics”. Still, the author defined politics as actions related to the control of rulers. He equated the rulers with the government, who exercised effective power to provide various public services, and what these rulers do, that is, the work of the government, the development and enforcement of control, the creation, and management of services - all these things taken together constitute public administration for Gulick. And yet, the author is also a very important figure because, despite the normative narrative for which he is criticized, as if Gulick was a non-scientific author, he closely saw the necessity of participatory politics in public administration. It was he who believed that the process of policy planning and implementation was difficult to imagine without a deliberative and representative council of advisors, political parties and civil groups, new types of government agencies, and the legislative body of the future, where the parliamentary agency has two main powers: first, the veto on major policies and second, the right to audit and investigate. This is also very close to the principles of what is today called good governance (Nanda, 2006).

Finally, we should consider Dwight Waldo, because he is also in the category of actors whose visions and principles are still relevant today. It focuses on the responsibility of public administration in the context of modern revolutions. With this, he connects administration with the phenomenon of power and asks questions in the context of revolutions: did public administration help cause them? Or should public administration do something about them? (Waldo, 1968, 364). For him, the state administration bears some responsibility for revolutions: this is because revolutions cannot be separated from their causes, effects, and nature. Public administration is therefore a revolutionary agent, but the cause of revolution in this case can be either ignorance and/or enforcement of the law itself. In this discourse, he develops the idea that the effectiveness of the public service depends on how well the organization will adapt to the revolutionary, rapidly changing environment and how well it will be able to fulfil its goals and objectives. Thus, the one who cannot cope with change is doomed. Nevertheless, the author believed that civil service, by responding to the revolutionary ground in their midst, could help society change and adapt to maximize the potential for “good” and minimize the potential for “bad” (Waldo, 1968).

And yet, where are Dwight Waldo’s ideas in modern public administration today? It introduces the idea of neutrality in the public service system, which remains a problematic issue in many democratic regimes (Asmerom & Reis, 2016). The author considered it right if he had been a public servant, apolitical, and far from party politics. That is why the idea of public service goes with independence, professionalism, and faithful activity of the state. It is worth noting here that the author himself emphasized the difficulty of separating politics and administration because the discipline and/or profession of “public administration” decided that the administration should be closely involved in the political process. As such, the administration had/has its role in making policy decisions and subsequently implementing them mechanically.

4 Conclusion

A review of public administration thoughts shows us the formation of the field and its classical form began in the 19th century, which was initially also carried out in the discourse of political science.

One of the reasons for its tendency to be first discussed primarily in governance/politics discourse is that administration and politics were not separated from each other and thus public administration itself was a part of politics. Here is also the fact that management and

administration are new sciences compared to politics and law, which had discussions in the field about whether these two were science or art. Here, it should be said that no author used the concept of public administration until the 19th century, although the work reveals that, from the period of the development of the field to the present day, it is very difficult to put a sign of equality between public administration and one any other discipline because, on the one hand, it represents political science, the synthesis of management and law, and on the other hand an independent administrative science, the potential of which is growing every day.

The overview shows that modern authors look at the evolution of the field and its potential in different ways. In the authors of the 20th century, there is a dichotomous discussion of issues, and a tendency to criticize and counter-criticize each other, which further develops academic rhetoric.

All three perspectives of public administration have their supporters; however, we find authors of legal science the least in the field, thus, teaching under public law cannot be linked to theorists and authors, but to the traditions of the state itself, lawyers, and law schools, which took responsibility for the development of the field and its teaching. As for the management part, it is developed and facilitated by reality, time change, innovation, and technological progress. Today, to a large extent, the public service and the public sector cannot function without public management principles, because it is the business sector that implements the latter on the order of the state, and it is clear that the rise of “new public management” has further strengthened the perspective of management in the field. And although the nature of public administration is political and it is still so difficult to separate it from politics, because government policy planning, implementation, and public political process are the subjects of political science, it has the great potential of an independent administrative science that will eventually transform into an occupational field.

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Globalization: Does it have Effects on Nigeria's Governance System?

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Abstract

Even though globalization has made countries across the world more connected than ever, there are still controversies over its benefits regarding socio-economic development and good governance in developing countries. Against this backdrop, the study investigates the link between globalization and governance in Nigeria. This is with a view to determining the implications of globalization on the governance of Nigeria. The study, which relies heavily on secondary data, shows that the country's political authority has been depleted in order to conform to global trends. Globalization has affected the quality of bureaucratic governance, puts pressure on governance on whether to open up or restrict the economy, and exacerbated the unequal distribution of incomes because of the relative differences in the mobility of labor and capital. The study further revealed that globalization triggered the unregulated use of the internet and exposed people to illicit activities. It also contributed to the transmission of diseases, including HIV/AIDS, the Ebola virus and COVID-19. Globalization also encouraged multinationals to access Nigeria, thereby adding to environmental pollution, climate change, food insecurity, and health-related challenges, especially, as a result of oil exploration. These activities have continued to disrupt the people's means of livelihood, and consequently provoked political and social agitation and engendered secessionist groups, threatening the unity and existence of the country. The study, therefore, concludes that globalization has caused more damage than good to Nigeria's political and socio-economic activities.

Keywords

globalization, governance, bureaucratic governance, mobility of labor, socio-economic and development

1 Introduction

Following centuries of evolution and advances in technology, as well as international relations and cooperation, the world is more connected than ever through globalization. Globalization has been recognized and adopted by countries across the globe as one of the mechanisms for enhancing economic development and improving social welfare, as well as reinforcing political ties between and among countries across the world. Globalization has therefore become a

topical issue of discourse among scholars, politicians and governments at national, regional and international levels and among international organizations, as well as, interested stakeholders.

Even though the evolution and development of globalization is not recent, the political, economic, and technological improvements of the 1990s fast-tracked the processes of globalization (Khan Academy, 2022). Thus, following the collapse of the Soviet Union in 1989, which subsequently brought an end to the Cold War in 1991, the world turned out to be more connected. Hence, globalization has been one of the major developments in the contemporary world system, which brought about a cooperative arrangement that covers various aspects of governance, which have continued to shape daily activities around the world (Gulmez, 2017; Brooks & Wohlforth, 2000; Kolb, 2021; Khan Academy, 2022).

Globalization is defined as a broad network of economic, socio-cultural and political interrelationships or interconnections and processes that transcend national boundaries (Yeates 2001 cited in Yalcin, 2018). In essence, it covers economic integration, political links vis-à-vis policies being transferred across borders, the transmission and exchange of knowledge and ideas and socio-cultural interactions, among others. Suffice it to say that the world today has become a global village, given the unparalleled level of interconnectivity and interrelation between the political, economic, social and technological forces that pervade the present-day global system (Akinboye, 2008), one such force being governance.

Governance can be seen as a system through which “power is exercised, in the management of a country’s political, economic and social resources for development” (World Bank, 1993). It is the total of actions and activities of government directed toward the realization of good economic policies (Adegbami & Adepoju, 2017). It is also a mechanism designed to guarantee transparency and accountability, rule of law, responsiveness and inclusiveness, as well as broad-based participation. In essence, governance relates to the proper application of rules, norms and values in the management of public affairs. Governance, therefore, has to do with the culture and the environment of the institutions of government, where citizens and stakeholders interrelate and partake in regulating public affairs (UNESCO-IBE, 2022).

While a set of people considered globalization as a platform for global integration with many benefits to different countries of the world, particularly in the area of good governance and socio-economic development, others see it as being beneficial to certain parts of the world, especially the developed countries, and to the detriment of developing countries. It is in light of this opinion that the study investigates the effects of globalization on the governance of developing countries, with particular reference to Nigeria.

2 Globalization and Governance: A Review of the Literature

The term globalization is not only heavy in its usage but also obscure in meaning, even for those who invoke the term (Reich, 1998). The extensive or general use of the term globalization notwithstanding, there has not been a uniform or perfect definition for it. Since there is no precise and universally accepted definition of the term, all the arguments in favor or against it can be seen as being obscured. Consequently, different scholars have offered various definitions of the term globalization, based on their philosophical inspirations, and what they wish to prove. In essence, “globalization is an ideological term and, like all ideological terms, it is the subject of great controversy” (Subaşat, 2015, p. 3).

The eventual cessation of the Cold War has made what seemed to be a bipolar world become more unified and interconnected. As a result, countries and people across the world became

more conscious and aware of some global challenges, such as poverty and climate change and more importantly, economic interconnections and linkages become more visible. This explains Reich's assertion that "the demise of the Cold War coincided with the onset of globalization, raising the question of whether there is a causal relationship between the two" (Reich, 1998, p.6).

What then is globalization? It can be seen from different perspectives. In his book titled "The Race to the Top: The Real Story of Globalisation", Larsson defines globalization as the process of shrinking or contracting the world, by shortening existing distances between and among countries of the world, in order to increase their relations and interactions in different aspects of lives (Larsson, 2001). For Larsson, globalization is about reducing the distances between and among countries across the globe to increase their dealings and relations. In other words, globalization presents chances for greater dealings and relationships among people and organizations around the world (Martell, 2017). A more detailed definition of globalization is offered by McGrew. According to him, globalization can be seen as:

a multiplicity of linkages and interconnections that transcend the nation-states (and by implication the societies) which make up the modern world system. It defines a process through which events, decisions and activities in one part of the world can come to have a significant consequence for individuals and communities in quite distant parts of the globe (McGrew, 1990, cited in Honsberger, 2016 para. 1).

McGrew views globalization beyond mere relations and interactions between various countries. He opines that it covers a variety of connections that shape the contemporary world system in areas of decision-making, as well as the significance and consequences of such decisions on individuals, different countries and the world at large.

Jain (n.d.) sees globalization mainly from an economic point of view, and states that it has to do with the interaction between/among the countries of the world to develop the global economy. Thus, globalization is about integrating the societies of the world and their economies. Jain's view is corroborated by Thompson (1995), who sees globalization as a system that encourages global economic relations, as against the widening of such relations among different countries and their agents. For Williamson (1998), globalization is a system whereby the whole of the world is increasingly participating or involved in a single market, with mutually dependent production and consuming similar goods, as well as responding to the same forces. In essence, different studies by Jain (n.d.), Thompson (1995), and Williamson (1998), in that order, perceived globalization as a process of enhancing economic relations and integration among countries across the globe.

The definition of globalization as offered by the IMF (2008) is not at variance with the foregoing. The central focus of globalization, according to the IMF is the economy. The IMF therefore defines "globalization" as the process of enhancing economic integration across the world, vis-à-vis the movement of goods, services and capital, as well as labor, across international borders. It also involves exchanging knowledge, information and technology beyond national borders. Beside this are the political, socio-cultural and environmental dimensions of globalization.

The trio of Sheffield, Korotayev and Grinin see globalization from a social system angle. According to them, it has to do with the growth and development of social systems, which brought about an increase in the complexity of inter-societal connections. As such, globalization can be seen to have linked or connected the past, the present, and the future. Put differently, globalization has created avenues for bridging the past with the future (Sheffield et al., 2013).

Globalization in essence covers technological, political, socio-economic, and cultural interactions (Jain, n.d.), and it became acceptable and popular as a result of the rise of global communications, particularly the internet, which enhanced easy connections, and easy communication and flow of information among diverse people across the world (Williamson, 1998; Martell, 2017).

Having reviewed the concept of “globalization”, it is pertinent to do the same for “governance”. What does the word constitute? It has a long history, as it is traceable to the ancient Greek word “kubernaein” and the Latin verb “gubernare,” which means “to steer.” Further etymological studies revealed that the English probably adopted and adapted the word from the French word “gouvernance” around the 12th century (cited in Vymětal, 2007).

In view of the fact that the concept of governance is flexible and thus covers many areas of government operations and activities and cuts across different academic disciplines, it could be said that governance is understood according to the area of interest of the user of the concept and what the user intends to achieve by using it. This stance has made the concept appear blurred and vague and, as such, the term has continued to generate a lot of debates, arguments and differing views among social scientists. It is for this reason that Vymětal retorted thus:

Are we really sure about the exact definition of the term governance? Do we not use this term to describe everything and nothing at the same time? Is there only one exact narrow definition, or is it better to use plenty of characteristics and broad definitions? (Vymětal, 2007, p. 5).

Vymětal’s position notwithstanding, an attempt will be made to review some of the definitions of the term governance as offered by scholars.

The World Bank (1993), for instance, sees governance as “a power exercise”. To the it, governance is about having power, as well as exercising those powers to manage the country’s political, economic and social resources for the development of the people and the country. In the same vein, the Committee of Experts on Public Administration (2006), sees governance from the perspective of using governmental powers. According to the Committee, governance is a process of exercising the political and administrative powers in managing the country’s governmental activities. Governance in this context encompasses the instruments, and procedures, as well as institutions, through which people and groups express their interests, exercise their legal rights, meet their obligations and reconcile their differences. Fukuyama (2013), while corroborating the World Bank and the Committee of Experts on Public Administration, defines governance as the power of the government to enact and enforce rules, and to deliver services, be it a democratic or non-democratic government. For Fukuyama, governance is about the powers of government, and how such powers are being used to make rules and implement them for the benefit of the citizenry, irrespective of the type of regime in the country.

To the Governance Institute of Australia (2022), governance incorporates all the systems through which a country is organized, controlled and operated, as well as those mechanisms used by the people to hold those at the helm of affairs of governance activities accountable. In essence, governance covers all the mechanisms applied to plan, operate and regulate the ruled and the rulers alike for equity and accountability. Rao (2008) believes that governance is about the decision-making process in such a way that, whether the decisions made are implemented or not, it does not affect governance from being governance. In line with Rao’s assertion are the trio of Wolman, Levy and Hincapie. They elaborate more on the nature of decisions that are needed for governance. To them, governance is the procedure by which economic, social and environmental policy decisions affecting society, are made (Wolman et al., 2011).

In the view of the International Monetary Fund (2016), governance encompasses all structures and strategies applied to rule a country, make its economic policies and regulate its affairs. Thus, governance has to do with the actions and activities of government directed toward making policies for the economy and other governmental activities. Similarly, the Commission on Global Governance sees governance as

the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is the continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken (The Commission on Global Governance, 1995, p. 2).

A critical look at the definitions of governance as espoused by scholars from developing countries reveals that their views are not at variance with those of their counterparts in the developing worlds. For instance, Ogundiya (2013) sees governance as a means of achieving the noble goals of the state. Governance is the art of ruling a given territory and its people. It covers the structure of the state, which includes the legislative, the judicial and the executive, as well as the civil/public service at different levels of government. Agagu (2010) defines governance as a means by which institutions of government manage governmental affairs through the use of the country's resources for the good of the people and development of the country. For Benson (2010), governance is a process of making decisions, which may be implemented or not.

Thus, governance is concerned with the collective activities and actions of individuals, institutions, and agents of the government to manage the affairs and activities of government, vis-à-vis, transforming or implementing governmental policies and programs for public goods and services.

3 Globalization and Governance: The Connections and Implications

Although scholars have argued that the integration of globalization with governance has been a major unresolved issue (Nadeem et al., 2014), and as such, the nexus or connection between globalization and governance has continued to generate a great discourse, on which consensus has not yet been reached (Bonaglia et al., 2001). Beyond this argument, however, the links or nexus between globalization and governance can be examined from two perspectives, namely a positive or negative one. In other words, there are two divergent views regarding the nexus between globalization and governance. While one point of view argues that globalization is a benefit to good governance, the other argues that globalization has damaging effects on governance. For instance, Kahler & Lake (2003), in their joint studies, documented some negative effects that globalization had on the governance of nation-states. According to them:

Globalisation drains political authority from nation-states, long the dominant form of political organisation in world politics. The state's monopoly of familiar governance functions is ending as governance migrates down to newly empowered regions, provinces, and municipalities, up to supranational organisations, and laterally to such private actors as multinational firms and transnational nongovernmental organisations (NGOs) that acquire previously "public" responsibilities. In this view, globalisation not only transfers the location of governance but also forces the convergence of state institutions and policies. In exercising their residual authority, states are constrained to

look and act alike. Although a transfer of governance to subnational units may increase democratic accountability, these governance changes and the accompanying pressures for convergence are more often seen as a threat to the ability of societies to chart their own democratically determined courses (Kahler & Lake, 2003, p. 1).

To Saich (2000), globalization negatively affects the quality of bureaucratic governance, and he further argues that a country could face various governance challenges as a result of globalization. A country facing such a bureaucratic challenge, for instance, may have to change some of the structures of governance and enlarge its legal systems due to conflicts that could emerge between local and central governments as a result of inequalities within the globalization-induced economy.

Similarly, there could be a challenge especially in the area of finance to the provision of public goods and services proposed by globalization. The significance in the globalization process of global public goods is without doubt increasing on a daily basis. Public goods in this context refer to such services provided through the efforts of individuals or governmental institutions for the benefit of the people, and include accessible and well-maintained roads, schools and educational facilities, health care facilities, potable or drinking water and the security of lives and properties (Colomer, 2011).

In essence, public goods are those which people continue to enjoy without direct payment, and such goods and services must be sustained. However, since public goods are free, there is the likelihood that they are limited in supply or under-produced, overused and degraded. Although the issue of global public goods propelled by globalization is laudable because of their immense benefit to the populace, the lack of financing or supplying additional resources to assist in providing such goods through globalization has on one hand been a major challenge to the new initiatives. On the other hand, many developing countries are facing financial challenges, and where resources are received through aid and assistance, such resources have not been judiciously utilized (Kaikai, 2015). The clamor for the provision of public goods, which some governments fail to accommodate, has constituted a burden on governance and constantly creates additional challenges to domestic governance.

Akhter (2004), in his studies, avers that globalization puts serious pressure on governance. According to him, the pressures are from two differing directions. While pressures are mounting from firms agitating for the economy to be opened up, fearing over-regulation by governments, some other groups that feel threatened by globalization are putting pressure on governments to maintain their restrictive posture. These pressures on governments have forced them to be in a dilemma when making the critical decision on whether to open up or not. A wrong decision at this point has the ability to whittle down the quality of policy regulation by governments, as well as affecting the effectiveness of governance.

Globalization has also been found to have led to even more unequal distribution of incomes. This is so because of the relative differences in the mobility of labor and capital. While it may not be easy for labor to cross international borders, because of some conditions attached to travelling, despite the various migration routes, capital can easily do so. It can easily be moved by investors and, in many developing countries, easily evade regulatory or tax regimes. This normally brings about differences and variations in the income gains by capitalists and labor groups, and so globalization has worsened social inequality. And social inequality has been found to have triggered mass grievances and uprisings on several occasions, and in some instances snowballed into political instability (Dutta & Mukherjee, 2015).

Technological development, which is part of globalization, is also bringing challenges to governance. It gave rise to the internet, which helps to disseminate information and opinions among the people and across the nations of the world. However, the use of the internet and what is being disseminated through it is beyond and difficult for many governments across the world to control. According to Deibert and Crete-Nishihata, (2012), the internet is becoming extremely difficult for governments to regulate. It has continued to provide a channel of opportunities for criminals, individuals and groups of people, as well as state-backed hackers, among others, to operate and perpetrate illicit activities. The activities pose challenges to governance affairs, apart from the fact that they can lead to the breakdown of essential government infrastructural systems, they can also result in financial waste and impose a financial burden on governments (Goldin, 2013).

The fact that there has not been a globally or a centrally managed institution of governance to nip illicit activities in the bud has created a responsibility gap in governance, which has, for instance, put an extra burden on banks and other financial institutions to develop security for themselves. In essence, private sector actors, especially those in the areas of cyberspace infrastructure, are being constrained and duty-bound to implement forms of regulation and control on behalf of states (Deibert & Crete-Nishihata, 2012). This in essence means that governance affairs and activities, which should ordinarily be handled by governments, have been forced on different actors, including banks, financial institutions and multinational firms.

In a similar vein, open, free and unregulated internet devices have brought negative challenges to the people, which inevitably constitute governance challenges. The Internet, for instance, has continued to corrupt people's minds, as such, people's moral and ethical values are being badly affected. Young people in Nigeria, like their counterparts in other African countries, are being exposed to a negative alien culture, including money laundering, cultism, international terrorism, pornography, child abuse (Omekwu, 2006), nudity, drug abuse, and the proliferation of arms and ammunition (Adesina, 2012); all these negative activities pose a threat to the governance system. The internet also brought about various cases of cybercrimes, in Nigeria. Those who are involved in these dastardly activities are called Yahoo Guys. They have developed various means of defrauding the people, from dubious extortion of money to operating illegal businesses and arranging fake marriages among other crimes. All these are the fallout from globalization, which has continued to constitute challenges to governance in Nigeria.

Another negative effect that globalization has had on governance is the spread of various diseases. For instance, the HIV/AIDS pandemic and the challenges of containing it have been a great challenge to the government. According to Msimang (2003), globalization is strongly linked with AIDS transmission in Africa. Nigeria without a doubt has been one of the countries in the world that are worst hit by HIV/AIDS. According to UNODC (2022), Nigeria was of 2019, ranked third among countries with the highest number of people infected with HIV/AIDS in the world. The continued spread of the infection is largely attributed to the movement of people from one country to another, which facilitated the rapid transmission of the disease across international borders. Although antiretroviral and other TRIPS have been developed and produced to curtail its spread, many affected people in Africa have no access to the drugs, given the nature and condition of many of the hospitals in Africa.

In a similar manner, the Ebola Virus Disease (EVD) was imported into Nigeria through a Liberian diplomat. He arrived in Lagos, Nigeria through the Murtala Mohammed International Airport Lagos on July 20, 2014, and was not feeling well on his arrival, and was therefore admitted to a private hospital in Lagos, only to be diagnosed with EVD. This index patient was

said to have exposed 72 persons at the airport and the hospital to the disease (Shuaib, et.al., 2014; Otu, et al., 2018). The Federal Ministry of Health in Nigeria and the Nigeria Centre for Disease Control (NCDC), immediately declared an Ebola emergency in Nigeria in order to curtail the spread.

Similarly, the first case of COVID-19 was confirmed on the 27th of February 2020. The deadly health challenge was brought to Nigeria by an Italian citizen, returning from Milan, Italy to Lagos. He arrived in Lagos on the 25th of February 2020, and was confirmed to be carrying COVID-19 disease two days after, at the Lagos University Teaching Hospital. From then on, the disease spread to other parts of the country. The Government of Nigeria, through the Federal Ministry of Health, took various measures to control and contain the spread of the disease.

In essence, HIV/AIDS, Ebola Virus Disease and COVID-19 epidemics are globalized diseases that pose great challenges to local governance. According to Shuaib, et.al., (2014), the high level of travel across borders being promoted by globalization greatly facilitates the spread of these infectious diseases (Shuaib, et.al., 2014). Tackling them greatly burdened the government of Nigeria, given the fact that the country had on no occasion experienced any of the diseases until foreigners brought upon the country. The diseases thus suddenly hit Nigeria and Nigerians, as the country was ill-prepared, while its health sector was ill-equipped.

Similarly, human trafficking is encouraged by globalization, which also creates a challenge to governance. Most of the those being trafficked from Nigeria to Europe and America under the guise of seeking greener pastures will be used for commercial sex purposes. This trend added to the number of HIV/AIDS cases in Nigeria, given the sexually related contact of the returnees with the home-based Nigerians (Onyeonuru, 2004). As such, resources that could have been used for the country's development are being diverted to caring for those stigmatized by the majority society, and beyond this is the irreparable and incalculable loss of human lives.

Globalization has also contributed greatly to environmental pollution, by facilitating the movement of multinational companies to Nigeria. The activities of these multinationals have heightened the intensity of pollution in the country. Pollution of the environment came through different channels, namely the increase in industry and the exploration, exploitation, production, refining, and transportation activities of the multinational corporations in the oil-producing areas of the country, this has become a major source of environmental concern to the government. Beyond this are other challenges, such as pipeline leaks, explosions, gas flaring, and drilling floods, all of which have caused widespread disruption of the natural terrain of the environment. Similarly, it contributes to climate change, food insecurity and health-related problems. In addition, the activities of multinational companies, especially their exploration and exploitation of crude oil, have continued to cause damage to the means of livelihood and sustenance of the masses. Their farmlands have been destroyed, and they cannot engage in fishing activities either due to pollution. In essence, the masses have been cut off from making ends meet, and as such, globalization has added to their suffering, and further widened inequality gaps. The consequence of this is the appearance of agitators and secessionists groups that are currently shaking the unity and existence of the country.

Despite Nigeria's experience, globalization has, however, been argued to have had a positive impact on economic development elsewhere, and the economic development of any country has the potential to have a positive effect on its governance. The extant literature has revealed the positive relationship between economic development and globalization on one hand, (see Levy, 2012; Demir et al., 2021) and economic development and good governance on the other (see Fayissa & Nsiah, 2013; Mira & Hammadache, 2017). According to De Macedo (2001), globalization and governance not only affect each other but also affect the countries' economic

performance. For instance, globalization and governance have influenced the countries' economic strategy, including their decisions on how much, as well as what type of foreign capital should be accommodated? How important is the countries' participation in multilateral trade negotiations or a regional trade zone? How can countries be affected by global challenges, and in what manner can local institutions respond to these challenges? (Braga de Macedo, 2001). Beyond this, globalization has caused economic interdependence among people, and such interdependence of countries and their population has generated further challenges for governments, especially in the area of controlling and regulating their economies. In essence, the integration of economies propelled by globalization has, therefore, necessitated harmonizing national policies for interlinking markets and economies (Esty & Ivanova, 2003).

Furthermore, on a positive note, globalization, by enhancing press freedom, has significantly facilitated good governance. This is because the press has continued to play the role of watchdog in the economy and economic development. In other words, the higher the freedom of the press, the better the governance and administrative activities of a country. It is to this extent that Ahrend (2002) states that freedom of the press helps in monitoring the capacity of society by creating effective checks and balances on bureaucrats' activities, as well as, curbing the political officeholders' excesses which allows for curbing corruption practices. In this sense, globalization, by enhancing press freedom, has contributed positively to good governance.

4 Summary and conclusion

The evolution of and advancements in technology, coupled with several years of international relations and cooperation, later on, have impelled unprecedented connections between the countries of the world. The connectedness, which has been referred to as globalization; has been accepted and adopted as one of the mechanisms for enhancing economic development, and improving social welfare, as well as reinforcing political ties between and among countries across the world. With the 1989 collapse of the Soviet Union and the eventual end of the Cold War in 1991, the world became more connected. The improved connectedness of the world notwithstanding, it cannot be said that it has prompted good governance everywhere, especially not in developing countries. It was not surprising that the findings from the study revealed that globalization had negatively affected the quality of bureaucratic governance in Nigeria and so the country is facing bureaucratic challenges, which has forced it to change some of the structures of governance. Globalization has also put pressure on economic governance, in terms of whether to open up, or restrict the country's economy. There is also a challenge regarding the unequal distribution of incomes, as a result of the relative differences in the mobility of labor and capital. In addition, the unregulated internet, which allows easy connection to the world, has continued to create illicit opportunities for criminals and to normalize illicit activities among the populace. Globalization has contributed to the transmission of diseases, including HIV/AIDS, Ebola Virus Disease and COVID-19 to Nigeria. Globalization no doubt enabled multinationals to have greater access to Nigeria, but their activities have added to environmental pollution, climate change, food insecurity, and health-related challenges, among others. These activities are causing damage to the people's means of livelihood, leading to social and political agitation and secessionists groups that continue to threaten the corporate unity of the country. The study, therefore, concluded that globalization has caused more damage than good to Nigeria's political and socio-economic activities.

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The Digital Services Act and the Problem of Preventive Blocking of (Clearly) Illegal Content

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Abstract

The adoption of the long-awaited Digital Services Act (DSA) is undoubtedly one of the more significant successes related to the implementation of the ambitious EU Digital Strategy. In addition to important announcements that the new law will help to transform the next few years into Europe's digital decade, an update of the liability framework for digital service providers also provided an opportunity for a broader reflection on the principles of building governance in cyberspace. Indeed, the notice and takedown model, which had been in place for more than two decades, had become progressively eroded, leading service providers to increasingly implement proactive content filtering mechanisms in an effort to reduce their business risk. The aim of this article is to explore those changes introduced by the DSA which affect the regulatory environment for the preventive blocking of unlawful online content. In this respect, relevant conclusions of the ECtHR and CJEU jurisprudence will also be presented, as well as reflections on the possibility and need for a more coherent EU strategy with respect to online content filtering. The analysis presented will focus on filtering mechanisms concerning mainly with what is referred to as clearly illegal content, as the fight against the dissemination of this type of speech, often qualified under the general heading of "hate speech", is one of the priority tasks for public authorities with respect to building trust in digital services in the EU.

Keywords

Digital Services Act, illegal content, liability of intermediate service providers, content blocking

1 Introduction

"The freedom of expression exercised on online forums by anonymous authors often provokes unbridled speech that degenerates into hate speech violating the personal rights of third parties. The availability of hateful comments online can be virtually indefinite, and holding individual internet users accountable is in practice impossible."¹

The statement presented above, formulated by the Polish Supreme Court, aptly summarises the complicated legal position of individuals in their efforts to protect their good name

¹ Polish Supreme Court, 30 September 2016, I CSK 598/15, www.sn.pl.

against untrue and often defamatory statements published online. The lack of effective tools for responding to such violations, combined with the complexity of the judicial route and the cross-border nature of the disputes, leads to a widespread belief that the existing legal model – including the framework governing the operation of service providers – does not protect the legal interests of individuals harmed by unlawful statements made online.

The problem of the use of online services – in particular hosting services – to distribute unlawful (illegal) content has been the focus of the EU legislature's attention for over two decades. One specific area concerns the determination of the liability of the so-called 'intermediary service providers' for actions carried out by users, in particular actions relating to the transmission of illegal material. This issue was first regulated in the e-Commerce Directive,² adopted in 2000, which established a general model for the liability of digital service providers. In particular, it introduced the so-called notice and takedown model, according to which the liability of a service provider is triggered once it fails to take action against specific content upon becoming aware of its unlawful nature (Julià-Barceló & Koelman, 2000).

For almost two decades, the notice and takedown model set the limit of responsibility of digital service providers for the actions of users online, including for the content they published. Significantly, the e-Commerce Directive simultaneously introduced the so-called prohibition of a general monitoring obligation – and thus opposed the adoption of national legislation requiring service providers to monitor all transmitted information for infringing content. This principle was interpreted over the years as a barrier to establishing a legal obligation to use automatic content filtering mechanisms.³

However, the massive growth of digital services has made the dissemination of illegal content a widespread phenomenon, the scale of which has become a real problem affecting users' trust in online services and is also slowing down the digital transformation process. As a result, in series of judgments the European courts – both the European Court of Human Rights (hereinafter: ECtHR) and the Court of Justice of the European Union (hereinafter: CJEU) – have clarified the conditions for recognising the liability of service providers, favouring a broader interpretation of content filtering obligations (Spindler, 2017). In the *Delfi* judgment of 2015, the ECtHR held, that a provider of a hosting service that carries out its activities on a professional and profit-making basis and uses technical means of content moderation to do so cannot be exempted from liability simply because the victim did not inform it of the infringement taking place.⁴ This interpretation was provided against the background of a case in which the unlawfulness of the challenged postings was obvious, and therefore did not require legal analysis or detailed substantive knowledge. In this way, the ECtHR confirmed that statements that affront human dignity or incite physical violence not only do not deserve legal protection, but also require an adequate response from the judiciary, as well as service providers (Cox, 2014).

Indeed, making the assumption that an aggrieved person must use a particular service – or online services in general – when determining the extent of a service provider's liability would lead to a situation where, in the absence of notification, the service provider could not be held

² Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000 on certain legal aspects of information society services, in particular electronic commerce, in the Internal Market, OJ 2000 L 178/1.

³ Nowadays, the prohibition of a general monitoring obligation is also increasingly referred to "as a general principle of law governing the Internet" – see e.g. Opinion of Advocate General Saugmandsgaard Øe delivered on 15 July 2021, Case C-401/19, EU:C:2021:613, para. 116; see also Wilman (2022).

⁴ *Delfi AS v. Estonia* App no 64569/09 (ECtHR, 16 June 2015), para. 159.

liable for the dissemination of hateful or flagrantly hurtful speech. Based on this observation, the ECtHR held that in the case of manifestly illegal content, a service provider is obliged to act promptly – irrespective of whether or not it has received an additional notification on the matter. The CJEU accepted this view in its subsequent case law, while at the same time favouring the possibility of applying “extended orders” for the removal of content – obliging the provider not only to block the posts considered unlawful, but also to take the necessary technical measures so that “identical” or “equivalent” content cannot be published in the future (Rauchegger & Kuczerawy, 2020).⁵

Although the interpretation in the Delfi judgment has been further developed in subsequent ECtHR cases,⁶ the general principle that a service provider has a duty to take steps against manifestly illegal content has become one of the cornerstones of the European model for regulating the liability of intermediate service providers (Spano, 2017). However, upholding this liability regime requires the use of increasingly sophisticated content moderation and filtering mechanisms, which on the one hand are supposed to identify instances of unlawful speech, and on the other hand must not lead to undue interference with freedom of expression – ultimately becoming a mechanism of preventive censorship (Bloch-Wehba, 2020).

The Digital Services Act (hereinafter: DSA or ‘Regulation’), adopted in 2022, was intended to carry out a profound reform of the notice and takedown model that had been in place for 20 years. The intention of the European Union legislature was to strengthen the rights of users by, among other things, indicating more clearly the limits of service providers’ responsibility. Therefore, the DSA expands the previous responsibilities and establishes new requirements in the area of online content filtering. The EU legislature’s intention was to shift some of the responsibility for ensuring the legality of published content onto service providers, without losing sight of the need to respect freedom of expression and the right to information. After all, not every published content is illegal, and establishing an overly oppressive model could have a chilling effect on service providers, who might exercise overly extensive control of publications in order to reduce the risk to their business (Wu, 2013).

The purpose of this article is to discuss the most important changes proposed in the DSA which shape the rules for service provider liability in the area of automatic content moderation. In particular, it will explore the provisions concerning the application of preventive measures, i.e. those used for the preliminary screening (that is prior to publication) of content uploaded by users. For some years, the application of such measures has raised justified doubts, both about the effectiveness of the technical solutions being implemented, and the impact of such solutions on users’ rights.

2 Broad definition of illegal content

In principle, both the notice and takedown model established under the e-Commerce Directive and the notice and action model introduced in the DSA link service provider liability to the service provider’s knowledge of the unlawful nature of the information being disseminated

⁵ Judgment of 3 October 2019, *Glawischnig-Piesczek v Facebook*, C-18/18, EU:C:2019:821, para. 39.

⁶ See e.g., *Magyar Tartalomszolgáltatók Egyesülete and Index.hu Zrt v. Hungary App no 22947/13* (ECtHR, 2 February 2016); *Pihl v. Sweden App no 74742/14* (ECtHR, 9 March 2017); *Jezior v. Poland App no 31955/11* (ECtHR, 4 June 2020).

(Kuczerawy, 2020). The service provider has an obligation to remove or to block access to content where the unlawfulness of the content has been established but also where it was merely plausible. Only if the service provider remains passive while knowing the unlawful nature of the content and does not remove the questionable publications can its (civil) liability for the consequences of the distribution of the illegal content be enforced. The general mechanism introduced by the e-Commerce Directive (and now by the DSA) thus serves to limit the liability of online intermediaries (in particular, hosting service providers⁷) for content stored by end users. Importantly, the notice and takedown model is not unique to the EU legal system but is also widely used in other jurisdictions throughout the world (Wang, 2018).

Knowledge regarding the unlawful nature of content can come from a notification received from a user, be the result of the work of the service provider's own employees (e.g. content moderators) or originate from automatic filtering systems (the so-called upload filters). In any case, the removal (blocking) of content should be limited to materials whose unlawful nature is obvious or has been priorly demonstrated.

As a result, an issue of major practical importance for the application of the obligations under the DSA is a clear definition of the concept of illegal content. Under the e-Commerce Directive – and the national laws implementing it – this concept had been interpreted in the context of the legal model of the individual Member States. This meant that the same content could be considered lawful in some jurisdictions and illegal in others. This was particularly true for extremely critical content, approaching the limits of defamatory or insulting speech. The differences in the legal categorisation of this type of speech were perfectly illustrated by the discussion sparked by the recent ECtHR judgment in *Sanchez v France*,⁸ in which the Court held that the application of criminal sanctions against a Facebook user for content published in his news feed by other users does not violate the guarantees under the Convention, including in particular the right to information (Lemmens, 2022).

Indeed, it seems not enough to harmonise the procedural part of content filtering rules if their application depends on an external definition that has not been harmonised and can be determined separately in each country. In this case, the problem may not even be the existence of multiple definitions of illegal content but the lack of consistency between them. What may qualify as illegal content in one Member State may in another be a legitimate statement, the removal of which will lead to infringement.

With the entry into force of the DSA, its mechanisms which set the limits of intermediate service providers' liability are to be applied directly. As a result, the lack of a common definition of illegal content may lead to a reduction in the effectiveness of the new regulation and, consequently, it may also negatively affect the protection of users' rights.

As a general rule, the legal definition of illegal content in Article 3(h) of the DSA indicates information which, either in and of itself or in relation to a specific activity, is incompatible with EU law or the law of any Member State. However, under the Regulation the benchmark for

⁷ One of the changes introduced in the DSA – compared to the e-Commerce Directive – is a greater nuance with regard to the responsibilities of individual intermediary service providers for users' actions. As with the e-Commerce Directive, the DSA, in principle, limits the application of the notice and takedown model to cases of the provision of hosting (data storage) services. At the same time, it also introduces additional obligations for hosting providers – related to explaining the reasons for the decisions made, including with regard to the moderation of content (more on this in further sections of this article).

⁸ *Sanchez v. France* App no 45581/15 (ECtHR, 2 September 2021).

assessing the illegality of content can only be those rules of national law which are compatible with EU law. This therefore excludes the recognition as illegal content under the DSA of materials that have been declared as such on the basis of national rules incompatible with EU law.

According to the Regulation, illegal content is that which directly contravenes criminal law provisions laid down in EU acts – such as those indicated in Council Framework Decision 2008/913/JHA of 28 November 2008 on combating certain forms and expressions of racism and xenophobia by means of criminal law. The unlawfulness (illegality) of the publication may furthermore derive from the very nature of the information disseminated – e.g. relating to the abuse or exploitation of children (see the definitions in Directive 2011/93⁹); the promotion of extremist behaviour of a terrorist nature (see the definitions introduced in Directive 2017/541¹⁰ and Regulation 2021/784¹¹); as well as the infringement of copyright (see Directive 2019/790¹²).

In addition to the above, the unlawfulness of the content may also be a consequence of specific sectoral regulations, in particular regarding the unacceptability of certain practices used in online advertising¹³ or the prohibition of advertising (promotion) of certain types of products.¹⁴

Importantly, to date no legal definition of hate speech has been developed in EU law.¹⁵ Although the concept is commonly used in policy documents¹⁶ as well as in drafts of legislation,¹⁷ in reality the assessment of the inadmissibility (illegality) of certain publications due to their dissemination of so-called ‘hate speech’ must be carried out on the basis of existing regulations on the prohibition of dissemination of xenophobic speech and speech promoting racism (Brown, 2018). It can also be derived – albeit in an incomplete form – from the existing jurisprudence of the ECtHR and the CJEU, in which both Courts have decided on the inadmissibility of disseminating information that violates dignity or incites hatred or violence directed against a specific person or group of people. Hate speech is also examined in international law as a concept linked to the most serious crimes (Fino, 2020).

⁹ Directive 2011/93/EU of the European Parliament and of the Council of 13 December 2011 on combating the sexual abuse and sexual exploitation of children and child pornography, and replacing Council Framework Decision 2004/68/JHA, OJ 2011 L 335/1.

¹⁰ Directive (EU) 2017/541 of the European Parliament and of the Council of 15 March 2017 on combating terrorism and replacing Council Framework Decision 2002/475/JHA and amending Council Decision 2005/671/JHA, OJ 2017 L 88/6.

¹¹ Regulation (EU) 2021/784 of the European Parliament and of the Council of 29 April 2021 on addressing the dissemination of terrorist content online, OJ 2021 L 172/79.

¹² Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC, OJ 2019 L 130/92.

¹³ In this context, see the recent German Federal Office of Justice actions against Twitter’s advertising practices, BfJ press release available at: <https://cli.re/KJMZJa>, accessed on 6 April 2023.

¹⁴ See e.g., Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use, OJ 2001 L 311/67.

¹⁵ However, as Teršek (2020) notes, a descriptive definition of “hate speech” can be found in the ECtHR case law.

¹⁶ Communication from the Commission to the European Parliament and the Council – A more inclusive and protective Europe: extending the list of EU crimes to hate speech and hate crime, 9.12.2021 COM(2021) 777 final.

¹⁷ See e.g., Draft proposal for a directive of the European Parliament and of the Council on combating violence against women and domestic violence, COM/2022/105 final.

In 2020, the European Commission announced the commencement of work on EU legislation harmonising national criminal laws against hate speech on the internet (Peršak, 2022). However, so far no draft of this type of regulation has been presented, which taking into account the European Parliament's election calendar and that the current Commission is nearing the end of its term of office, leads to the conclusion that this issue will not see a quick resolution at the level of EU law.

It should be stressed that in public debate, the term “hate speech” is most commonly used to characterise speech that goes beyond the mainstream discussion, often qualified as exclusionary or characteristic of extremist groups (Paz et al., 2020). However, the essence of introducing a legal definition of hate speech at the EU level is to single out that part of hate speech whose unlawful nature is beyond doubt. The aim of introducing this definition should, therefore, not be to cover all manifestations of hate speech, but only those which, by their very nature, are likely to be legally unacceptable in all Member States.¹⁸

In addition to the assessment of the unlawfulness of a publication made on the basis of binding EU law, Member States also have a great deal of latitude in shaping the relevant national rules – in particular with respect to defamatory or insulting content, but also in relation to particular categories of publications (e.g. offences against religious sensitivities). These rules may be enacted both in areas excluded from EU law (e.g. the disclosure of state secrets) as well as in areas within the scope of application of EU law where the Union has not exercised its competence.

Individual Member States – recognising the gaps in EU regulations against the dissemination of illegal content – have in recent years also started to adopt their own national legislation aimed at combating hate speech more effectively (Hochmann, 2022). An example of such a national regulation is the French law against online hate speech (also known as the Avia Law, named after its drafter).¹⁹ In principle, the law only covered large information society service providers.²⁰

The Avia Law introduced specific obligations to report and block online content and included its own definition of illegal content. The substantive scope of the act covered content violating human dignity, including hate speech or insults based on race, religion, ethnicity, sexual orientation or disability. Similar regulations have also been adopted in some other Member States, including Germany and Austria (Echikson & Knodt, 2018; Griffin, 2022).

¹⁸ One example is hate speech against LGBT communities, which is not a publicly prosecutable offence in every Member State. A case in point is Poland: under Poland's criminal code, which has been the subject of criticism for a number of years, the prosecution of the offence of publicly insulting a person or a group of persons requires that the perpetrator's action be motivated by the “national, ethnic, racial or religious affiliation or lack of religious affiliation” of the victim(s) (see Art. 257 of the Polish Criminal Code). Similar restrictions do not exist in most of the other Member States, see Molter (2022, 6).

¹⁹ Loi n° 2020-766 du 24 juin 2020 visant à lutter contre les contenus haineux sur internet (Act n° 2020-766 of June 24, 2020 aimed at combating hateful content on the internet); version of the act that was later subject to constitutional review available at: <https://cli.re/1daYrb>.

²⁰ Article I-2 of the Avia Law.

3 Preventive content blocking

In principle, the DSA establishes two mechanisms that may require content filtering measures to be applied in a preventive manner.

The first, stemming from Article 9 of the DSA, relates to the obligation to implement the so-called “orders to act against illegal content”. Orders of this type, issued by Member States’ authorities empowered to do so (not necessarily judicial ones), can oblige a service provider to remove the publications indicated therein and to implement measures against the re-publication of identical or equivalent content. The possibility of applying such a measure has already been confirmed by the CJEU in the *Glawischnig-Piesczek* case, the which concerned of which was the permissibility of ordering a service provider to actively search for illegal content conforming to a previously notified search-pattern (Cavaliere, 2019). The Court held that such an obligation does not violate the prohibition laid down in Article 15(1) of the e-Commerce Directive – that is, the prohibition against establishing a general monitoring obligation. In the Court’s view, if the service provider is informed of specific instances of illegal content, the search for repetition of that content (or equivalent information) still falls within the logic of the liability framework under the notice and takedown model – and thus serves to eliminate published content whose illegal nature has become known to the provider (Keller, 2020). This is a highly controversial interpretation, which seems to ignore the reason for the prohibition against a general monitoring obligation under EU law. After all, the reasoning for that prohibition was based on recognising that a service provider should not be an actor actively involved in seeking out illegal content, and consequently should not become a general censor of users’ activities, becoming the sole arbiter of the direction, scope and purpose of the monitoring of others’ speech.

In addition to creating an obligation to implement measures to ensure the effectiveness of the orders received, the Regulation also establishes far-reaching obligations regarding the application of preventive content filtering mechanisms by the so-called ‘very large online platform providers’. Basically, this group may include entities whose services are used by at least 45 million users within the European Union. The Regulation also establishes additional obligations for this group of entities, including assessment and minimisation not only of the systemic risk associated with the use of the service provided for the distribution of illegal content, but also of its negative impact on the protection of fundamental rights – such as respect for dignity; the right to privacy; protection of personal data; freedom of expression; non-discrimination; and the protection of the rights of minors. Service providers for whom a systemic risk assessment reveals a significant risk are required to implement “reasonable, proportionate and effective” mitigation measures. Among these, the Regulation mentions, *inter alia*, “adapting content moderation processes”, which involves in particular, a reduction in response times and improving the quality of decision-making. Although the Regulation does not explicitly indicate an obligation to use algorithmic systems for this purpose, the reality of large service providers is that it is not possible to comply with this requirement using manual content screening. This applies, in particular, to the identification of harmful material, e.g. related to cyberbullying or child sexual abuse. Therefore, in some cases – like those related to instances of incitement to hatred – compliance with the Regulation may require the establishment of procedures and systems that make it possible to block the content considered unlawful within a maximum of 24 hours.²¹

²¹ Cf. recital (87) of the DSA.

It is worth recalling that the DSA establishes a general model of liability, but the obligations introduced are subject to clarification in provisions adopted as *lex specialis*. Examples are Directive 2019/790 on copyright and related rights in the Digital Single Market (hereinafter: CDSM Directive), and Regulation 2021/784 on addressing the dissemination of terrorist content online (hereinafter: Terrorist Content Regulation). Significantly, in the case of the obligations indicated in the latter act, – service providers must take action within 60 minutes of receiving an order (Rojszczak, 2023).

Given that hundreds of millions of pieces of content are published in electronic media every day, it is clear that service providers cannot meet the high demands associated with countering unlawful publications without extensive use of automatic content filtering systems (Gillespie, 2020). According to statistics published by X (formerly: Twitter), in July-December 2021 the company removed over 5 million pieces of infringing content.²² At the same time however, not in all areas of application can algorithmic systems identify cases of abuse with equal effectiveness. For example, according to Facebook in 2018 only 38% of removed material qualifying as hate speech was identified automatically, while for content promoting terrorism the figure was 99% (Koebler & Cox, 2018).

The above illustrates that one of the challenges faced by the EU legislature when drafting the DSA was to balance the application of automatic mechanisms in such a way that, while ensuring their effectiveness, they would not excessively interfere with users' rights. However, it is difficult in fact to pre-judge whether this objective has been properly achieved, as the final version of the Regulation addresses this issue in a very general manner. The DSA imposes a number of detailed obligations on service providers, but without defining clear standards to assess whether the measures applied go beyond what is necessary. Automatic moderation of content may be applied both at the stage before publication (upload filters) and to content already published to which users have raised objections. It seems that in the former case – i.e. blocking of information at the pre-publication stage – the act should have at least provided for the use of fast-track complaint mechanisms in order to ensure that a user's complaint can be dealt with within a reasonable time and without the application of automatic measures.

In fact, the Regulation does not even regulate in detail the areas in which upload filters can be applied. Although in principle a service provider is obliged to apply measures that respect the rights of users and are proportionate to the pursuit of the intended and legitimate aim, the Regulation does not at the same time set a clear standard to assess how much content misclassification can be considered acceptable.

Although it may seem impractical to define such limitations directly in the Regulation, indicators of that kind could be included in lower-level legislation, for example in the form of certification schemes for the correct operation of content filtering algorithms.²³ In any case, establishing measures that interfere with fundamental rights without defining a clear framework for their application creates risks for both users and service providers.

This issue seems all the more problematic because according to Article 7 of the DSA, a service provider may not be denied the benefit of a limitation of its own liability in cases where, by its actions “in good faith and in a diligent manner” it takes measures which, in its judgement,

²² See the “Rules Enforcement” section of Twitter’s transparency reports. Online: <https://tinyurl.com/4u8pp3sj>

²³ Similar mechanisms have been implemented for several years as part of the work related to the enactment of Regulation 2019/881 (the Cybersecurity Act) and the establishment of an EU certification framework for technologies used in the area of cybersecurity (Fuster & Jasmontaite, 2020; Mitrakas, 2018).

serve to detect, identify, or remove the content. This provision de facto establishes a general clause, substantially limiting the possibility of holding service providers liable for instances of excessive content censorship.

Preventive content blocking may take place based on either the information indicated in the notification (order), or as a result of an analysis of the forthcoming publication in cases where its illegality is evident given the wording used and/or the content presented.

In the first case, the service provider relies in fact for its decision-making on information provided to it by external parties – e.g. copyright owners or trusted parties identifying certain categories of illegal material (e.g. child paedophilia or terrorist content). Contrary to appearances, in this case too the service provider's role will not be limited to a simple – and technically uncomplicated – search for identical publications (e.g. by comparing digital identifiers generated by one-way hash functions, because in this way it would only be possible to identify binary identical publications, but not “equivalent” ones, as expected by the CJEU).

Multimedia material, even slightly processed (e.g. in terms of colours, duration, addition of a watermark, etc.) will no longer be binary identical. In such a case, algorithms more complex than mere hash functions need to be used to confirm that the content under examination is “equivalent” to another publication previously deemed unlawful. An example of such an algorithm is PhotoDNA, developed and used by Microsoft for, inter alia, the identification of paedophile content (Lee et al., 2020). Similar systems are being developed to identify hate speech. In this case, standard dictionary-based systems are also gradually being replaced by state-of-the-art text classification algorithms (Siegel, 2020).

The majority of such systems are subject to copyright protection, and the details of their operation are secret. In principle, there is no doubt that such solutions are based on machine learning algorithms (Isaac et al., 2022). This means that their effectiveness largely depends on test data – and therefore on the quality of the decisions made beforehand. In such a case, the decision to block content is not based on the compatibility of the material examined with previous material whose illegality has already been established, but on an individual, automatic assessment of the publication in question, resulting in the assignment of a specific risk index. Depending on the decisions taken by the service provider, material above a certain risk threshold is qualified as infringing the terms of service, and its publication is stopped. In reality however, this does not mean that the material contains illegal content (or is itself unlawful). It means nothing more than (and nothing less than) that the algorithm has determined, with a high degree of certainty, that the analysed material is similar to publications previously assessed as unlawful. In the case of a specific, individual decision, such a conclusion is not necessarily true in every case – after all, statistical validity does not predetermine the accuracy of individual decisions (Llansó, 2020). Therefore, in practice, automated systems are used to first block material that is likely to contain illegal content. This material is then reviewed in a manual procedure (Gorwa et al., 2020, 6).

The way in which the rules of service providers' liability are defined in the DSA means that these entities do not actually bear the negative consequences of the use of overly elaborate content filtering mechanisms. Thus, while obvious cases of abuse – such as the intentional blocking of a particular publication – would give rise to a breach of the Regulation, the use of elaborate algorithmic mechanisms – which often operate on the basis of non-transparent algorithmic models and may ultimately lead to the blocking of the same content – would not have negative consequences for the service provider.

The discretionary nature of decisions taken by service providers is limited in the DSA by several mechanisms. First, for certain types of services (in particular, hosting services), a

detailed explanation of the reasons for the decision must be provided, including, among other things, the reasons for blocking access to a particular publication. The second is a tiered redress mechanism, which – depending on the type of service and the size of the service provider – may include internal complaint-handling mechanisms, out-of-court dispute settlement and judicial redress. In practice, however, the DSA does not set any requirements as to the length of time taken for the resolution of such complaints, with the result that while the blocking (removal) of content may be an action carried out very quickly, the reinstatement of the contested publication may even take many years. In such a case, the judicial protection of freedom of expression may not be sufficient to protect users from overly broad content-blocking measures.

Finally, the third type of measure relates to the transparency of the decisions taken, ensured by extensive reporting mechanisms. While on paper the DSA obliges service providers to report detailed statistics showing the effectiveness of their content moderation measures, including the number of publications blocked as well as the number of complaints filed and the number of successful complaints, in reality this information – which is supposed to ensure the transparency of the measures taken – leaves little room for comparison between the practices of different service providers (Leerssen, 2023; Parsons, 2019). This problem was clearly illustrated by the summaries submitted by service providers in accordance with Regulation 2021/1232²⁴ – the level of detail of which is far from sufficient to draw conclusions about the quality of the content analysis mechanisms implemented (in this case in relation to electronic communications).

4 Future regulatory strategies for preventive content filtering

The discussion on the new obligations, and consequently on the new powers for service providers reveals an increasing regulatory trend towards a gradual transfer of responsibility for cyberspace governance to private actors (Kikarea & Menashe, 2019). On the one hand, such an approach seems to solve existing problems, often related to the slowness of public authorities in identifying and responding to cases of publication of illegal content; but on the other hand, it creates a risk of excessive censorship and a real loss of control over the activities of big tech companies, which may use their own non-transparent algorithms. These risks were already apparent before the DSA came into force and have led to discussions on alternative forms of liability regulation for digital service providers, including outside the EU (Klonick, 2018).

Interestingly, inspiration in this respect can be found in other legislative initiatives by the European Commission. The proposed Regulation to Prevent and Combat Child Sexual Abuse (hereinafter: CSAM Regulation)²⁵ proposes a new – partly extended – coordination scheme for content removal processes, in which the tasks performed by service providers are carried out under the closer supervision of public authorities. In particular, the draft regulation establishes a new type of legal measure – the so-called ‘detection orders’²⁶ – to set rules to be applied

²⁴ Regulation (EU) 2021/1232 of the European Parliament and of the Council of 14 July 2021 on a temporary derogation from certain provisions of Directive 2002/58/EC as regards the use of technologies by providers of number-independent interpersonal communications services for the processing of personal and other data for the purpose of combating online child sexual abuse, OJ 2021 L 274/41.

²⁵ Proposal of 11 May 2022 for a regulation of the European Parliament and of the Council laying down rules to prevent and combat child sexual abuse, COM/2022/209 final.

²⁶ See Art. 7 of the draft regulation (n. 26).

by the online service provider for the filtering (analysis) of content. While the provider will still be left free to decide on the technical measures to be applied, the order will define key criteria in order to limit the intrusiveness of the measures taken and ensure that they “do not go beyond what is strictly necessary to effectively address the significant risk identified.”²⁷ However, above all, the establishment of detection orders could help resolve doubts about how to legally qualify the filtering mechanisms used by service providers. In the sense of the proposed regulation, these activities will be performed by private entities, but on behalf of and under the supervision of public authorities and for the performance of a public task. As a result, doubts about whether these practices should be assessed in a similar manner to other forms of surveillance implemented by public authorities will disappear. In turn, this will create scope for an examination of the legality of the actions taken in the context of the surveillance standards shaped in the rich jurisprudence of the ECtHR and/or the CJEU.

The draft CSAM Regulation is noteworthy for another reason. It will set up an EU coordination body (the EU Centre on Child Sexual Abuse), one of whose tasks will be to maintain a register of reports (database) containing information on detected paedophile content. This register could be used in the future as a source of reliable information on illegal material that should be blocked by service providers in individual Member States. This mechanism creates a promising way to manage the process of blocking online content. The centralisation of information concerning the actions taken by individual service providers simultaneously increases the efficiency of content blocking mechanisms and the transparency of the decisions taken. Moreover, the proposal provides for content filtering technologies developed by the Observatory to be made available to service providers free of charge; thus further enhancing trust and credibility in the EU digital services market on the one hand, and ensuring that preventive blocking mechanisms function in a similar manner across the EU internal market on the other.

As a result, the Centre’s concept seems to address two of the main limitations of the system introduced in the DSA for combating the distribution of illegal content – namely too much discretion and a lack of transparency in the decisions taken by service providers. At the same time however, as the draft regulation is only at an early legislative stage, it is impossible to judge at this stage if and when the legal solutions proposed therein will come into force. Moreover, the CSAM Regulation only concerns the narrow area of identification and blocking of paedophile content, so it does not affect the application of identical mechanisms concerning other types of illegal material – blocked either on the basis of the DSA or other specific provisions (e.g. the Terrorist Content Regulation).

An alternative to the model proposed in the draft CSAM Regulation is the mechanism introduced in CDSM Directive.²⁸ This act essentially modifies and extends the liability framework established in the e-Commerce Directive (and currently also in the DSA) by requiring service providers to “make, in accordance with high industry standards of professional diligence, best efforts to ensure the unavailability of specific works and other subject matter.”²⁹ In effect, the CDSM Directive establishes more far-reaching content filtering obligations than those traditionally associated with the *notice and takedown* model (Romero-Moreno, 2020). The discussion concerning the proportionality of the solution adopted in the CDSM Directive –

²⁷ Recital (23) of the Regulation.

²⁸ See n 12 above.

²⁹ Art. 17(4)(b) CDSM Directive.

and its compatibility with EU law – lasted for years³⁰ and eventually led to a complaint to the CJEU, in which Poland sought the annulment of the preventive content filtering mechanisms established in the act.

In its 2022 judgment, the Court – accepting the position of the Advocate General³¹ – held that an obligation to remove specific content does not lead to the establishment of a general obligation to monitor, and therefore does not infringe the e-Commerce Directive (see earlier comments on Article 15(1) of the e-Commerce Directive and the current Article 8 of the DSA).³² In principle, it reiterated and extended its position previously expressed in the *Glawischnig-Piesczek* case by pointing out that the identification of infringing works does not require a service provider to “independently assess” the content of those works, and that it is sufficient to rely on the identifying information provided by copyright owners.³³ Leaving aside disputes over the definition of the term “independent assessment” – especially in context of how the self-learning algorithms commonly used in the mass data market operate – the mechanism introduced for identifying illegal content is also controversial. The notice and takedown model was developed to protect the rights of users who were harmed by a particular publication that targeted their legally-protected interest. This model shifted the burden of proof to the party that reported the infringement. Although this principle has been maintained in the CDSM Directive, given the massive nature of copyright infringement and the negative financial consequences of failing to comply with the requirements of the Directive, there is a risk that service providers will act passively; i.e. not carry out sufficient verification, but rather block all material designated by rights management organisations (Spindler, 2019, 355). This may lead to a further reduction in the transparency of the whole process, with one private actor (the service provider) following instructions from a number of other private actors (copyright owners or – more often – collecting societies), without sufficient oversight by public authorities.³⁴

It is clear that the content filtering mechanisms laid down in the draft CSAM Regulation and the CDSM Directive serve different purposes and correspond to infringements of a different nature and also of different gravity. According to the CJEU’s interpretation of the principle of proportionality,³⁵ this may justify the adoption of more far-reaching measures in the case of the dissemination of paedophilic content than those applied to copyright protection. However, it appears that the measures introduced by the CSAM Regulation – such as the establishment of a reference model for content filtering or the creation of a common EU register of blocked content – are mechanisms that could be equally effective in combating other instances of the distribution of illegal content online. Moreover, their implementation would help to remove a number of doubts regarding the compatibility of proactive content filtering measures with EU law, including those relating to the adequacy of the oversight mechanisms in place, and would thus help to establish not only a common legal framework, but also the practical application thereof throughout the European Union.

³⁰ See e.g. Ferri (2021); Geiger & Jütte (2021); Romero-Moreno (2019).

³¹ See in particular: Opinion of Advocate General Saugmandsgaard Øe delivered on 15 July 2021, Case C-401/19, EU:C:2021:613, para. 115.

³² Judgment of 26 April 2022, *Republic of Poland v European Parliament and Council of the European Union*, C-401/19, EU:C:2022:297.

³³ *Ibid.*, para. 90.

³⁴ For a broader discussion on the Court of Justice’s ruling on the CDSM Directive, see (Jütte, 2022).

³⁵ For a broader discussion on the Court of Justice’s ruling on the CDSM Directive, see (Jütte, 2022).

5 Summary

The dynamic changes in the global digital market have highlighted not only the opportunities but also the challenges faced by service providers, users and legislators alike. Owing to the mass nature of many services – in particular electronic media and social networks – nowadays, for a large proportion of users, digital services are their main source of information, replacing the need for traditional media (Westerman et al., 2014). However, given the technical possibilities available, this increasing use of digital services has also revealed a number of threats to the protection of individual rights, ultimately affecting the opportunity of building a modern information society. Such threats particularly relate to the ease with which untrue or defamatory content can be distributed, and how easily it can gain popularity and reach huge audiences, even in cases where its illegality seems obvious.

The changes introduced by the DSA are the EU legislature's response to these threats, which proposes extending the liability of service providers for illegal speech made by users. The EU legislature thus has taken the view that given the obvious economic asymmetry between the service provider and the user, specific obligations should be imposed on the service provider not only to eliminate illegal content, but to prevent its further dissemination. This leads to the re-shaping of the role of the service provider as no longer being a mere passive intermediary in the transmission of content, but an actor actively influencing the shape of the digital environment in which the user operates.

In this respect, the DSA undoubtedly fits into the regulatory model already introduced in specific acts regulating the functioning of the digital market – such as the CDSM Directive or the Terrorist Content Regulation. While in principle maintaining the prohibition – fundamental to the EU legal model – against imposing a legal obligation on service providers to actively search for illegal content, the DSA nevertheless has introduced a number of incentives for such activities.

Therefore, the DSA moves away from the previously dominant view of the service provider as a 'passive' intermediary in the transmission of information, and towards defining it as an entity obliged to respond to emerging infringements – not only when they are reported but also on its own initiative. As a result, there is a need for much wider use of algorithmic measures, including those involving proactive content monitoring. While the purpose of implementing this type of regulation seems obvious, one should not lose sight of the fact that compliance with the standards of necessity and proportionality requires a precise definition of the type of content that justifies the use of such automated measures. The broad category of "illegal content" seems to be too vague in this regard, and as a result creates the risk of arbitrary decisions. This will force providers of transnational digital services to develop their own content filtering rules in an attempt to reflect the requirements contained in the often divergent regulations in force in individual Member States.

In the course of the work on the DSA, a number of concerns were raised about the appropriateness of positioning service providers as "arbiters" – who in turn themselves create, implement and ultimately evaluate the application of content filtering standards (Jørgensen & Pedersen, 2017). This problem is particularly relevant in the case of upload filters and contributes to the recurrent allegations that the EU is introducing a preventive censorship model. It appears that the EU legislature – while recognising the problem – has not taken sufficient steps to adequately mitigate this risk through the provisions of the DSA.

Only once the DSA is being applied will it be possible to assess the extent to which allegations formulated today have turned out to be accurate. However, it is already clear that there is a need for further discussion on the future regulatory strategy for the application of preventive measures – a discussion that focuses in particular on the development of mechanisms that would limit or eliminate possible abuses arising from excessive content blocking.

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Studying the Role of Quality of Governance, Renewable Energy and External Monetary Assistance and Their Repercussions on the Ecological Footprint in the Context of Djibouti

*Evidence from ARDL, Impulse Response
and Variance Decomposition*

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Abstract

In accord with the aim of achieving global sustainable development, the current article provides empirical evidence on the role of quality of governance, renewable energy consumption and official development assistance (ODA) in providing a successful outcome on ecological footprints. According to the ARDL model, renewable energy decreases the ecological footprint, and among the variables selected to represent quality of governance, only controlling corruption mitigates the ecological footprint, whereas regulatory quality, rule of law and ODA increase the ecological footprint. This is likely, as the current Djiboutian environmental legislation fails to accommodate the ecological issue, and because other underdeveloped sectors absorb the cumulative ODA, thus leaving for small sums to be allocated to environmental activities. Furthermore, the finding of the impulse response and the variance decomposition project was that all the variables have a collective ad-hoc shock on the ecological footprint by restraining the level of the human imprint on ecology; however, it takes significant time to transpire.

Keywords

governance quality, ecological footprint, environmental management, ODA, renewable energy, Djibouti

1 Introduction

Despite the efforts of developing economies to address environmental deterioration, some countries contend that the primary offenders, namely *advanced economies*, should take the initiative to reduce environmental harm. This accusatory trend, of which and who is subjected

to environmental degradation *of culprit status* has, been addressed as an accusatory innuendo, made even by some world leaders (Charfeddine et al., 2018). Certainly, when we contemplate the cumulative effect of environmental degradation, lower-middle-income countries have a scant share of responsibility to uphold. Nevertheless, it is absurd to ignore the fact that, in the twenty-first century, it is not actually terrorism or recession that is the largest threat to humans, but rather climate change and global warming that menaces human survival, in the contest of witnessing rising sea levels, desertification and failing agriculture, therefore, there are further calls for a global cooperation network, regardless of the status of the countries belonging to it.

Several causes have been ascribed to the escalation of global climate change, including the use of energy, which produces CO₂ emissions (*the primary greenhouse gas in terms of quantity*). According to Intergovernmental Panel on Climate Change's (IPCC) 2007 estimate, CO₂ emissions make up 76.7% of all greenhouse gas emissions to date. As companies are expanding and economies are becoming more open, the influence of CO₂ emissions is severe. From a collective perception, it is reasonable to assume that this trade liberalization and economic boom in many underdeveloped countries can be regarded as a miracle, as it inspires and produces greater amounts of human capital development (Solomon et al., 2007).

Ironically, this positive capital transformation of developed countries from developing nations has put considerable pressure on nature and undermined nature's capacity, due to the rising demand for supply and trade agreements. For instance, despite a 25% increase in global biocapacity over the past 50 years, the ecological footprint (EF) has grown by 190% during the same time period¹. Owing to this discrepancy between the ecological footprint and biocapacity, the globe is perilously experiencing catastrophic weather events, and rising temperatures in numerous locations. Indeed, the lack of biocapacity and human-induced increasing demands on the environment have prevented carbon emissions from being absorbed. As a result of this condition, there has been a decrease in biocapacity activities, due to which, both a disruption in the biological life cycle and a rise in natural catastrophes have materialized.

Scholars contend that the variable ecological footprint is rather persuasive, as it incorporates many environmental factors (Al-Mulali & Ozturk, 2016; Baabou et al., 2017). For example, the ecological footprint is estimated by taking into consideration how much land and water are required to generate the resources that are used by people, communities, or even countries. This includes the water and land needed to grow food, produce clothes and other necessities, as well as the energy and resources needed for travel, communication, and other tasks. The ecological footprint also considers the amount of water and land required to sustain the waste produced by human activity, including carbon dioxide emissions from the burning of fossil fuels. Similarly, the so-called ecological footprint may be used to evaluate how sustainable human activity is and to spot places where environmental effects might be minimized. The efficacy of sustainability projects may be assessed, and decisions concerning resource usage and management can be made knowledgeably, by monitoring changes in the ecological footprint over time (Destek et al., 2018).

With regard to this, the Djiboutian government has made several efforts to address ecological issues; first, the development of protected areas is one notable example of the Republic of Djibouti's attempts to lessen its ecological impact. The *Day Forest National Park* was created by the government in 2,000 to preserve the distinctive ecosystems of the nation and to safeguard endangered animals. Almost 140 different bird species may be seen in the park, along with

¹ Footprint Data Foundation, York University Ecological Footprint Initiative, and Global Footprint Network: National Footprint and Biocapacity Accounts, 2022 edition. Available online at <https://data.footprintnetwork.org>

numerous different antelope species. The *Ghoubbet Reserve*, which was created in 2006 to safeguard the nation’s marine biodiversity, including a number of shark and ray species, is another example. The country is also promoting the use of renewable energy sources as a means of reducing its environmental impact (UNEP-WCMC, 2023).

The nation’s first wind farm was put into operation in 2020, and it is anticipated that 35% of the population could receive renewable energy from it, however, when the current project will be fully implemented is debatable (Kohen, 2021). In 2022, a large amount of financing for environmental initiatives was also provided to the Republic of Djibouti by foreign organizations. For instance, the Global Environment Facility and the U.S. authorized \$20 million to assist sustainable land management in Djibouti, which would help to reduce soil erosion and enhance food security (The World Bank, 2022). The Green Climate Fund has also authorized money for initiatives supporting the preservation of biodiversity, the protection of coastlines, and the promotion of renewable energy throughout the nation, and recently, in 2022, the Minister of the Environment’s department in collaboration with the Ministry of Higher Education officially launched the Regional Research Observatory for the Environment and Climate (RROEC).²

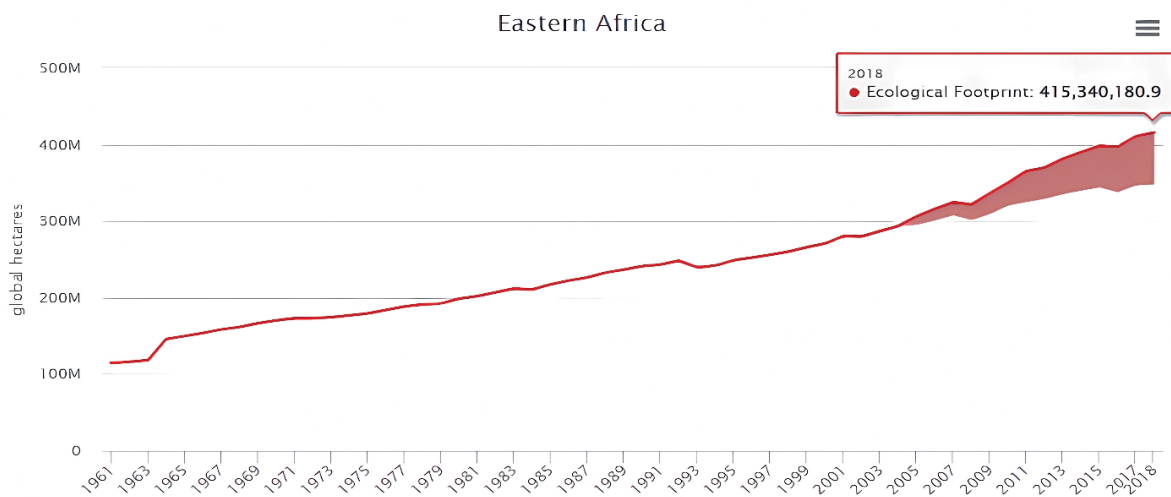


Figure 1. Ecological footprints in East Africa regions
Source: Global ecological footprint network

However according to the world ecological footprint; the East African countries, despite the efforts of ecological mitigation, are facing a greater calamity. The level of ecological footprints increased to 415 million in the whole region; this number is alarming compared to the early 2000s, when it was below 300 million; see *Figure 1*. Certainly, population expansion and climate change have worsened the situation. The Republic of Djibouti also hosts significant numbers of migrants and asylum-seekers from the region. Noting from *figure 2*, both resource depletion and poor policy frameworks have impeded environmental performance. According

² At a conference lasting 3 days (23 to 25 October 2022) organized by the Ministry of Higher Education and Research. The event brought together scientists, NGOs, researchers, and decision-makers from around the world to discuss the fight against climate change in Africa. According to the minister’s speech, the aim of the conference was to realize the Government’s desire to integrate the effects of climate change into public environmental policies and identify national and regional focal points, in which the structure will be responsible for providing climate data to better counter the consequences of climate change.

to the graph, the remained biocapacity for the country is estimated to be 684,733, lower than the ecological footprint (2 million) and it is predicted, given the current state of its biocapacity deficit, the country could reach a certain threshold at which the total biocapacity area available for the population will further shrink relative to its ecological footprint.

Considering the above points, the given research provides an empirical study on how governance qualities (*by selecting regulatory qualities, rule of law, and control of corruption as representative of the quality of Djiboutian policy-makers*), renewable energy consumption, and official development provide assistance to mitigate ecological footprints in the republic of Djibouti. The research contributes to the literature, (i) by employing the ecological footprint variable as a representative of the environment instead of CO₂ or other environmental proxy variables – which in most cases cannot fully assess the whole environmental performance in a uniform manner; this factor is oriented more toward environmental policy. (ii) Second, we juxtapose the role of Djiboutian governance qualities by fully focusing on the quality of national regulation, the level of upholding the rule of law, and the extent of controlling the rate of corruption with ecological issues. (iii) Unlike previous studies, we include official development assistance in our study – considering Djibouti’s lower-middle income status. Previous scholars, have excessively focused on foreign direct investment (FDI) with a relative exploration of the link between ODA and ecological footprint.

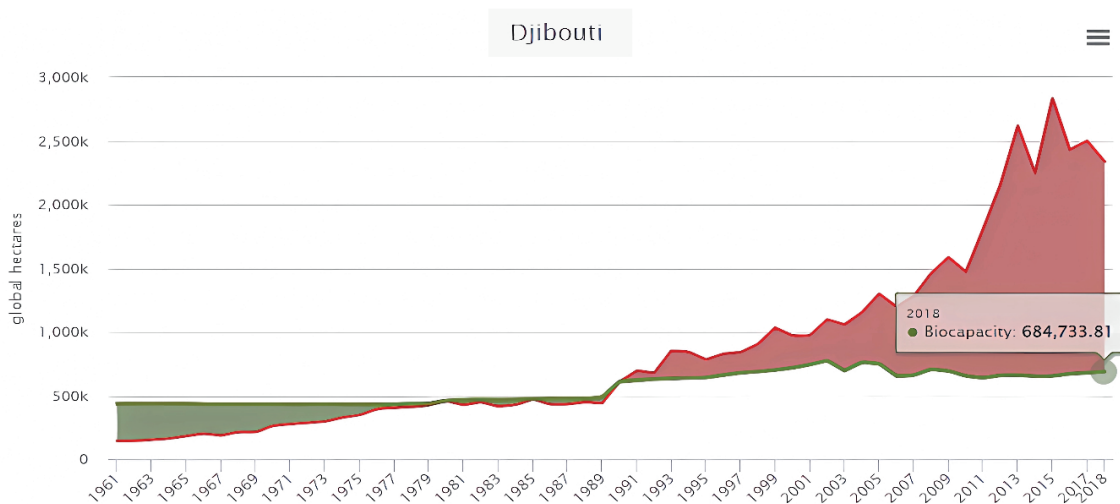


Figure 2. The red line presents ecological footprints, whereas the green trend represents the biocapacity
 Source: Global ecological footprint network

To address the following aims, we use an autoregressive distributed lag (ARDL) to examine the long-run and the short-run between the selected variables. followed by a Toda-Yamamoto test to check the effect of the variables on each other. Finally, both an impulse response function (IRF) and variance decomposition tests will be conducted to analyze the future shock of the independent factors on the ecological footprint. The paper is divided as follows: first, an overview of the literature papers, followed by a methodology section and the econometric models used. Then, in section 4, I will provide both the results and the discussion, whereas policy recommendations in accordance with the findings will be provided in section 5, finally, the conclusion and remarks will be included in section 6.

2 Literature Review

The effect of climate change on environmental quality is a major priority on the world agenda. The concept of sustainable development, which is based on three pillars of environmental, sociological, and economic sustainability, has grown in importance over the past two decades (Ulucak & Khan, 2020), and, when we look closely, most of these above-mentioned pillars are directed more toward ecological sustainability (Ozcan et al., 2018).

2.1 The relationship between renewable energy consumption and ecological footprint in African states

Many scholars on environmental governance juxtaposed energy and environmental quality. Those scholars who exclusively focused on the African continent selected diverse states, such as Sub-Saharan African states (Nathaniel & Bekun, 2021; Kohler, 2013), Kenya's environmental sector (Ozturk et al., 2016) and Tunisia (Farhani et al., 2014). Although those studies were interested in how energy consumption (Natural energy) impacts CO₂ emissions, according to their findings, non-renewable energy consumption in these parts of the globe is the main cause of environmental degradation. However, their empirical focus was limited to CO₂ emissions, which could not account for the whole environmental impact for several reasons. (I) CO₂ emissions are restricted to certain sectors with a high intensity of carbon dioxide emissions; it could be either a *manufacturing company* or *the transportation sector* as a whole. (II) compared to developed nations, African nations emit relatively small quantities of CO₂, for which only huge oil-exporting countries can be taken into account; as such, it is worth examining environmental deterioration from an ecological footprint perspective, considering how it incorporates a broader scope of environmental degradation, in contrast to other proxy variables used by previous studies.

Nketiah et al. (2022) conducted a study on how the use of renewable energy, biocapacity, and tourism may either increase or decrease the ecological footprint (ECF) in West African nations. The study discovered favorable correlations between real income, tourism, renewable resources and human capital. Alternatively, the ad-hoc impact of non-renewable energy, such as coal consumption (which *is the main energy resource of South Africa in particular*) on natural resources in African soil has been addressed by Udi et al. (2020); indeed, by confirming previous studies' findings, the authors suggested that this excessive natural resource exploitation without considering the implementation of green framework to compensate for coal addiction has slowed Africa's transition to renewable energy. However, the author ignores the reality that South Africa is an emerging country with GDP growth estimated at 4.9 in 2022 percent, as a result, overshadowing the efforts toward a green transition.

It is worth noting, that energy demand is met from two main streams, either from non-renewable energy, which involves fossil and nuclear fuel; or renewable energy, such as solar, hydraulics, wind, hydrogen, and biomass. In fact, energy demands have been increasing in recent years in proportion with population expansion in advanced nations, and in this context of population expansion in developed nations with respect to their economic growth, their energy demand is estimated to increase by 90% by 2035 (Uddin et al., 2019). Ironically, expanse of economic growth comes with an increase in energy consumption as other rich sectors start to materialize, however, a less direful scenario can be noted from this case, for instance, emerging countries with abundant natural resources will receive an increase in energy demand from advanced nations, but if these emerging nations adjust their energy portfolio by turning to green

energies, underdeveloped countries vulnerable to market energy transformation (including Djibouti) will be the most affected by such a policy outcome.

2.2 Contextualizing the standpoint of quality of governance with ecological footprints

The substantial role of institutions in ecological footprint mitigation is fragmentary in the literature, one side of the scholars identify an unreliable effect of legislation within state contextualization, (Karşılı & Erkut, 2022; Mehmood et al., 2022). On the other side, academicians counter-argue with such findings by providing the reverse outcome, by contending the ineffectiveness of so-called regulation (Oteng-Abayie et al., 2022; Makhdum et al., 2022; Charfeddine & Mrabet, 2017). This respective discrepancy can only be conceived from a country-level analysis, in which the recently adopted legislation by the state can be considered relevant for evaluation with minimal collective generalisation.

Even so, due to market profitability and the given state's level of foreign direct inflows, the nature of these environmental regulations could be disintegrated in a biased context. When a market is highly profitable, there is a tendency for businesses to prioritize economic interests over environmental concerns. In such conditions, there might be pressure to relax or alter environmental regulations to favor economic growth. Furthermore, states receiving substantial FDI may be inclined to make regulatory concessions to attract and retain foreign investors, potentially including relaxed environmental standards. This situation could lead to a disintegration of environmental regulations, where they are fragmented or weakened to accommodate the interests of powerful industries and foreign investors, creating a biased context that prioritizes economic gains over environmental protection, potentially at the expense of sustainability and public welfare.

For instance, the fact of adopting stringent regulations to achieve ecological footprint repercussions is more likely to encompass advanced nation systems that strive to introduce green market competition; however, emerging nations and underdeveloped countries are apathetic to such transformation; for them economic growth overshadows this sustainable transition, while the greater emphasis on stricter laws for the national environment is overlooked for the sole purpose of attracting foreign companies who are seeking markets driven by the slightest sustainability agenda.

A more formal comparative example between developed nations and emerging countries can be addressed from trade and human capital development with an emphasis on governing institutions. Countries with lower trade intensities may prioritize environmentally damaging economic activity to cover any economic gaps that may result from reduced trade volumes. However, in nations with larger trade intensities, priorities may shift toward ecologically-friendly behaviors, and potentially undoing the environmental degradation caused by trade (Addai et al., 2022). Additionally, lower-income nations are more prone to develop into pollution hotspots – since increased trade activity in these nations is thought to have detrimental consequences on environmental performance. However, as the economy expands and people's living standards rise, nations are better able to offset the costs associated with enhancing environmental health and, in retrospect, can afford to make the necessary compromises to stop the depletion of the ecosystem's vitality, which would enhance environmental performance.

This ecological depletion caused by indirect state involvement can be observed blatantly in trade agreements. The effect of trade liberalization with a high level of corruption in the institutional framework have been found to trigger environmental degradation (Tobin et al., 2018). However, theoretically, some academics hint that if energy is employed and used judiciously, pollution may be kept to bare minimum levels (Pita et al., 2020).

The asymmetric effect of policies on trade, and particularly on companies competing in the same market, is viewed from another dimension by environmental economists. Their theory predicts that excessively stringent environmental legislation will boost *compliance intentions*, and shift the whole transportation sector in a low abatement cost direction (Dechezleprêtre & Sato, 2017). This is particularly troubling for global pollution, since it implies that, in addition to the economic effects on domestic businesses, abatement efforts will be somewhat negated and rising emissions will be shifted to other emerging countries due to *company migration*. Although, despite the reality of corporate resistance in the face of stringent regulation aimed at sustainable development, and in most cases, supported by neo-institutionalist and institutional theorists, in which they suggest that the after-effects of these regulations could be a panacea for environmental degradation (Addai et al., 2022).

It is evident that a nation with strong institutions has a solid foundation for future economic growth. Institutional disparities are mostly to blame for variations and stagnated economies in regional growth. A framework for institutional quality and the evaluation of this qualitative topic has been developed in recent works on institutional economics (Zhang et al., 2022). A strong institutional foundation accelerates growth by encouraging economic activity, such as enhancing productivity and effectively allocating resources. The freedom of choice is supported within this institutional contextualization; likewise, economic development possibilities are made easier by preserving property rights, cutting transaction costs, and discouraging rent-seeking behavior (Li, 2021).

The interconnection between institutions' characteristics and the environment had also been noted by Epo & Nochi Faha (2020), where the authors studied how income growth, natural resources and institutional quality shape 44 African countries' GDP trajectory. Certainly, these authors were focused more on economic expansion than ecological context; nevertheless, however, we are engaged in examining the role of institutional qualities in projecting positive outcomes. Turning back to their study, the findings demonstrated that real income and natural resources vary according to institutional qualities, further validating the dependency between their variables studied.

These institutional quality thresholds might be obsolete if not already achieved by advanced states, yet the paradigm of institutional betterment to accommodate societal scope remains widely studied and addressed, considering the relative level of advancement in African states. Al-Mulal & Ozturk (2015) decided to view institutional factors in ecological footprint mitigation by using the political stability variable as a proxy. The results of the Pedroni cointegration test revealed that ecological footprints are reduced with a stable political system in place.

One might argue how much such an effect could transpire. The study by Al-Mulal & Ozturk (2015) concentrated on the Middle East and northern African countries (MENA), which has had several political upheavals and conflicts over time, which can have a direct impact on the environment. As an illustration, during the 1991 Iraqi-Kuwaiti conflict, Iraqi forces torched Kuwaiti oil reserves, causing a half-ton of air pollution, smog, and acid rain. Dams and wastewater treatment facilities were also destroyed as a result of the conflict. Other battles, including those in Afghanistan, Iraq against the United States, and the Israeli-Lebanon war, caused significant damage to the region's air, water, and land; in turn, leading to a number of environmental issues. Therefore, indicators of political instability may thus be one of the key causes of the MENA region's environmental deterioration.

According to (Dasgupta & Mäler, 1995) environmental preservation and civil and political rights are closely related. Strictly speaking, political and civil rights play a significant role in safeguarding the environment's resource base, at least when compared to totalitarian nations

where such liberties are absent. In support of this claim, Dolšak & Dunn (2006) propose that political transparency will enhance environmental quality. Nevertheless, mixed findings are found in empirical investigations. Some researchers indicate that institutional elements have a favorable impact on environmental deterioration, while others hint that they may have little impact or even impair environmental quality. Torras & Boyce (1998), for instance, looked at the connection between seven environmental quality indices and political institutional elements: they demonstrate how democracy enhances the environment, especially in developing nations. However, in a recent study by (Hassan et al., 2020) on the extent of institutions in correcting environmental pollution in Pakistan. Reiterating Hassan's conclusion – due to corruption in the national Pakistani governments, public institutions use more fossil energy and produce more CO₂ emissions with less commitment to environmentally-friendly policies and, at this pace, achieving green sustainable development in Pakistan is a mirage unless a renewable energy policy is rapidly implemented.

The influence of corruption on environmental quality has been mentioned in the literature, as the latter concept operates indirectly through its impact on income levels. Corruption within a society can hinder economic development and equitable income distribution. When corruption is rampant, it often diverts public resources and investments away from essential environmental initiatives and sustainability projects. This not only limits the funds available for environmental protection but also perpetuates income disparities, as corrupt practices can favor certain interest groups and exacerbate poverty. Hence, reduced economic growth and unequal income distribution can lead to diminished resources for environmental conservation efforts, ultimately impacting the overall quality of the environment as environmental protection and conservation take a back seat to economic and political interests.

Within the literature, there exist three distinct perspectives regarding the relationship between corruption and economic growth. The first viewpoint, commonly referred to as the 'grease the wheels' (GTW) hypothesis, posits that corruption has a stimulating effect on economic growth, as supported by various scholars such as Lui (1985), Acemoglu and Verdier (1998), Rock and Bonnett (2004), and Huntington (2006). According to the GTW hypothesis, corruption may assist entrepreneurs in circumventing inefficient administrative processes and protracted bureaucratic procedures that impede investment, therefore enhancing economic efficiency (Chang and Hao, 2017).

The second perspective, often termed the 'sand in the wheels' (STW) hypothesis, posits that an escalation in corruption exerts a dampening effect on economic growth. This viewpoint finds support in the work of scholars such as Rose-Ackerman and Palifka (2016), and Glaeser and Saks (2006). According to the STW hypothesis, corruption diminishes economic growth by diverting public expenditure away from productive sectors and into less fruitful domains. This diversion misguides market incentives, fosters increased inequality of opportunity, elevates transaction costs, and introduces uncertainty into decision-making processes.

A more recent perspective, often referred to as the third opinion, posits a complex relationship between corruption and economic growth characterised by an inverted U-shaped pattern. This viewpoint has been elucidated by scholars like Méndez and Sepúlveda (2006), Aidt (2009), Swaleheen (2011), and Zhou and Peng (2012). According to this perspective, corruption may have a positive effect on economic growth in countries with less effective institutional structures. However, for nations with stronger and more robust institutions, corruption tends to hinder economic growth. Consequently, the existing body of research lacks a unified theoretical consensus on the precise impact of corruption on economic growth. This lack of consensus further complicates efforts to establish the indirect influence of corruption on environmental degradation definitively.

2.3 How does official development assistance (ODA) affect ecological footprints?

In 2009, ODA completely modified its aid assistance due to emerging climate change issues. The ODA members proposed a package of monetary climate mitigation while pursuing the old objective of the organization's "economic development" (Michaelowa & Michaelowa, 2007). In the same year, the Organization for Economic Co-operation and Development (OECD) incorporated a climate adaptation framework into their development cooperation. Although, the membership of ODA communities is growing, with considerable numbers of countries transitioning from recipient to donor status, only a few papers have examined how ODA contributes to ecological footprint mitigation.

Momita et al. (2019) pointed out that foreign aid generally poses a barrier to economic expansion. This gloomy reasoning is that an increase in ODA inflow will generate greater dependency on external aid, whereas, in the same case, official development assistance is used by some authorities to pay external personal debts, thus failing to allocate the received sum to their desired sectors. Although, as ODA and macroeconomic factors that determine states' growth are related, we are expected to regard economic growth before investigating the environment, since scholars contend that economic growth should be achieved alongside sustained financial institutions in order to finance climate activities.

Pragmatically, on one side, when countries reach a positive threshold of economic growth with the assistance of external monetary assistance, the urgency of shifting toward the environment becomes probable, as several public sectors become minimally reliant on foreign aid (the recipient case); on the other side, as countries experience an increase in national growth with relatively healthy balanced export levels by creating a desired market for their products (donor case), we witness an ODA spillover in underdeveloped countries, in the sense of acquainting a decent sum of ODA accumulation, which in turn, will lead this extra monetary assistances to be allocated for environmental purposes; however, the occurrence of such an outcome of *favorable allocation* remains questionable, especially in highly corrupt countries.

Furthermore, Lee et al. (2020) have used panel data to study the effect of ODA on environmental quality (CO₂), with a focus on South Korea from 1993 to 2017. The authors used a modified impact, population, affluence, and technology (IPAT) model and a simultaneous equation, respectively. The findings suggested that the ODA has a direct impact on CO₂ emissions in the recipient countries, in which a small significant effect was recorded from ODA to CO₂ reduction. In a similar vein, Daly et al. (2022) studied how pouring financial aid into different underdeveloped sectors around the globe could assist in sustainable development but, to the authors' surprise, the data revealed that official development assistance and public debts cause the environmental process to stagnate rather than providing substantial environmental protection.

3 Methodology of the study

This research evaluates the causal effect and the relationship between governance factors, official development assistance and renewable energy consumption on the ecological footprint. The current research focuses exclusively on the Republic of Djibouti from the period of 1998 to 2018. Considering the availability of the data provided by the global ecological footprint, which is limited to 2018, the research therefore selects a period of twenty years. Researchers

often incorporate the ecological footprint metric into their studies based on data availability, aligning it with other factors in terms of temporal congruence, ensuring that the timeframes of these variables are synchronized with the ‘Ecological footprint’ dependent variable (Ponce et al. 2023; Kibria, 2023; Uzar & Eyuboglu, 2023). The comprehensive variable (Main variable) used to measure the global ecological footprint stands for the level of ecological footprint that human actions have on the environment (Al-Mulali & Ozturk 2016; Kihombo et al., 2021).

On the other side, our independent variables are regulatory quality, control of corruption, and rule of law; those factors were employed as a proxy for quality of governance. The selection of regulatory quality, control of corruption, and rule of law as independent variables in our study is underpinned by their robust conceptual grounding as proxies for quality of governance. These factors have gained prominence in the academic literature for their capacity to encapsulate critical dimensions of the effectiveness of governance. Regulatory quality reflects the government’s ability to formulate and implement sound policies and regulations; the control of corruption index denotes the transparency emphasis and avoiding the prevalence of corruption within a society, while the rule of law assesses the extent to which legal frameworks are upheld and enforced. Together, these indicators offer a comprehensive overview of governance quality, making them well-suited choices for our analytical framework.

The data on governance factors were pooled from the world governance indicators under the World Bank development umbrella. In addition, the study includes two control variables (I) official development assistance (ODA). Observe Table 1. Considering that the article focuses on a lower-middle income country with relatively non-existent foreign direct investment; consequently, opting for more of a variable measuring the monetary assistance will be relatively adequate rather than private monetary spill-over such as FDI. Generally, official ODA factors are often considered more suitable for sustainability evaluation in lower-middle-income countries than FDI inflows due to their inherent focus on developmental and humanitarian goals. ODA, typically provided by donor countries and international organizations, is designed to promote socio-economic development, poverty reduction, and environmental sustainability in recipient nations. In contrast, FDI primarily serves the interests of foreign investors and may prioritize profit generation, potentially leading to resource extraction and environmental degradation in host countries. (II) Renewable energy consumption was employed alongside other independent factors, since it provides robustness to the model and has been used as a potential determinant of environmental betterment. Its inclusion reflects a commitment to quantifying the sustainability of human activities by accounting for energy sources that have significantly lower ecological footprints than fossil fuels. By incorporating renewable energy consumption into the assessment, it acknowledges the importance of transitioning towards cleaner and more environmentally friendly energy systems, thereby providing a more accurate picture of humanity’s ecological impact (Nathaniel & Khan, 2020).

Abbreviation	Name	Sources	Variable explained
Log ECFP	Ecological Footprint	Global Ecological Footprint Network (GFN)	It measures human impact on ecological resources per person
RQ	Regulatory Quality	World Governance Indicators (WGI)	captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote state development.
Log RENP	Renewable energy consumption	World Governance Indicators (WGI)	This indicator includes energy consumption from all renewable resources: hydro, solid biofuels, wind, solar, liquid biofuels, biogas, geothermal, marine and waste
RL	Rule of Law	World Governance Indicators (WGI)	captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government’s commitment to such policies.
CC	Control of Corruption	World Governance Indicators (WGI)	Captures the perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.
Log of ODA	Net official development assistance and official aid received (current US\$)	World Development Indicators (WDI)	Monetary aid assistance spillover for development and economic growth

Table 1. Variable explanations and their respective sources
Sources: Compiled by the author

3.1 Explaining the method used

The current study employs four econometric techniques: first we start with an ARDL model, then a causality test and finally we run an impulse response and variance decomposition.

3.1.1 The ARDL technique

The primary model under consideration for this study is the Autoregressive Distributed Lag (ARDL) model; generally, this is a powerful econometric tool utilized for several critical purposes in empirical economic research. Its advantages lie in its ability to address various aspects of time series data analysis, offering a comprehensive framework for examining both short-term and long-term relationships among economic variables. One primary advantage of the ARDL model is its applicability in situations where the variables involved may exhibit non-stationary behavior, a common characteristic in economic and financial data. By accommodating non-stationarity through differencing or transformations, the ARDL model permits the investigation of cointegration relationships, which reveal the existence of stable, long-run equilibrium associations between variables. The ARDL model also allows for the examination of short-run dynamics by including lagged values of variables, thereby capturing the speed of adjustment towards equilibrium following shocks or changes in the system.

The utilization of the ARDL model typically entails several procedural stages. Initially, we must establish the suitable differencing orders for each variable to ensure stationarity. Subsequently, the model's structural configuration is ascertained, encompassing the determination of lag lengths for both autoregressive and distributed lag components. Model estimation is then carried out, typically employing methods such as ordinary least squares (OLS) or other relevant techniques. Following this, we undertake diagnostic examinations to assess the model's goodness of fit, including scrutinizing residual autocorrelation, heteroscedasticity, and serial correlation. Ultimately, the analysis encompasses the interpretation of both long-term and short-term relationships, often facilitated by significance tests on coefficients and informed by economic theory.

3.1.2 Toda-Yamamoto (TY) Causality test

The Toda-Yamamoto causality test serves as a specialized econometric method for examining causality within non-recursive or feedback contexts. It becomes essential when multiple variables are believed to exert simultaneous, mutually reinforcing influences, surpassing the capabilities of conventional Granger causality testing. This test is particularly relevant for investigating bidirectional or concurrent causal relationships, allowing for a more comprehensive exploration of complicated causal structures. In macroeconomic analysis, where variables correlate, it uncovers feedback loops and simultaneous causal links, elucidating how one variable's changes can both impact and be impacted by others.

3.1.3 Impulse response function

Impulse response analysis and variance decomposition serve as pivotal tools in the domain of time series econometrics for comprehending the dynamic behaviors and interconnectedness among economic variables. The process of conducting impulse response analysis comprises several fundamental steps. Initially, we estimate a suitable time series model, frequently opting for a Vector Autoregressive (VAR) model, grounded in empirical data. Subsequently, specific variables of interest are designated for shock identification. These chosen variables are subjected to structural shocks, conventionally set at a unitary magnitude impulse, while holding other variables constant.

3.1.4 Variance decomposition analysis

Conversely, variance decomposition represents another invaluable technique employed to dissect the origins of variability within a VAR system. This method entails the partitioning of the forecast error variance of each variable into components arising from its own historical innovations and those originating from other variables within the system. To perform this, we estimate the VAR model and compute forecast error variances for each variable. These variances are then attributed to the shocks originating from individual variables, shedding light on the relative significance of each variable's innovations in elucidating the overall variance within the system. This method thus offers a structured approach for comprehending the influence of endogenous shocks on the variability of economic variables within a multivariate framework. The amalgamation of impulse response analysis and variance decomposition furnishes a holistic comprehension of the dynamic interplay and contributions of economic variables in response to shocks. Consequently, this aids in facilitating more discerning economic analysis and policy decision-making processes.

4 Adopted econometric model for the study

First, a thorough explanation of the function that will serve as the foundation for this study in light of the suggested variables will follow. For instance, we start with a more basic regression that incorporates all the variables.

$$ECFP_t = \beta_0 + \beta_1 \ln RENP_t + \beta_2 RQ_t + \beta_3 RL_t + \beta_4 \ln ODA_t + \beta_5 CC_t + \epsilon_t \quad 1$$

Where (ln) represents the natural algorithm of renewable energy and official development assistance. Logarithms are more useful to address exponential equations and to balance the data. For instance, if the data is greater than one hundred (100), we use a natural algorithm to explore the properties; as result, it will make the interpretation of the standard deviation and coefficient of the applied model easier and prevent discrepancy while simultaneously creating a balanced threshold with other variables. denotes for , whereas equals the study’s period (1998, ..., 2018). On the other side, the is a parameter that measures the spatial changes, or how the constant fluctuates over time. and shows the residual term at time . Finally, lnRenp= renewable energy consumption; RQ= Regulatory qualities; RL= rule of law; lnODA= official development assistance; and CC= control of corruption, *equation 1*.

4.1 Step-I-unit root test

Due to the fact that the majority of time series data are non-stationary, it is necessary to look first at the unit root problem. The study employed an auto-regressive model (AR) to explore the stationary series.

$$\kappa_t = \theta \kappa_{t-1} + \epsilon_t \quad 2$$

In accordance with above equation, there are three conceivable applications of this paradigm, which are as follows: the variable could be stationary at level (I), at first difference (II), or the series if non-stationary (II). In cases of failing to demonstrate the presence of stationarity, whether it is at level of at first difference, the variable should be discarded. Following these possible scenarios, the study opts for the Dickey–Fuller (ADF) unit root test to the integral order of the variables (Zahra et al., 2022). This particular test (ADF) includes the optimal lag selection of each of the factors. The optimal lag was fixed to 2 lags, whereas Akaike information criteria (AIC) is utilized as potential determinant of the optimal lag length. The following econometric method is used in this paper, observer *equation 2*.

$$\begin{aligned} \Delta \kappa_t &= \beta_0 + \theta \kappa_{t-1} + \sum_{i=1}^n \delta_i \Delta \kappa_{t-1} + \epsilon_t \\ \Delta \kappa_t &= \beta_0 + \beta_1 t + \theta \kappa_{t-1} + \sum_{i=1}^n \delta_i \Delta \kappa_{t-1} + \epsilon_t \end{aligned} \quad 3$$

($\kappa_t - 1$) which is an axiom of the AR; is the intercept term, denotes the coefficient of trend variables, is utilized for the error term at time t in the model. The assumption for the ADF test implies that the data have a unit root problem, whereas the second hypothesis considers that the data are unit root problem-free; *equation 3*.

4.2 Step-2 ARDL approach

The Autoregressive Distributed Lag Model allows to the relationship between certain selected variables to be tested and to determine the extent of this relationship, whether it falls under the short or the long run (Pesaran et al., 2001). As the objective of this study is to examine both the relationships and the effect, an ARDL test will be the prime model to help us assess the short-run and long-run relationship between the explanatory (Renewable energy consumption, Official development assistance, regulatory quality, control of corruption and rule of law) variables and the dependent variable (Ecological footprint). Although, it is worth noting, that the short-run and long run are calculated differently. While the short run model takes the following mathematically form:

$$\begin{aligned}
 ECFP_t = & \alpha_0 + \sum_{i=1}^P \phi_{1i} \Delta ECFP_{t-i} + \sum_{i=1}^S a_{2i} \Delta \ln RENP_{t-i} + \sum_{i=1}^T a_{3i} \Delta RQ_{t-i} + \sum_{i=1}^U a_{4i} \Delta RL_{t-i} \\
 & + \sum_{i=1}^V a_{5i} \Delta \ln ODA_{t-i} + \sum_{i=1}^W a_{6i} \Delta CC_{t-i} + \varepsilon_t
 \end{aligned} \tag{4}$$

Equation 4 shows short-run effects with denoting the short-run parameters, while Δ demonstrates the differences for stationarity, whereas, ε_t in the equation shows the residual term with zero mean and constant variance.

Although extending the model to a long-run should only be decided after taking into account the wald F-statistics. A null hypothesis indicates the absence of cointegration between the variables, therefore limiting the study only to the short-run, while the alternative hypothesis suggests the presence of cointegration by observing the F-statistics; in doing so, we observe whether the F-statistic is greater than the upper bound (Narayan, 2004). The long-run takes the following equation.

$$\begin{aligned}
 ECFP_t = & \alpha_0 + \sum_{i=1}^P \phi_{1i} \Delta ECFP_{t-i} + \sum_{i=1}^S a_{2i} \Delta \ln RENP_{t-i} + \sum_{i=1}^T a_{3i} \Delta RQ_{t-i} + \sum_{i=1}^U a_{4i} \Delta RL_{t-i} \\
 & + \sum_{i=1}^V a_{5i} \Delta \ln ODA_{t-i} + \sum_{i=1}^W a_{6i} \Delta CC_{t-i} + \lambda ECT_{t-1} + \varepsilon_t
 \end{aligned} \tag{5}$$

where ECT_{t-1} shows the error correction term and the model’s adjustment parameter, equation 5.

4.3 Step-III: Causality Test

The ARDL approach allowed for the observation of the relationship between the chosen variables. However, a conclusion regarding the relationship between these variables that is based solely on correlation coefficients cannot be drawn (Barrowman, 2014). As a result, a discussion regarding evaluating less significant correlations develops among economists; hence the Toda-Yamamoto technique is one of the credible methods for checking whether one event affects another to occur, how much of the second event can be accounted for by its own past (lag) values, and how substantially the prior values of the first event contribute to the explanation (Toda & Yamamoto, 1995). The test’s findings either establish causation, (I) indicating that one event is caused by another event, (II) or they show that there is no causal relationship at all, or showcase the presence of (III) two-way causality. Below is the equation 6:

$$\begin{aligned}
 ECFP_t = o_1 + \sum_{i=1}^1 \beta_1 ECFP_{t-i} + \sum_{i=1}^1 \beta_2 \ln RENP_{t-i} + \sum_{i=1}^1 \beta_3 RQ_{t-i} + \sum_{i=1}^1 \beta_4 RL_{t-i} \\
 + \sum_{i=1}^1 \beta_5 \ln ODA_{t-i} + \sum_{i=1}^1 \beta_6 CC_{t-i} + \varepsilon
 \end{aligned}
 \tag{6}$$

4.4 Step-IV: Impulse Response Function (IRF) and Variance Decomposition Analysis (VDA)

The Toda-Yamamoto causality test is more accurate than correlation analysis when analyzing governance variables, but it only evaluates precedence and information content, although it fails to provide an explanation for complicated types of causation. Since governance variables frequently change in tandem with one another, it is normal for their correlation to fluctuate. Hence, to further boost the accuracy of the study, a variance decomposition and impulse response are employed. More formally, VDA assesses the relationship between variables across time; it evaluates how much of the variance in each variable’s forecasting error can be accounted for by external shocks. Meanwhile, IRF assesses the extent to which a predictor affects a dependent variable (Stock & Watson, 1993). In general, both models are useful to forecast future effects, therefore a period of twenty years was selected, starting from 2023 to 2043.

$$IRF_t = \sum_{j=0}^{\infty} A_{-j}^* \varepsilon_{t-j}
 \tag{7}$$

At time t, the IRF represents the reaction of variable y to a shock in variable x. is the element of the impulse response function that represents the effect of a shock in x on y periods after the shock. Recall that IRF is a response of one variable (x) to the shock of another variable (y) in a multivariate time series, equation 7.

$$VD_{kt} = \sum_{j=0}^{\infty} (B_j(K, K) * \sigma^2(k,t-j)) / \sigma^2(y,t)
 \tag{8}$$

$VD_k(t)$ is the variance of the forecast error of y due to the shocks in variable k at time t. $B_j(k,k)$ is the jth element of the variance decomposition matrix, which represents the proportion of the forecast error variance of y due to the shocks in variable k j periods before the forecast. $\sigma^2(k,t-j)$ is the variance of the shock in variable k j periods before time t. $\sigma^2(y,t)$ is the variance of the forecast error of y at time , equation 8.

5 Results and Discussion

Table 2 shows the descriptive statistics of the candidate’s variables. Ecological footprint ranges from 0.703 to 1.913, with an average of 1.148 projecting an increase of ecological footprint (ECFP) in the recent years. This can also be assessed by the standard deviation of 0.397, higher than the other selected variables. Alternatively, governance quality factors are leaning toward negativity. On average regulatory quality, rule of law and control of corruption in the Djiboutian bureaucratic system are relatively 0.712, -0.862 and -0.588 respectively, implying that the country’s poor governance performance still remains the same, if not somehow increasing toward a higher negative value which would likely lead to stalemate as regards addressing ecological issues. On the other side, the level of aid poured in the country by public entities and ODA countries had been increasing to 8.120, although, the efficiency of such an allocation remains questionable. Similarly, renewable energy consumption shows a low value; at maximum,

Djiboutian residents consume energy generated by renewables at 0.340, which further calls for the development of renewable energy sectors to mitigate the ecological footprint.

variable	Mean	Median	Maximum	Minimum	Standard. Deviation
ECFP	1.148488	1.033974	1.913756	0.703297	0.397493
lnRENP	0.314915	0.3252	0.3404	0.2413	0.028348
RQ	-0.71234	-0.72657	-0.45631	-0.8937	0.108251
RL	-0.86230	-0.88297	-0.65668	-1.02716	0.097435
lnODA	8.052143	8.120673	8.267993	7.773786	0.166853
CC	-0.58855	-0.6366	-0.30324	-0.8592	0.141708

Table 2. Descriptive statistics of the selected variables

Sources: Compiled by the author

To confirm that the data complies with the ARDL model, we consult the results of unit root tests. Our time series data are tested for a unit root to see whether it exists. The data is deemed non-stationary if it has a unit root. In order to examine data stationarity, we either employ the Philips-Perron test or the augmented Dickey-Fuller (ADF) analysis, according to scholars, checking the unit root before proceeding with a time series dataset, one of the available unit root test methods should be performed as it prevents creating a fictitious or misleading regression (Dickey & Fuller, 1979). According to Table 3, all the selected factors are non-stationary at this level but became stationary at first difference, suggesting they are integrated at (1). This integration demonstrates that our study meets the requirements for using the auto-regressive distributed lag approach to evaluate the effects of renewable energy consumption, regulatory qualities, rule of law, official development assistance, and control of corruption on the ecological footprint in the Republic of Djibouti.

Variable	Level		First difference		Stationarity
	Constant	Trend	Constant	Trend	Decision
ECFP	-1.316	-1.838	-2.467**	-2.646	At first difference I(1)
lnRENP	-0.651	-1.806	-2.164**	-2.008	At first difference I(1)
RQ	-0.526	-1.785	-3.318***	-3.057	At first difference I(1)
RL	-0.158	-1.712	-3.535***	-3.453**	At first difference I(1)
lnODA	1.215	-2.382	-3.526***	-3.870***	At first difference I(1)
CC	-0.672	-1.428	-3.062***	-3.164*	At first difference I(1)
1%, 5% and 10% represented as ***, ** and *					

Table 3. The unit root test

Sources: Compiled by the author

Table 4 reports the outcomes of a bound test. This test is used to identify a co-integration connection among the variables by observing the F-statistic value. With a 1% significance level, the F-statistical value of 5.870 is larger than both the upper and lower bounds of 4.68 and 3.41. There is therefore

evidence of a long-term co-integration connection. However, if the F-statistic was less than the top and lower boundaries, we would have presumed the existence of no co-integration. If, otherwise, the F-statistic was between the top and lower boundaries, the results would have been considered equivocal and indecisive, although such a scenario is quite rare but likely here.

Test statistics	Value	
F statistics	5.870	
Significance level (Critical)		
Significance level	I (0) Lower Bound	I (1) Upper Bound
10%	2.26	3.35
5%	2.67	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Table 4. The long-term criteria decision results
Sources: Compiled by the author

Furthermore, we calculated the model's diagnostic, and all of the residuals exhibit no autocorrelation (0.637) and are distributed consistently (0.6145). The Ramsey test result shows that the present model has no misspecification errors (0.782), and the model also predicts no problems with heteroskedasticity; as a result, and the ARDL bounds test generates accurate and consistent estimates (Ramsey, 1969). To ensure that there are no diagnostic problems, we observe the value; more formally the value should not be less than 0.05; Table 5.

Breusch–Godfrey Serial Correlation LM Test:				
F-statistic	0.465700	Prob. F (2,28)	0.6378	No serial correlation exists
Observation × R-squared	0.825581	Prob. Chi-Square (2)	0.5956	
Heteroskedasticity Test: Harvey				
F-statistic	0.547595	Prob. F (2,28)	0.4688	The model is Homoskedastic
Observation × R-squared	0.690475	Prob. Chi-Square (2)	0.4422	
Jarque–Bera test				
Test	0.8739	Chi (2)	0.6145	Estimated residuals are normal
Ramsey RESET test				
F-statistic	0.010	Prob > F	0.7823	The model has no misspecification

Table 5. The diagnostic result of the model
Sources: Compiled by the author

The lowest part of the table contains the Error Correction Model (ECM) coefficient, which indicates the short-term effects of variables. The residual term is statistically significant but has a negative value at a 1% level of significance. According to the table's ECM coefficient (1.958), a short-run

disequilibrium may be converted into a long-run equilibrium at a rate of roughly 195.8% in a year. The model additionally passes each and every one of the required diagnostic tests. Table 6.

The probability values in Table 6 depict that renewable energy consumption (RENP) has a negative short-run (-7.76) and long-run (-4.96) relationship with ecological footprints (EFP). This negative value implies that an increase in Djiboutian residents' consumption of energies generated by green technology and renewables would eventually lead to a 5% decrease in the ecological footprint in the short run, whereas a decrease of about 1% is observed in the long run elasticity. Empirically speaking, the current result is in line with previous studies (Nketiah et al. 2022; Baloch et al. 2019; Doğan et al. 2021). These studies suggest that the consumption of renewable energies promotes environmental quality, and thus urge the promotion and use of renewable energy resources in order to achieve sustainable growth. Technically, it is easy to suggest that renewable energies are particularly useful in controlling ecosystem degradation. However, the above promising points might only be subjected to OECD and emerging countries.

On our current status, given Djibouti's financial strength, switching to clean energy sources might not be simple, but raising awareness, offering relief to the population (through subsidies, flexible interest rates, taxes breaks, etc.), and incentivizing businesses to switch to cleaner production while taxing those that use dirtier methods of production could all be positive steps in the right direction. The country also needs to adopt an energy portfolio that encourages a flow pattern of green energy consumption generated by environmentally friendlier tools (such as solar, wind, hydropower, and geothermal power).

Alternatively, Djiboutian regulatory qualities and the level of adherence to the rule of law, positively affect ecological footprints. The general interpretation would be that, with an increase in both rule of law and regulatory quality in the long run, we are more likely to witness ecological degradation (1.891-2.082), as both factors tend to manifest certain detrimental effects on the Djiboutian ecological sector; Table 6. A critical issue in this sense is the difference in the environmental regulations of different countries. It is also important to note that environmental legislation cannot always have the desired effect. For instance, it is possible that it is implemented inefficiently, and as a result, any potential advantages are overwhelmed by this inefficiency (Makhdum et al., 2022). It is also necessary to quantify environmental stringency accurately in order to create a control group that accurately represents what would occur in the absence of a policy or in the case of a policy that is less stringent in order to assess the effects of a particular regulation. One should mention that if a policy is rolled out gradually over time or in a randomly selected subset of regions, variations in the strictness of environmental regulations may appear in the within-country analysis. For example, the employment of collective national environment legislation across the country will not accommodate the demand of other regions within the national territory, consequently creating a discrepancy when taking public sectorial development into account.

Similarly, the cost burden of environmental policies has often been found to be very small or non-existent in some cases. One of the primary causes of failing to meet environmental goals is the weakening or non-implementation of environmental legislation due to corruption (Balsalobre-Lorente et al., 2019).

The current finding of Djiboutian environmental legislation failing to introduce a solid package of ecological footprint reduction can also be viewed from an internal administrative dimension rather than the common ground of bureaucratic ineffectiveness, in which, mostly, the implementation of ambitious environmental policies can have an adverse (negative) effect on unemployment, particularly in polluting energy-intensive sectors. More formally, the effects tend to cluster on a select minority of basic manufacturing industries epitomized by high energy-intensive production systems, a constrained ability to completely pass through emission control (regardless of whether due to regulation or international competition), and maybe even

an inability to innovate and attract investment capacity to advance new production processes. Additionally, Sustainable development growth necessitates little or no harmful emissions and is dependent on the state’s institutions and economic activity. As a result, elements such as low corruption in the public sector, quality of institutions, flexible laws, and economic forces (e.g., agricultural activities, trade openness, and foreign aid) must play a substantial and significant part in the sustainability process. Although, Greaker (2003) proposes the theory of the “race to the bottom”; it claims that state authorities intentionally weaken environmental norms in order to entice more international investors and boost economic growth in their own countries.

However, this theory collapses for the current study, as East African nations do not have reason to lower regulations directed toward the environment to create external investment spill-over, therefore further sustaining both above-mentioned arguments of regulatory inefficiency and unemployment surge. However, this does not entail the practice of withdrawing institutional law due to the absence of subjection to national regulation betterment by the international and regional community, but adopting a more realistic approach – which provides clean industries and promotes competition which also increases economic growth but at a little expense of environmental depletion. Overall, the finding is in line with studies such as (Hassan et al., 2020; Oteng-Abayie et al., 2022; Makhdum et al., 2022); Table 6.

Dependent Variable: (ECFP)				
Optimal lags: (1 2 2 1 2 2)				
Short run relationship				
	Coef.	Std.Err	t	P>t
$\Delta \lnREN P t$	-7.761113	3.061034	-2.54	0.085**
$\Delta \lnREN P t-1$	7.304639	1.940656	2.48	0.089**
$\Delta RQ t$	2.449052	1.129173	2.17	0.119
$\Delta RQ t-1$	0.7948385	0.6379184	1.25	0.301
$\Delta RL t$	4.761984	1.70703	2.79	0.068**
$\Delta \ln ODA t$	-0.2576444	0.7770557	-0.33	0.762
$\Delta \ln ODA t-1$	1.254258	0.6712099	1.87	0.158
$\Delta CC t$	3.665073	1.390796	-2.64	0.078**
$\Delta CC t-1$	-3274309	0.3133126	-1.05	0.373
Ecm (- 1)	-1.958652	0.2009045	-6.75	0.001
Long Run Estimates				
Variables	Coefficient	Std. Error	t-Statistic	Prob.
lnREN P	-4.963856	1.342234	-3.70	0.034*
RQ	1.891657	0.3015058	6.27	0.008***
RL	2.082199	0.550417	3.78	0.032*
lnODA	0.8859638	0.2782082	3.18	0.047*
CC	-1.540602	0.3713176	-4.15	0.025*
cons	-4.997744	2.851488	-0.64	0.570
“The asterisks *, **, and *** showed that the coefficient is significant at 1% 5% and 10% respectively”.				
Note that in the ARDL logs, the first log (1) is for the dependent variable (PEP)				

Table 6. Autoregressive distributed lag (ARDL) test
Source: Author’s findings

Furthermore, the study contradicts the common belief of official development assistance (ODA) in contributing to a green economy by reducing harmful factors in the environment (Michaelowa

& Michaelowa, 2007). The result of (ODA) displays a positive coefficient in the long run (0.88); meanwhile, an insignificant effect can be discerned in the short-run (-0.25, 1.25), Table 6.

These findings contend that as monetary aid increases in the Republic of Djibouti, the plausible scenario of ecological depletion is likely. Let us analyze these, then, from two grounds; (I) It makes sense to suggest that one of the key barriers to the growth of a stronger collaboration between donors and recipient nations in the pursuit of environmental protection and the accomplishment of Millennium Development Goals (MDGs) is a lack of effective assistances. Hence, the international community may find itself in some sort of a usual “low-level equilibrium” as a result of the uncertainty around the efficient use that may be made of monetary assistance. Likewise, due to the perceived slowness of success in comparison to previous assistance and the proof of aid misuse in some specific cases, donor nations have experienced considerable “aid weariness” with regard to combating climate change, therefore, aid volumes in most African countries – particularly East Africa – had consequently fallen as a result of poor aid allocation. It is also worth noting that ODA efficacy also seems to have decreased as donors try to assert more control over the assistance they are giving, regardless of how recipient nations approach the money they received. (II) Furthermore, it appears that neither contributor is very committed to preserving the climate. Their respective aid continues to be focused on reducing poverty, meeting basic necessities, promoting education and developing rural areas.

Additionally, governance and control of corruption play a crucial role in lowering environmental pollution, as the findings suggest; greater control of corruption reduces the ecological footprint by (3.665) in the short run and (-1.540) in the long run, respectively. Since control of corruption (CC) is an institutional indicator that lowers environmental deterioration from carbon and nitrous emissions, it could seem logical that eliminating corruption is the key to compelling investors and businesses to adhere to the rules. The study confirms the results of (Amuakwa-Mensah & Adom, 2017), Table 6. In fact, citizens would respond favorably to government policies: if it makes transparent policies for the welfare of the population, which will raise awareness in the environmental sector, the government would then be better equipped to implement effective environmental policies as a result of this awareness, Table 6.

Similar trends may be observed in terms of resource mismatch and ecological efficiency: the more corruption, the more resource mismatch materializes. Whereas a positive relationship scenario between the degree of resource discrepancy, corruption, and ecological efficiency could intensify corruption and not only will directly lead to ecological decline, but also causes an ecological efficiency backdrop by intensifying the resource mismatch. For example, Amuakwa-Mensah and Adom (2017) discovered that the lack of enforcement is fueled by foresters’ misconduct and results in significant habitat loss. The author links corruption with the environment through regulation, in which non-compliance with environmental legislation has its origins in the corruption of the political system, and the best indicator of systemic corruption in a country’s political system is non-compliance with environmental regulations. Likewise, in a report published by Freedom House on the top 10 countries as the worst democratic performances³, Syria, South Sudan, Eritrea, Turkmenistan, North Korea, Equatorial Guinea, Saudi Arabia, Somalia, Sudan and Tajikistan, where three countries are from the East of Africa, further validating the consensus of high corruption plaguing the region. Indeed, corruption cannot be completely eliminated and is very difficult to do. Therefore, a more practical approach is to accept some corruption, as long as it stays below a particular threshold.

Moreover, the presence of corruption has adverse effects on the equity, effectiveness, and efficiency expected from regulatory measures in the field of energy research, and development,

³ Freedom house: Expanding Freedom and Democracy (See; <https://freedomhouse.org/>)

as highlighted by Balsalobre-Lorente et al. (2019). Corruption can also result in the excessive exploitation of natural resources throughout the extraction, distribution, and management processes. This, in turn, triggers ecosystem and wildlife degradation, which in part fosters the illegal trade of endangered and near-extinct species and diverts allocated environmental policy funds for personal gain (Lisciandra & Migliardo 2017; Sekrafi & Sghaier, 2018). In this context, Harring (2013) argued that corruption diminishes patriotism, leading to a decrease in economic efforts aimed at environmental protection.

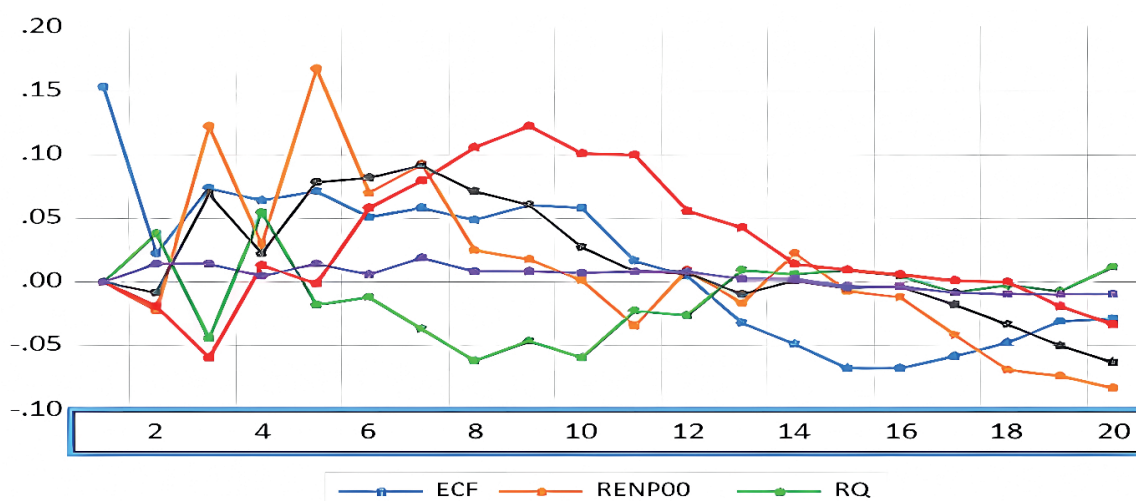
The evaluation of the environmental effects of corruption can be framed within the theoretical construct of the pollution haven hypothesis (PHH). In nations characterized by elevated levels of corruption, the inappropriate exploitation of environmental resources for personal gain tends to proliferate, thereby exerting a detrimental impact on environmental standards. Consequently, corruption serves as a catalyst for the influx of polluting enterprises, often in the guise of FDI, capitalizing on lax environmental regulations (Akhbari & Nejati, 2019).

In this part of the study, I estimated both the IRF and the variance decomposition (VRA). In order to determine how a particular variable – particularly the dependent variable – reacts to changes made to other variables or factors, the impulse response function and the variance test are used. Based on Cholesky’s analysis of IRF, the results of the impulse response can be observed, Table 7.

Impulse Responses						
Period	ECFP	InRENP	RQ	RL	lnODA	CC
1	0.15292	0	0	0	0	0
2	0.02246	-0.0223	0.03775	-0.019	-0.0081	0.01485
3	0.07417	0.12255	-0.0441	-0.0594	0.06912	0.01402
4	0.06384	0.02984	0.05416	0.01363	0.02263	0.00462
5	0.07158	0.16707	-0.0175	-0.0009	0.07871	0.0144
6	0.05074	0.07074	-0.0121	0.05784	0.08216	0.00666
7	0.05834	0.09255	-0.0365	0.07943	0.09205	0.01869
8	0.04902	0.02469	-0.0619	0.10555	0.07111	0.00834
9	0.06097	0.01831	-0.0457	0.12258	0.06074	0.00879
10	0.05789	0.00082	-0.059	0.10107	0.02691	0.00769
11	-0.0173	-0.0346	-0.0227	0.09924	0.00834	0.00797
12	-0.0053	0.00976	-0.0259	0.05596	0.00766	0.008
13	-0.0319	-0.0161	0.00959	0.04299	-0.0089	0.00244
14	-0.0486	0.02287	0.00664	0.01443	0.00191	0.00309
15	-0.0673	-0.0069	0.00996	0.00929	-0.0041	-0.003
16	-0.0674	-0.0117	-0.0054	-0.0056	-0.0038	-0.0037
17	-0.0584	-0.0418	-0.0077	-0.0013	-0.0178	-0.0083
18	-0.0466	-0.0681	-0.0027	-0.0002	-0.0336	-0.0094
19	-0.0309	-0.0739	-0.0064	-0.0185	-0.0498	-0.0096
20	-0.0284	-0.0827	-0.0024	-0.033	-0.0632	-0.0095
Cholesky One S.D. (d.f. adjusted)						
Cholesky ordering: ECFP						

Table 7. The impulse response function results
Sources: Compiled by the author

When conducting the IRF test, we have the possibility to select a specific period, therefore in this case a period of 20 years is applied, starting from late 2022 to 2042. Observe the first five years of the IRF response, at the first ecological footprint, affects itself, which makes other independent factors (renewable energy consumption, regulatory quality, rule of law, and control of corruption) have zero impact on the dependent variable (ecological footprint) whereas, a negative shock starts to materialize among variables; five years for regulatory quality, after ten years for renewable energy and official development and finally after sixteen years for both the rule of law and control of corruption. This negative value demonstrates how, as institutional qualities ameliorate, adopting renewable energy as the primary source of energy generation and external monetary aid spill-over in the Djiboutian national territories reduces the amount of the ecological footprint.



ECF: Ecological footprint; RENP00: Renewable energy consumption, RQ: Regulatory Quality, RI: Rule of law, LOODA3: Official development assistance, CC: Control of corruption

Figure 3. The effect of independent variables on ecological footprints
Source: Compiled by the author

Figure 3 provides a better view in which the combined factors infuse a collective reduction, although it is interesting that through the years, control of corruption remains low; indeed, higher transparency contributes to environmental betterment, but the effect remains the same, in which it keeps leaning toward negativity compared to other factors which impose a higher shock on the ecological footprint. It is worth noting that the current results of the IRF can be considered relevant unless future reforms have been proposed by the Djiboutian authorities—as can be noticed from the IRF and VRA, the materialization of such a shock requires a period and a specific threshold of time to pass in order to transpire completely.

Interestingly, the above results have also been supported by the Toda-Yamamoto test, in which all the variables have a future significant effect on the ecological footprint. Toda-Yamamoto is most suitable when the variables are stationary at either level or 1st level, rather than a Granger causality, so the study adopts the Toda-Yamamoto test in relevance of the absence of a mixture of stationary tests. According to the results, both renewable energy consumption and control of corruption have a higher considerable effect on the ecological footprint with an elasticity of 9.23 and 8.67, respectively, Table 8.

Variables		t-statistics	Significance level	Decision	
Renewable energy consumption	→	Ecological Footprint	9.2396	0.0023	Supported
Regulatory quality	→		5.6295	0.0176	Supported
Rule of law	→		5.3658	0.0205	Supported
Official development assistance	→		3.2303	0.0622	Supported
Control of corruption	→		8.6769	0.0032	Supported

Table 8. Toda-Yamamoto causality test
Source: Compiled by the author

Meanwhile, the variance decomposition predicts that two of the explanatory variables have a noteworthy burden on the ecological footprint. It appears that both renewable energy consumption, and an increase in rule of law adherences among civil servants have a substantial shock on the ecological footprint, which is expected to climb from 1.88% and 1.33% in late 2022 and early 2023 to 27% and 23% by 2042. Additionally, regulatory quality and official development assistance have a decent fair share of the reduction in the ecological footprint by 6% and 15% after twenty years, respectively. This illustrates the need to develop more sustainable legislation while taking into account the aftermath of such regulation, and fastening the introductory mission of transparent budgetary allocation, considering how certain official development assistance is poorly allotted, Table 9.

Variance Decomposition						
Period	ECFP	lnRENP	RQ	RL	lnODA	CC
1	100	0	0	0	0	0
2	90.28325	1.887493	5.386499	1.363756	0.245888	0.833119
3	51.17444	27.02228	5.865872	6.778406	8.432864	0.726128
4	50.6673	24.84442	9.541644	6.174971	8.108013	0.663651
5	36.47519	41.89546	6.24489	3.855875	10.91837	0.61021
6	33.28742	39.88979	5.461095	6.003738	14.80004	0.557917
7	29.30273	38.06497	5.314781	9.029774	17.60451	0.683242
8	26.80868	33.39143	6.800722	14.19787	18.16846	0.632837
9	25.32626	29.39908	6.996621	19.93711	17.74831	0.592618
10	24.79187	26.99426	8.021446	22.99264	16.62853	0.571252
11	23.6285	26.10734	7.827449	26.07605	15.79155	0.569111
12	23.23169	25.69626	7.979292	26.9628	15.54335	0.586611
13	24.0128	25.44779	7.907128	27.36677	15.36037	0.580955
14	24.0135	25.33192	7.821855	27.09475	15.16064	0.577322
15	25.39295	24.85625	7.70942	26.60047	14.87122	0.569695
16	26.72365	24.43787	7.574094	26.10628	14.59381	0.564299
17	27.47329	24.58444	7.430991	25.53477	14.39786	0.578647

Variance Decomposition						
Period	ECFP	lnRENp	RQ	RL	lnODA	CC
18	27.46109	25.59397	7.207205	24.75649	14.38671	0.594532
19	26.86928	26.71562	6.974732	24.0327	14.79951	0.608162
20	25.93134	27.89659	6.712109	23.32355	15.52431	0.612102
Cholesky One S.D. (d.f. adjusted)						
Cholesky ordering: ECFP LNRENp RQ RL LNODA CC						

Table 9. Variance decomposition analysis
Sources: Compiled by the author

6 Policy recommendation

6.1 Consolidating ecological footprint mitigation via the amelioration of institutional quality and the curtailment of corruption

The ongoing discussion among policy analysts centers on the growing concerns of ecological degradation and escalating energy demands, with a particular focus on the role of an effective governance structure in achieving Sustainable Development Goals. Research conducted in various South Asian countries by Asif, Sabir and Qayyum (2023) highlights that corruption and political instability have a notable and a positive influence on both carbon and ecological footprints in both the short and long term, with the exception of corruption, which has a short-term negative impact on carbon footprint. As the role of sustainable government is among an amalgam of core elements that assists ecological footprint mitigation, generally this governance indicator incorporates corruption and political stability.

However, it is unlikely that both factors could yield the same significant effect on ecological footprint, depending on the studied nation and the political architecture of the country. A reasonable example could be sought from the study by Sun, Gao, Raza and Khan (2023): some of the selected BRICS countries (Brazil, Russia, India, China and South Africa) showed that controlling the level of corruption and increasing government effectiveness might significantly affect the ecological footprint of all countries excluding India and China. In the case of political stability, all economies portrayed that political stability fosters energy efficiency and reduces the ecological footprint; nevertheless, China exhibited insignificant influence on the political stability-ecological footprint nexus. Also, regulatory quality helped in improving energy efficiency in all countries. However, the association of regulatory quality with the ecological footprint revealed that regulatory quality does not Granger-cause the ecological footprint in China; but the effect is significant in other countries. Perhaps this raises the question of whether, pragmatically, corruption contributes to the sustainability or it is a pure abstract concept in the environmental sense. This view holds that the concept of corruption could be divided into sub-categories in an environmental contextualization, such as effective budgetary allocation for environmental amelioration activities, transparency, citizen-governmental co-creation, the emphasis on principles of participation for sustainability causes. Nevertheless, the level of development within a country framework cannot be overlooked, as the rapid development obfuscates the prominent effect of corruption on the ecological footprint, since it is compensated by providing a strong economic mechanism for citizens; as a result, altering ecological concerns to a threshold below the quintessential level among officials’ agendas.

Apart from the context of corruption, institutions assume a cardinal and indispensable role in the endeavor of mitigating ecological footprints. A proficient institutional framework can exert a manifold impact, both in direct and indirect ways—on the ecological health of a region and the economic prosperity of nations. The complex relationship between institutions and the environment can be elucidated by dissecting various institutional facets, including government efficacy, democratic responsibility, anti-corruption measures, the maintenance of legal and societal order, and the caliber of bureaucratic administration, as expounded upon by Uzar (2020a). Similarly, the stability of a government, the high quality of its bureaucratic machinery, and the exclusion of military involvement in political affairs collectively enhance the effectiveness of governmental policies. Augmented policy efficiency, in turn, facilitates the autonomous and productive formulation of environmental policies. To illustrate further, any institutional shortcomings have the potential to amplify the influence of lobbying within the policymaking arena. Specifically, the influences exerted by sectors, associated with high levels of pollution and conventional energy corporations, on a government can erode the robustness of environmental policy frameworks (Cadoret and Padovano 2016).

An additional facet within the spectrum of institutional dimensions can be found in domain of legal frameworks, hence, a robust legal system wields substantial influence over the regulation of economic and social spheres, primarily by upholding property rights, enhancing legislative frameworks, and efficiently enforcing contractual agreements (Mishkin, 2009). Under this fact, a potent legal system assumes a dual role in averting environmental impacts, firstly by guaranteeing the accurate implementation of environmental laws, and secondly, by compelling corporations to adhere rigorously to environmental standards (Welsch, 2004). Conversely, enterprises that fail to conform to these stringent protocols face the prospect of suspension of their operations and the imposition of punitive measures. The rule of law may aid in supporting sustainable development and safeguarding the environment for future generations by encouraging environmental legislation and enforcement, public involvement and responsibility, and investment in renewable energy – as investors are more prone to trust the regulatory and legal frameworks controlling renewable energy projects and are more likely to be prepared to invest in them when there is a strong rule of law. This can facilitate the switch, moving faster to more environmentally friendly energy sources.

It can thus be seen that democratic accountability is very important in terms of environmental policies. The institutionalization of democracy allows free discussion of universal issues such as human rights, justice, inequalities, and the environment (Uzar, 2020b). In such a democratic conjuncture, people can easily learn about government policies and provide feedback to their governments on relevant policies. An accountable relationship between government and society can increase social pressure on governments and prevent environmental policies that have negative effects (Payne, 1995).

6.2 Implementing practical adaptive measures for ecological footprint (an inspiration from different countries)

The government should possess the capacity to furnish microfinancing and financial assistance to bolster the resilience of agricultural sectors and small enterprises in the face of climate change. Taking a cue from China's forward-thinking approach, the Beijing government has strategically employed financial incentives, manifesting in the provision of subsidies aimed at facilitating the construction of water reservoirs and storage infrastructure tailored to the needs of farmers (Li et al. 2018). This visionary initiative has yielded demonstrable results by effectively

mitigating the vulnerability of farmers to the perils of drought. Likewise, as elucidated by Ryan and Elsner (2016), the implementation of sand dams, categorized as a form of rainwater harvesting infrastructure, demonstrated its efficacy in expediting the recovery of vegetation following drought episodes in Kenya. As expected, ecosystem-based adaptation strategies and policies emerged as the prevailing approach in addressing a spectrum of environmental challenges, encompassing activities such as *erosion control, environmental revitalization and preservation, adaptive management, and the stewardship of fisheries resources*. This stands as a source of inspiration for governmental endeavors akin to Djibouti, particularly in addressing the pressing challenges posed by desertification.

It is no surprise that such as structural adaptations (encompassing a range of initiatives such as the expansion of water reservoirs, installation of solar-powered water pumps, creation of a plant nursery, and construction of emergency shelters) have proved effective in ameliorating environmental repercussions – since a similar mechanism had been adopted in Pakistan as it increased food security for 50 village households, increased access to safe drinking water, reduced women’s workloads, and decreased the number of lives lost during a cyclone.

Likewise, it is advisable to consider a comprehensive measure geared towards risk mitigation, encompassing strategic investments in information and communication technologies, the establishment of collaborative knowledge-sharing platforms, and the deployment of early warning systems. Eakin et al. (2015) provided a demonstration of the effectiveness of an early warning system implemented in Chile. This system, far from being a singularly focused tool, not only served as an alert mechanism for potato growers regarding potential pest infestations and disease outbreaks but in its role in substantially diminishing the threat posed by potato blight.

The responsibility for safeguarding the environment extends beyond the government’s purview and involves various stakeholders. For instance, there exists an efficient mechanism aimed at embracing eco-friendly practices, encompassing both environmental protection hardware (EPH) and environmental protection software (EPS). Vázquez-Brust et al. (2022) have delved into the integration of corporate entities and businesses into sustainable endeavors in Brazil, facilitated by the concept of green human resource management (GHRM). Interestingly, the model has unveiled that heightened pressure from environmentally conscious stakeholders fosters the adoption of both categories of eco-friendly practices, with GHRM playing a partially mediating role in this dynamic relationship.

Djiboutian leaders should duly contemplate the incorporation of cooperative development practices, as they hold significant potential for enhancing social dynamics. A pertinent case study in Bolivia exemplifies the transformative influence of local agricultural cooperatives. These cooperatives extended invaluable support to farmers by granting access to both informational and tangible resources, facilitating their transition from monocultural agricultural practices to agroforestry, with a specific focus on cultivating cocoa trees (Jacobi et al., 2015). This adaptive shift not only engendered more favorable working conditions, including the provision of shaded environments and reduced exposure to chemical fertilizers and pesticides but also stimulated heightened levels of self-organization among the two communities.

Furthermore, the spectrum of policy recommendations extends to encompass the enhancement of institutional dynamics, mechanisms for conflict resolution, the augmentation of local engagement and self-governance, and the transformation of governmental structures. The activities falling within this category are predicated upon fostering collaborative endeavors, uniting individuals hailing from diverse institutional and cultural backgrounds. This collaborative ethos manifests through initiatives such as the development of accessible decision

support tools, the establishment of a far-reaching information-sharing network bridging various organizations, and the implementation of community-centered strategies for the management of natural resources. A noteworthy example can be found in St. Vincent and the Grenadines. Here, a concerted effort was orchestrated to fortify a network comprising a consortium of institutions and community organizers. This revolved around securing funding and facilitating the construction of a solar-powered desalination facility. The overarching goal was to bolster the availability of freshwater resources at the local level, thereby fortifying the region's prospects for enduring water security, Jaja et al. (2017).

It is also relatively safe to assume that the country needs to adopt “a circular economy” a system that is restorative or regenerative by intention and design. A system that replaces the “end-of-life” concept with restoration, by shifting toward the use of renewable energy, that eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through sustainable activities. However, the argument of the lower-middle income concept (Djibouti) and the country has maintained infancy in environmental endeavors highlighted embracing such a bold economic framework, but with a decent portion of official development assistance, establishing a system for waste disposal and adopting multilateral agreements based on environmental cooperation could compensate for such a lack. An interesting case is Vietnam's context. Since 2015, Vietnam has been considered the 4th highest ranked country in the world in terms of the amount of plastic waste released into the ocean (Jambeck et al., 2015). It is estimated that the amount of plastic waste discharged into the sea from Vietnam reaches about 0.28–0.73 million tons per year, equivalent to 6% of the total amount of plastic waste discharged into the sea worldwide. Meanwhile, the recycling of waste in Vietnam, especially plastic waste, has not been effective. It was traditionally regarded as a low-tech activity carried out mostly by trade villages scattered around the country.⁴ As a result, of the 1.8 million tons of plastic waste generated annually in Vietnam, only 27% is recycled (Dang et al., 2021).

Recently, the issue of plastic waste has received special attention by the Vietnamese Government. On 4 December 2019, the Prime Minister issued the National Action Plan for the Management of Marine Plastic Litter (hereinafter referred to Plan) by 2030.⁵ The Plan's overall objective is to implement international commitments of Vietnam effectively to address plastic pollution with the focus being the prevention of plastic pollution from land-based sources and maritime activities. According to the Plan, Vietnam aims to reduce plastic waste in the ocean by 75%. The country wants to have 100% of lost and discarded fishing gear collected and to end the practice of the direct disposal of fishing gear into the sea. It also plans to have 100% of the country's coastal tourism sites and service facilities not using single-use plastic and 100% of its marine protected areas to be plastic waste-free.

6.3 Enhancing the legal environmental framework and opting for a co-creation, collaborative Government-citizen approach

Djibouti's adoption of international conventions and treaties are transparent in their incorporation in the national environmental legislation.⁶ These numerous conventions have been used as a

⁴ Vietnam Business Council for Sustainable Development, ‘Vietnam Plastic Industry Report’ (n 5).

⁵ National Action Plan for Management Plan of Marine Plastic Litter by 2030, Document no 1746/QDTTg, adopted on 4 December 2019 by the Prime Minister.

⁶ Several noteworthy elements have been integrated into Djibouti's national environmental legislation, signifi-

solid inspiration and references and even more to the extent of copying and pasting, in order to generate national environmental laws. Nevertheless, this can only be perceived positively, as it positions the country as a part of the international community. For instance, the Convention on Biological Diversity states “Each Contracting Party, to the extent possible and appropriate: (a) Establish a system of protected areas or areas where special measures must be taken to conserve biological diversity; (b) Develop, where necessary, guidelines for the selection, establishment and management of protected areas or areas where special measures must be taken to conserve biological diversity; (c) Regulate or manage biological resources of importance to conservation of biological diversity inside and outside protected areas to ensure their conservation and sustainable use; (d) Promote the protection of ecosystems and natural habitats, as well as the maintenance of viable populations of species in their natural environment; (e) Promote sustainable and environmentally sound development in areas adjacent to protected areas with a view to strengthening their protection”.⁷ The convention is inherently geared towards the establishment of nature reserves within wetlands, primarily aimed at safeguarding animal conservation habitats and preserving the delicate ecosystems that support water-birds. Additionally, the convention extends its focus to maritime conservation efforts, with a particular emphasis on curbing illicit fishing activities, while concurrently promoting ecotourism initiatives.⁸ Despite existing national laws protecting marine life in Djibouti, illegal harvesting for meat and ornamental carapace collection is still widespread and other anthropogenic threats, such as entanglement in fishing gear, cause additional mortality (Boldrocchi et al., 2021). Hence, considering the minimal regulatory oversight in this region, and the threats that undermine marine turtle conservation, population monitoring programs should be carried out.

However, the absence of national drafted law in accordance with the country’s culture, economy and environmental spectrum puts skepticism on the national environmental law in the extent of its applicability since the so-called Djiboutian environmental law is a mere mirror to international conventions and French environmental law due to both countries’ historical relations, which indirectly further leave some roots for its past colonialism.

cantly contributing to the formulation of the present-day legal framework in Djibouti:

The United Nations Framework Convention on Climate Change; the Convention on Biological Diversity; the Convention to Combat Desertification; the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol, and amendments to the Montreal Protocol; the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; the Kyoto Protocol to the United Nations Framework Convention on Climate Change; the Cartagena Protocol on Biosafety to the Convention on Biological Diversity; the Convention on Wetlands / Ramsar Convention; the Stockholm Convention on Persistent Organic Pollutants; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

⁷ Since the concept of ecological footprint covers a wider array than simple environmental protection even extending to animal protection since they indirectly and directly become affected by human prints.

⁸ The area is home to several endangered and poorly known species, such as the whale shark, *Rhincodon typus* (Rowat et al. 2007; Boldrocchi et al. 2020), and the Indian Ocean humpback dolphin, *Sousa plumbea* (Braulik et al. 2018). The Djibouti marine ecosystem also hosts several threatened marine turtle species, including the green, *Chelonia mydas*; hawksbill, *Eretmochelys imbricata*; and loggerhead *Caretta*, although no research currently takes place on any these species, given the lack of knowledge on marine turtle biodiversity in Djibouti, and the wider Gulf of Aden (see; Regional action plan for the conservation of marine turtles and their habitats in the Red Sea and Gulf of Aden. Jeddah: PERSGA; 2004).

Likewise, in essence, Djibouti finds itself confronted with the imperative to assess the evolution of its national water legislation. This need arises from the nation's challenging arid climatic conditions, with half of its population grappling with acute water scarcity, while the remaining half faces the ominous threat of desertification. Evidently, Djibouti's water resources are reaching ecological thresholds, marked by the protracted deterioration of ecosystems and their interconnected counterparts. This decline is exacerbated by the persistently inadequate rainfall patterns in the region. Although there is a well-established acknowledgment of the pressing necessity for immediate actions to counteract the environmental deterioration of water resources, the implementation of these measures is intertwined with a web of human priorities. In Djibouti, there is a more obvious assumption of public responsibility for ensuring sustainable water by the national government but it is only supported in national environmental legislation, in contrast to other countries (comparatively, the South African government had gone beyond the prism of incorporating water law in the legislation but also into constitutional framework) (Reed & de Wit, 2003). This responsibility, however, is challenged by the imperative to confront pervasive disparities in the equitable allocation and accessibility of water resources within the nation. The enforcement of water laws and environmental preservation measures must navigate within the broader scope of government obligations, coupled with the constraints posed by the government's restricted financial resources allocated to these endeavors. The Djiboutian government's efficacy in fulfilling its obligations regarding water management should be assessed in the context of its capacity to address a comprehensive spectrum of societal, cultural, and economic reform.

The two most interesting articles in the Djiboutian environmental law can be seen in article 2⁹ and article 3¹⁰ that are based on several *fundamental principles*. The principles are as follows * *Principle of participation*: the preservation of the environment constitutes a supreme interest of the nation, engaging the collective responsibility of all citizens and requiring the participation of all in the development of environmental policy * *Principle of integration*: protection and good environmental management are an integral part of the national economic, social and cultural development policy; * *Planning principle*: the establishment of a necessary balance between the requirements of national development and those of environmental protection when developing sectoral development plans and the integration of the concept of sustainable development when the development and execution of these plans, and finally, **The polluter-pays principle*.

Both planning and integration principles are endogenous, as they require simple internal competent authorities, whereas the principle of participation is rather exogenous and often more complex and harder to achieve than the former principles. It depends outside the state's internal competency in the sense that the outcome and the results could be sporadic. The participation factor is based on a co-creation mechanism that involves citizens and authorities responsible for the environment while considering the threshold of transparency within this participation. Indeed, the augmentation of public participation holds significant potential for enhancing the framework of environmental democracy. This potential lies in its capacity to facilitate the integration of valuable environmental insights and interests into the processes of formulating

⁹ Art 2: This law sets the objectives of the national environmental protection and management policy on the basis of fundamental principles intended to manage and protect the environment against all forms of degradation or deterioration of environmental resources with a view to ensuring sustainable development.

¹⁰ Art 3: Management and protection of the environment for sustainable development are based on the following fundamental principles:

environmental law, thereby fostering a delicate equilibrium between economic imperatives and environmental considerations. Moreover, this augmentation serves to bolster the efficacy of public engagement in the rigorous enforcement and implementation of legal statutes within the environmental domain.

So, the essential question arises: *how can a country lacking a well-established democratic foundation establish a mechanism for public participation in its legislative processes?* It is worth noting that the Ministry of Environmental and Urbanization, in partnership with the Ministry of Higher Education, has been organizing climate change seminars and conferences with the participation of some incumbent experts in the East African region. However, the idea of comprehensive involvement in ecological initiatives is noticeably absent among the citizens of Djibouti, largely due to a lack of consistent interaction with governmental authorities.

Even in the absence of a democratic prism, a nation can attain elevated levels of public participation, as exemplified by the Chinese government. China, as a case in point, has established a noteworthy precedent.¹¹ In the past, public involvement in legislative matters followed a single-stage disclosure and comment process, which has now become a regular practice. The transformation commenced with the revision of the Environmental Protection Law in 2012, ushering in a novel mechanism characterized by a two-stage disclosure and comment procedure.

The second question that emerges is *how might the promotion of public involvement in the formulation of environmental legislation contribute to the advancement of environmental democracy, and how could Djibouti leverage this emphasis on co-creation and collaboration to its advantage?* One significant advantage of increased public participation in Djibouti's environmental law-making is that it brings valuable technical expertise to the country's legislative processes. This helps to ease the tension caused by the limited availability of skilled professionals and resources in the realm of environmental policy. Djibouti faces pressing environmental challenges, and the involvement of experts can contribute to the development of comprehensive and high-quality legislation needed to address these issues effectively. Another valuable outcome of increased public participation in environmental law-making is the emphasis it places on incorporating environmental concerns into the legislative process. This broader involvement can empower the Department of Environment to strike a balance more effectively between Djibouti's economic and environmental interests within its environmental legislation. Yet another compelling argument for bolstering public involvement lies in the implementation and administration of environmental laws. To ensure effective public participation in environmental decision-making, a robust institutional framework is crucial. However, achieving this becomes improbable if public engagement is lacking from the outset during the law-making process. Laws can serve as vital safeguards for the public's right to participate in pivotal policymaking decisions by specifying key procedural elements such as stages, scope, and approaches for policy implementation. These considerations hold particular relevance in Djibouti, a country with a limited tradition of involving the public in government decision-making processes.

¹¹ The Legislation Law of 2015 of the People's Republic of China (adopted on 15 March 2000, effective on 1 July 2000, amended on 15 March 2015) art 37 ('For a bill on the agenda of a session of the Standing Committee, the draft law and an explanation of the drafting and amendment thereof, among others, shall, after the end of the session of the Standing Committee, be released to the public to solicit opinions, unless a decision not to release the same is made at the Chairmen's Meeting. The period during which public opinions are solicited on the same shall not be less than 30 days. Information on the solicitation of opinions shall be released to the public.')

Admittedly, Djibouti had occasionally worked on a parcel of citizen participation campaigns and initiatives. However, the intangible impact of these legal advancements has left much to be desired, falling short of expectations; more prevalent practices of non-participation or tokenism still remain. In general, the public faces constraints on how they can engage in the decision-making process. They often have limited access to information, influence over decisions, and opportunities to seek judicial review and remedies. When there's a lack of effective legal channels for expressing concerns about environmentally detrimental projects, it can lead to increased street protests by citizens and heightened pressure from environmental groups on the government (Aden, 2023). One pivotal reason for this systemic failure lies in the inadequacy and lack of comprehensiveness in the legal provisions governing public participation. For instance, when it comes to decision-making processes for construction projects, there is no legal entitlement for the public to participate actively, with requirements limited to the submission of Department of the Environment report forms or registration forms, offering little assurance of meaningful public engagement. Moreover, the involvement of experts in these processes poses challenges, as they may not consistently advocate for the broader public interest due to potential financial support from specific interest groups or government authorities, leading to advocacy for private or non-environmental concerns. Consequently, some companies have exploited this legal gap by conducting seminars exclusively with experts, thus fulfilling the legal requirements without involving the wider public, ultimately undermining the spirit of true public participation in environmental decision-making.

The literature on the principle of polluter pays (PPP) encompasses economic and legal aspects. Its historical origins can be traced to Plato¹² and its contemporary foundation lies in Pigou's economic theory, emphasizing the internalization of external costs. Failure to account for these costs distorts the market, leading to inefficient economic decisions (Pigou, 1951).¹³ In environmental contexts, this principle necessitates that polluters bear the external costs of their pollution. Over time, the international regime has expanded the scope of this principle, yet it continues to resist alterations related to the allocation of liability, defining limits, and determining compensation for instances of pure environmental harm. Even the Council on Guiding Principles concerning international aspects of environmental recommends to the OECD the implementation of the polluter-pays principle (De Sadeleer, 2020). However, the comprehensive implementation of the aforementioned principle by the Djiboutian government raises questions, given the prevalent prioritization of economic interests over ecological endeavors. Therefore, there is a great necessity for Djiboutian legislators to consider the impartial implementation of such a principle within a framework that protects the environment in order to be compatible with the general disposition of Djiboutian environmental law.¹⁴

¹² *Laws* 485e. "If anyone intentionally spoils the water of another [...] let him not only pay damages but purify the stream or cistern which contains the water". Jowett's translation.

¹³ The Pigovian theory (1951) was subsequently criticised, not least by Ronald Coase (1960).

¹⁴ General disposition statement: The environment of Djibouti is a national heritage, an integral part of world heritage. Its preservation therefore constitutes a primary interest at the local, national, regional and international to guarantee the needs of current and future generations. The purpose of this law is to establish the basic rules and fundamental principles of national policy in the field of environmental protection and management with a view to ensuring sustainable development, in accordance with multilateral environmental agreements. Every citizen has the right to a healthy environment under the conditions defined by this law. This right is accompanied by an obligation to preserve and protect the environment.

Conclusion

In accordance with United Nations sustainable development goals (SDG7, SDG11, SDG13)¹⁵ the current research explores how governance qualities, official development assistance, and renewable energy consumption mitigate the ecological footprint in the Djiboutian context. Three variables, namely regulatory qualities, the level of upholding the rule of law and control of corruption was selected to represent Djiboutian governance qualities. According to the ARDL model only (i) control of corruption and (ii) renewable energy provides a repercussion effect framework on the ecological footprint, hence, the mitigation of the ecological footprint can be achieved by gathering precise data on a variety of topics and making it available to the public. The administrative authorities must also set an example by implementing ecologically friendly procedures within their own operations. This covers everything from lowering energy use in public buildings to encouraging sustainable mobility alternatives for workers. These programs will not only help the government agencies to leave a smaller environmental imprint, but they will also set a strong example for the general population. Indeed, it is also cardinal to encourage investment in renewable energy; for this, the country needs to provide a supportive legislative and regulatory framework. Another approach is to encourage public-private partnerships (PPPs) for the growth of renewable energy sources. In order to reduce uncertainties and risks, policymakers can also provide clear and comprehensible regulatory frameworks and offer incentives. Additionally, Djibouti may make use of international finance frameworks to encourage investments in renewable energy. Alternatively, from an internal standpoint, the country has the chance to create financing methods, such as community-led investment models, social impact bonds, and crowdsourcing, to obtain funding from more diverse sources and promote inclusive and sustainable development.

Whereas the rule of law, regulatory qualities and official development assistance seldom decrease the level of ecological print, as a result; Djiboutian policy-makers must reach a threshold that accommodates both national legislation and ecological footprints. To do this, ecological footprint goals can be included in national law. For instance, the quantity of greenhouse gas emissions, waste creation, or resource consumption that can be incurred by certain economic activities, could be restricted by legislation. Furthermore, monitoring and enforcing the adherence to objectives for reducing ecological footprints is crucial to ensuring that legislation is successful. At the same time the government should encourage citizen participation, public education campaigns, public meetings, and other means of outreach should be used to persuade people to support environmental preservation and hold the authorities accountable. On a similar scenario as the national status (lower-middle income) remains unchanged, even in the upcoming years it is unlikely for the Djiboutian government to consider allocating a higher budget for the environment. However, it is recommended for the Djiboutian government to seek specific ODA programs that align with the current national climate challenges and sustainable development, once identified the consistency of both projects (ecological issues and ODA package), a consecutive monitoring approach should be adopted alongside, yet this would require greater transparency and a concise portfolio by the recipient. Finally, the impulse response and the variance decompositions showcased how the selected variables have a prominent burden on ecological footprints by repercussion from the extension of so-called environmental degradation. However, alarmingly such negative shocks start to materialize after ten years.

¹⁵ <https://sdgs.un.org/goals>

Nonetheless, there are some drawbacks in the current article. First, the research only looks at a particular lower-middle-income country with its own special environmental situation and resources. As such, it is important to compare it with countries that are similar in these aspects. It is also crucial to pick a specific area, such as transportation, public administration efficacy, financial inclusion, and environmental literacy vis-à-vis compliance with environmental laws. Future research endeavors could also contemplate the adoption of alternative econometric models to delve deeper into the realms of governance sustainability and ecological footprint.

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The Efficacy of Public Order Training in Improving Performance of District Reaction Groups (DRGs) in the Zimbabwe Republic Police, Mutare Central District, Manicaland Province, Zimbabwe

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Abstract

This article sought to assess the role of public order training in improving the performance of the District Reaction Group (DRG), in the Zimbabwe Republic Police Mutare Central District. The study adopted a quantitative approach and used a descriptive survey research design. The study participants were drawn from members of Zimbabwe Republic Police Mutare Central District. A sample size of 280 participants was drawn in which a stratified random sampling technique was used. Data for this study were collected through structured questionnaires. The collected data were analyzed using SPSS version 23.0 and presented in the form of tables and figures. The findings of the study established that public order training had a positive significant influence on Police District Reaction Group public conduct in Mutare District. The study recommended that the Zimbabwe Republic Police should conduct more training on customer care and Human Rights through its Professional Updating Centre (PUC) in order to reduce number of complaints of human rights violations by the public.

Keywords

public order training, police reaction group, Zimbabwe Republic Police, Professional Updating Centre, training and development

1 Introduction and background

The world over, the right to hold and participate in public gatherings is enshrined in international, regional and domestic laws as fundamental freedoms and are inherent and rooted in the fact that human society stands on cooperation between such persons in a community (Mancini & Rosenfeld, 2020). According to Weyland (2020) it is prudent to note that although people come together in pursuit of their common interests, some will have a different motive and end up committing crimes. Thus, given the diversity of cultures across the globe, and country after country, criminal activities and public disorder become inevitable, mostly regarding public gatherings such as political gatherings, social meetings such as football matches, food riots and so many other public order events. Police forces are faced with these different scenarios of conflict and the mandate to uphold the freedom of assembly of their country's citizenry.

At global level, Gilmore (2013) recalls that the world has witnessed a number of public disorder events in which the reaction of police officers to restore order in such situations was either condemned or praised. For example, according to the Amnesty International (2008) on their findings in the Republic of South Korea regarding a deadly protest against the importation of beef from United States of America, which erupted in May-August 2008, they blamed the anti-riot police for incorporating military recruits who were not qualified to deal with disorders. Hence, the cause of Korean National Police Agency poor performance, according to the Amnesty International Report, was a result of frustration and tiredness that led police to use unnecessary and excessive force and brutality on civilians and ended up misusing security equipment. More so, according to an International Criminal Justice Report, the Russian army has been accused of assassinating and injuring innocent citizens in its bid to maintain public order during the Russia – Ukraine war (Haleem et al., 2020). In the same vein, Gilmore (2013) states that Germany Nazi's Party, broke world records for engaging in public order violence, due to so many people being killed and injured a century ago. Therefore, McCarthy and McPhail (1998) establish that the three major components of public order management systems (POMS) apparent in contemporary Western democracies are special and temporal restrictions on protest, grounded in widespread adoption of advanced permit systems; training regimes and technologies designed to help the police contain and control demonstrations more effectively and an emphasis, at least rhetorically on the police negotiating with key participants and organizing groups before and during the events.

In South Africa, public order management became under spotlight following the death and injury of thousands of revolting workers taking part in the Marikana labor uprising and echoing the Sharpeville massacre. The Marikana massacre refers to the events of 11 to 16 August 2012 at the Lonmin Mine at Marikana, where 44 people lost their lives, more than 70 were injured, approximately 250 people were arrested and millions of rands' worth of property was damaged (Boëttger & Rathbone, 2016). These events were preceded by a wage dispute between worker unions and the Lonmin management. The events were exacerbated by a dispute between the National Union of Mineworkers (NUM) and the newly-formed Association of Mineworkers and Construction Union (AMCU). The eventual tragedy also involved the South African Police Service (SAPS), that used the most lethal force against civilians since the Sharpeville massacre of 1960 (Boëttger & Rathbone, 2016). In the Sharpeville massacre, the SAPS fired without warning into an unarmed crowd at Sharpeville in Vereeniging, killing at least 69 anti-pass law protesters. This incident was seen by many scholars as a turning point in the struggle against apartheid. Although this incident happened more than 50 years ago, it united the oppressed masses against the National Party Government, in much the same way as the Marikana massacre provoked public outcry.

The Constitution of Zimbabwe¹ grants Parliament the power to make laws for the peace, order and good governance of Zimbabwe and Section 59 provides that everyone has the right to demonstrate peacefully. Pursuant to this, the Maintenance of Peace and Order Act (MOPA) was promulgated in November 2019 to provide a regulatory framework for public assemblies. In 2022 the government of Zimbabwe promulgated the Zimbabwe Independent Complaints Commission Act, which provides for an independent complaints' mechanism for members of the public against members of the security services pursuant to Section 210 of the Constitution. The complaints mechanism is intermediated by a body that is independent from all of the security services, namely the police, defense, prisons and correctional and intelligence services. For this purpose, the Act establishes a Commission to carry out this function with a view to remedying any harm caused by any misconduct on the part of any member of the security services.

Section 219 of the same Constitution establishes the Zimbabwe Republic Police (ZRP) and grants it a mandate, primarily to maintain peace and order and protect life and property. It is within this context that ZRP Standing Orders Volume 1 (1995) outline the provision for large urban areas to have their own Police Reaction Groups at both provincial and district levels. Hence, the Mutare Central District Reaction Group is one such police team responsible for public order management in its area of jurisdiction. However, despite several numerous training sessions being carried out by the Manicaland Professional Updating Centre to improve public order policing, the Mutare Central District Reaction Group is facing a lot of challenges during public order/disorder management. For example, the DRG's public conduct has resulted into a number of complaints against police which range from unprofessional behavior to corruption. It is therefore against this setting that this study sought to establish the role of public order training in improving the performance of the District Reaction Group, using Mutare Central District as a case in point.

2 Literature review

2.1 Crowd mind theory

This theory by Le Bon has made several crucial points to clarify the reasons behind crowd or mob behavior. He maintains that the development of a type of collective mind, or crowd mind, which causes them to feel and act in ways that are very different from how each person would feel, think, and act if they were in a condition of isolation, is what gives rise to crowds. The impact of a group or collective mind, which develops when certain people get together with a common drive, objective or purpose, is said by psychologists who support the crowd mind theory to be the cause of this phenomenon. They also contend that when someone belongs to a certain group, they lose their sense of self. As such, when dealing with crowds, the police need to ensure that crowds do not commit crimes. Some of the crimes include the destruction of property and subsequent looting of goods. The Maintenance of Order and Peace Act (MOPA), which is a predecessor to Public Order and Security Act (POSA), as well as Law and Order Maintenance Act (LOMA) are legal instruments crafted by the legislature to resolve the conflicts that may come up between the public and the police, enforcing the laws to curb criminal activities

¹ Constitution of Zimbabwe (Amendment No. 20) Act 2013 [Zimbabwe], 22 May 2013. Online: <https://www.refworld.org/docid/51ed090f4.html>

during permitted gatherings. Some of the ways might point to the review and fine-tuning of the existing MOPA to curb crimes associated with the right to freedom of assembly, as well as the promulgated Zimbabwe Independent Complaints Commission Act, Chapter 10:34 (No.5/2022). However, the weakness of this theory is that it is heavily inclined towards reasons for crowds behaving in a certain manner, but does not explain why police may sometimes use minimum force in case of rowdy crowds. The theory also highlights that a sense of responsibility is loosened in a crowd and there is a rise of common crowd-consciousness and lapse of personal consciousness. Some, however, disagree, claiming that people have neurological systems and that consciousness depends on how the neural structure works. The theory also asserts that the leader's commands or general direction influence the crowd's conduct and actions. Le Bon used numerous examples from the French Revolution to illustrate his arguments. However, he has drawn criticism on the grounds that just assembling or aggregating a small number of individuals who share a shared goal will not result in a crowd's behavior or attitude. His perspective is further challenged on the grounds that an individual's sensations and feelings in a crowd are not at all unlike those when they are alone. The mass of people as a whole lacks any sense of isolation.

2.2 Social Facilitation theory

Some people contend that while the emotional response of one person does not trigger the emotional response of another, it adds to the emotional behavior of the crowd. This also alludes to Allport's social facilitation theory and cyclic reaction crowd theory. According to proponents of this notion, we sometimes laugh in public situations when other people are laughing without realizing why. It is a reaction in a group hence produced by a group. Allport believes that the prepotent trend of the individual himself is the true source of the crowd response, not the other members of the crowd or the stimulus scenario. Undoubtedly, the crowd's energy and its participants contribute to such behaviors. Each person becomes extremely suggestible and more likely to copy other people's behavior, as their emotions are at their highest.

3 Concept of Public Order Management

Disorder can happen anywhere and the Organization for Security and Cooperation in Europe (OSCE), in its Human Rights Handbook on Policing Assemblies, has highlighted the great variation in public order situations (Galbreath & McEvoy, 2012). They can range from temporary or short-lived events to the much longer, even semi-permanent, protests that have emerged in the last 20 years. There are numerous examples of these evolving protests in an Irish context, including the Shell to Sea protests, the Shannon Airport protests and the environmental protests on the road-widening scheme at the Glen of the Downs. Horizon scanning and responding to this constantly changing landscape, including preparing for an unanticipated event, requires that police planning, policies, practices, tactics and systems continuously adapt (Garda Síochána Inspectorate, 2019).

As such, public order management systems (POMS) are the more or less elaborated, more or less permanent organizational forms, their guiding policies and programs, technologies and standard policing practices that are designed by authorities for supervising protestors' access to public space and managing them in that space (McCarthy & McPhail, 1998). Variations in the features and styles of public policing protest have received extensive analysis in recent

years, but comparatively little systematic attention has been paid to the organizational structures within which institutionalized police practices are embedded.

In the same line of thinking, the maintenance of public order in Zimbabwe is a major responsibility for the Zimbabwe Republic Police. It is not only essential to the quality of life of those living in Zimbabwe, but also enables important state functions to be undertaken. As such, the Zimbabwe Republic Police Public Order Strategy was formulated to specify how this important responsibility is met, covering the policing of large public order events, ceremonials, serious disorders and major civil incidents, and it is not intended to apply to the policing of low-level disorder and anti-social behavior such as neighbor disputes or noisy parties (ZRP Public Order Training Manual, 2000).

4 Types of Training Activities being conducted to Improve Public Order Management Policing

Ali, Anita, Zulkifly, & Imaduddin (2019) argues that learning needs should be concerned with identifying and satisfying the needs of employees in order for them to be fit for the tasks and responsibilities accorded to them, as well as their work demand, so as to prepare them to take up higher responsibilities in the future through planned succession. According to Garavan et al. (2021) organizations that value training and development have to implement various training activities which fulfil the tasks at hand. It is within this context that, in order to improve public order, police officers in Zimbabwe are subject to various training activities (Matunhu, & Matunhu (2021) 5

4.1 Customer Care and Human Rights Training

According to Kivoi (2020) one of the significant factors causing police officers to be stressed is a lack of professional development. In the same vein, Ransley (2016) notes that a number of police managers and supervisors have been deployed without undergoing courses, which has led to poor performance across the globe by various national police service with regard to towards handling public disorder situations. According to Mugari & Obioha (2018), the Zimbabwe Republic Police Public Order Policy seeks to develop and implement training programs which focus on improving all officers' administrative and operational skills to enable them to deal with all aspects of public order/ disorder efficiently and effectively, the ultimate goal being to ensure that the highest level of human rights observance prevails in managing public disorders and disaster situations. According to Sitompul et al. (2021) law enforcers are expected to perform their duties efficiently and effectively so that crowds of demonstrators and spectators are guided and demonstrate in an orderly manner, and this can only be achieved through proper training which focuses on the importance of human rights and good customer care for police officers.

4.2 Exchange Training Programs

According to Sitompul et al. (2021) exchange training programs aim to share knowledge, skills and attitudes between and among employees in the same industry or sector. He further argues that, for a fundamental benchmark to exist, exchange training programs are very much required, whether at local, national, regional or international level (Sitompul et al., 2021). In the same line of thinking, a paramilitary organization, the Zimbabwe Republic Police, usually conduct

some exchange training programs for public order with sister organizations such as Zimbabwe's National Army and Zimbabwe Prisons and Correctional Services, especially to monitor national events such as harmonized elections and other national public holidays, including Independence and Heroes Day commemorations (Matunhu & Matunhu 2021). Moreover, the existence of JOC (Joint Command Corporation) meetings and workshops for the Zimbabwe Republic Police enhances different commanders of the security service to share notes, experiences and knowledge of public order management across the country. At international level, the ZRP Support Unit wing has often engaged with other countries such as Israel and Mozambique on public order training exchange programs.

4.3 Training programs for intelligence officers on information-gathering

McCarthy and McPhail (1988) aver that effective and efficient public order management begins with effective and efficient public order intelligence-gathering, especially for politically-motivated violence. This implies the need for training programs for intelligence officers on information-gathering. Hence, in the Zimbabwe Republic Police, intelligence-gathering training, covers all aspects of evidence-gathering including post-event investigations, observation points and surveillance, legislation, contemporaneous commentary training, public order tactics and fitness training (Matunhu & Matunhu 2021). During the course of evidence-gathering, officers work with photographers taking part in public order training exercises (Beggs et al., 2012).

4.4 Physical Training

The Zimbabwe Republic Police recruits able-bodied young men and women between the ages of 18 to 22. Physical training is part of the curriculum during the initial recruit training of a Police officer in Zimbabwe. The training, which used to be a six months basic course, now covers a period of two years and has theoretical and practical components. Their semesterized theory covers modules such as police duties, police administration, weapon handling, public order management and counter insurgency and the history of the police and policing. In addition to these foundational courses, the other courses include cyber-crime, contemporary policing, research methods and statistics, criminal investigations, criminal procedure and an introduction to law, computers and financial accounting.

The Mukushi Training Depot (formerly Morris Depot) is mandated to provide basic police training. The Mukushi Academy is affiliated with the University of Zimbabwe and now recruits new graduates with a Diploma in Policing. After graduating from Mukushi Academy, police officers may also apply to join the Police Staff College (the highest institute of higher learning in the Zimbabwe Republic Police), which is an affiliate college of the University of Zimbabwe, as well as the Bindura University of Science Education. The police staff College offers police officers various degrees and diplomas related to crime and policing. These include but are not limited to diplomas and degrees in Community Development and Lifelong Policing, Cyber Security Studies and diplomas in Law, Business Management and Criminology. All these equip police officers with 21st century policing strategies that also encompass public order management. According to the ZRP Public Order Training Manual (2000), the most physically demanding work that a police officer is expected to perform is associated with public order in all its manifestations, whether dealing with large numbers, of good-humored people on important royal occasions, militant strikers, football hooligans, or crowds of opposing political extremists.

As such, a police officer needs to remain cool, alert and capable of meeting emergencies as they arise. It was further argued that the work is often energy-sapping, for example, holding back a pressing crowd. Sometimes it is dangerous (for example, when officers are subjected to violent attacks and missiles being thrown) and there are always those occasions when long hours and bad weather make great demands on their patience and stamina. Through all these demands there is a need to remain mentally alert and confident (ZRP Public Order Training Manual, 2000). Matunhu & Matunhu (2021) argue that police officers who are unfit will eventually succumb to a physical need for rest and will become mentally exhausted and consequently a liability, if not a danger, to their colleagues and supervisory officers. It is for these reasons that all public order-trained police officers at all levels are required to take part in physical training and fitness lessons as part their training (Matunhu & Matunhu 2021).

4.5 Refresher Courses and Retraining

According to Dickinson (2021) a refresher course refers to a training course that keeps the workforce informed of the new ideas and developments in their areas of interest or skills applied to long term employees of the organization who had been trained in the past. Skeem et al. (2014), propounded that once members are trained, there is need after a considerably period for re-training them, so that, they are kept work-oriented. In support of this belief, Phillips (2018), advanced that refresher courses assist in developing employees and preventing them from becoming obsolete in terms of the job requirements. This is a significance factor in the fields of policing, where changes in the environment call for adjustments in the workforce's skills. According to Shannon (2018) continuous training of the police would reduce miscarriages of justice, improve their service delivery by upholding the rule of law and be able to provide policing by consent to all the communities. In case of ZRP public order refresher courses, it holds practical sessions, including standardized practices, procedures and techniques for crowd control, the use of public order equipment such as firearms, canisters, shields and baton sticks, as well as information/evidence-gathering (ZRP Public Order Training Manual, 2000).

5 Empirical review

Hoggett and Stott (2010) conducted a study titled "Crowd psychology, public order police training and the policing of football crowds". The purpose of the study was to examine what theory of crowd psychology is being applied within public order police training in England and Wales and what accounts of crowds, police strategies and tactics subsequently emerge among officers who undertake this training. The study used a qualitative approach and relied on observations of public order training courses, interviews with students and instructors, and the dissemination of questionnaires, in which a small sample size of 40 subjects was adopted. The study established that a form of crowd theory associated with the work of Gustave Le Bon has become institutionalized within police training. This in turn was leading to a potentially counter-productive reliance on the undifferentiated use of force when policing crowds. It was also illustrated that such training outcomes not only are counter to recent developments in evidence, theory and policy but also undermine the police's ability to develop more efficient and effective approaches to policing crowds.

Namukuve (2021) conducted a similar study titled "A Review of the Public Order and Management Act and Its Implications on Public Gatherings: A Case Study of Kampala in

Uganda”. The study adopted a qualitative approach and employed a cross-sectional research design. A sample of 18 key respondents was drawn and data was collected via in-depth interviews and focus group discussions. It was found that the Ugandan Police Force has a duty at its center, to ensure the balance between enjoyment of one’s human rights and freedoms. It was also revealed that the rule of law requires those who want to use public order means to be mindful of the rights of others, to preserve peace and harmony and to respect the bill of rights in its entirety.

Mugari & Obioha (2018) also conducted similar research titled “An Investigation into the Causes of Malperformance by Police Reaction Group in Managing Public Disorders, A Case of Bulawayo Province in Zimbabwe”. The study adopted a case study method and a sample size of 40 respondents was drawn from police officers only. The study was purely quantitative and used questionnaires for data gathering. The findings of the study established that malperformance among Police Reaction groups members emanated from inadequate resources required for both public order training and public order enforcement on the ground. It was also established that most members of the ZRP who were deployed to the Police Reaction Group (PRG) were too junior and lacked the necessary experience.

6 Research method

The present research adopted a quantitative approach with a positivist philosophy. The researcher used cross sectional survey designs in which data was gathered using a structured questionnaire. The main question was what is the role of public order training in improving the performance of the District Reaction Group. The study participants were drawn from members of Zimbabwe Republic Police’s Mutare Central District. A sample size of 280 participants out of a population of nearly 1000 police officers was drawn, in which a stratified random sampling technique was used. Data for this study were collected through structured self-administered questionnaires. The collected data were analyzed using tSPSS version 23.0 and presented in the form of tables and figures.

7 Findings and discussion

The sample size was 280 as 280 questionnaires were distributed. Accordingly, 224 questionnaires were returned in a completed and usable state. This translated to a response rate of 80%. Testing for normality was necessary to fulfil the assumptions of many of the most suitable statistical tests. In this view, the Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted to determine the normality of the data, as emphasized by Razli and Wah, (2011). Variables for both measures were far less than 0.05.

This therefore implies that the variables under consideration were not normally distributed thus paving the way for using non-parametric tests to infer associations among the research constructs.

Using SPSS Version 23, the Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity were largely used to determine whether the acquired data were sufficiently representative of the population. These tests were thus performed to determine whether or not factor analysis could be undertaken. The KMO test was thus conducted to examine the strength of the partial correlation; that is, how the factors explain each other between the variables. KMO values closer

to 1.0 are considered ideal while values less than 0.5 are unacceptable (Reddy & Kulshrestha, 2019). Scholars such as Reddy and Kulshrestha (2019) argue that a KMO of at least 0.80 are good enough for factor analysis to commence.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)		.749
Bartlett’s Test of Sphericity	Approx. Chi-Square	122.479
	Df	78
	Sig.	.001

Table 1: Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)

Source: Authors’ own collection.

The above results obtained met minimum conditions and permitted EFA to be performed (Field, 2009).

Descriptive statistics

Descriptor	N	Minimum	Maximum	Mean	Mean Score	Std. Deviation
Customer care and Human Rights Training	224	4	5	4.62	Strongly Agree	487
Intelligence gathering training	224	4	5	4.62	Strongly Agree	487
Physical Fitness Training	224	4	5	4.62	Strongly Agree	487
Exchange Training Programmes	224	4	5	4.63	Strongly Agree	484
Valid N (listwise)	224					

Table 2: Types of Training Activities Conducted to Improve Public Conduct

Source: Authors’ own collection.

In summary of the above Table 2, the highest mean was 4.63 for the descriptor Exchange Training Programs Training, which thus corresponds to strongly agree. The mean was 4.62 for the other three. This means that, on the 5 point Likert scale, most respondents strongly agreed. The high standard deviations implies that respondents had varied views on the above descriptors. This means that some could either agree whilst some could disagree with these descriptors. However, the overall mean response for these descriptors (Strongly Agree) indicates that respondents believed that it was true that the above listed types of trainings are needed to improve the roles of Police District Reaction Groups in Mutare Central District. The research results substantiate previous findings by Mugari and Obioha (2018) who declared that law enforcers are expected to perform their duties efficiently and effectively so that crowds of demonstrators or spectators

are guided and demonstrate in an orderly manner, and this can only be achieved through proper training, which focuses on the importance of human rights and good customer care among police officers. The results also resonate with Mugari and Obioha (2018) who argue that police officers who are unfit will eventually succumb to a physical need for rest, will become mentally exhausted and consequently a liability, if not a danger, to their colleagues and supervisory officers. It is for these reasons that all public order trained police officers at all levels are required to take part in physical training lessons and fitness as part of their public order training.

8 Hypotheses

In testing the hypothesis, the researcher used the structural equation modelling (SEM) in AMOS. Under the SEM. The following research hypotheses were tested:

H₁: Public order training has a positive and significant influence on improving DRG public conduct in Mutare District.

Hypotheses	Hypothesised Relationship	SRW	CR	P values	Remark
H ₁	POT → DRG Performance	.392	11.025***	.0000	Supported

Table 4: Influence of public order training on District Reaction Groups Performance

Notes: SRW standardized regression weight, CR critical ratio, ** significant at $p < 0.05$, *** significant at $p < 0.001$, ns not significant, Adjusted R square 0.682

H₁ hypothesis was supported (Standardised Regression Weight = 0.392, Critical Ratio = 11.025, $p = 0.0000$).

The p value of 0.0000 which is statistically significant as it is less than 0.05. There is therefore rejection of H₀ (null hypothesis) at 5% level of significance which leads to the conclusion that public order training (POT) had a positive effect on performance of Police District Reaction Group (DRG). Performance in this case is measured by the number of non-causalities when Public Order Teams are called to maintain public order. Less to nil causalities means good performance.

9 Conclusion

The study sought to assess the role of public order training in improving the performance of the District Reaction Group (DRG) in the Zimbabwe Republic Police Mutare Central District. The results showed that customer care and human rights training, intelligence-gathering training, physical fitness training and exchange training programs lead to an improved performance

by the ZRP District Reaction Groups. The hypothesis test conducted supported the view that there is a positive association between public order training and performance of Police District Reaction Groups. It is from the findings and conclusions that the researcher recommends that the Zimbabwe Republic Police should conduct more training sessions on customer care and Human Rights through its Professional Updating Centre (PUC) so as to reduce the number of complaints by the public on human rights violation and hence limit civil suits being launched by members of the public.

10 Limitation and further research

The present study on the efficacy of public order training on improving performance of the District Reaction Group had limitations that necessitate future researchers to address issues that were not covered by the present research. The study was conducted in Mutare Central District, which falls under Manicaland Policing Province. The results from the ZRP Mutare Central District may not be generalized for all Police Districts in Zimbabwe, hence the need to conduct the study at national levels.

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Metropolization Process in the Polish and French Local Governments

*Comparative Approach*¹

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Abstract

The article is aimed at presenting the stages of the metropolization process in both the Polish and French local governments, in order to establish the projected vectors of change, notably within the scope of Polish metropolitan solutions. In both legal orders, as many as three stages of the metropolization process can be distinguished in the legal context: the preparatory stage, the stage comprising the universal pattern and the third – presenting the current pattern of metropolitan institutions. The analysis of the metropolization stages unambiguously indicates the incomplete metropolization institutionalization process in both legal orders, comprising the search for the proper legal form for metropolitan areas, in order for these structures to effectively perform tasks of a supra-local nature. In both cases, the evaluation of the metropolization process constitutes an important element of the discussion on the vectors of change as regards the position of the metropolis in the modern local government. The article features both the dogmatic-legal and legal-comparative methods.

Keywords

metropolization process, metropolises in Polish and French local governments, decentralization, current pattern of metropolitan institutions, metropolitan tasks

1 Introduction

As a stage of urban development, the metropolis translates into significant population growth and a tendency of institutions to play a new role in the administrative structure of the state. The topic of metropolization is multi-faceted – it pertains to such issues as the environment and sustainable development, conditions and quality of life, as well as the better understanding of

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emerging administrative forms within the scope of cooperation in the performance of public tasks.² This territorial approach necessitates increased integration, search for new conditions for the cooperation of local government authorities and performance of public tasks of metropolitan nature. Therefore, said issues are essential from the perspective of the modern local government and decentralization of tasks.³

“Starting from the double revolutions of the 19th century, urbanization has had a significant impact not only on our continent, on Europe, but now on the whole world. As part of this process, the population of cities has increased significantly, the role of cities has been transformed and the »catchment« areas of major cities have been established, namely the agglomerations” (Hoffman et al., 2020, 14)⁴.

The issues of the organization and functioning of metropolitan territories cause the discourse related to metropolization to be aimed at commencing debate over social and spatial inequalities, as well as multiple administrative problems.⁵ The purpose of the present article is to present the metropolization process in the legal context of both the Polish and French local governments.

Attempts at normalizing the metropolis as administrative structures functioning under French administrative law clearly indicate that a constant search is necessary for the proper legal form that would allow the metropolis to function. Said process is constantly subject to evolution, based on experience arising from the 2nd and 3rd act of the decentralization of French territories (Auber & Cervell, 2012, 18–19; Verpeaux & Janicot, 2015, 82–83). As a legal formula, the metropolis enables us to understand current challenges related to territorial governance and reveals the issue of the territorial identity⁶ of residents of the metropolis⁷ and potential conflicts attributable to the performance of tasks and exercise of competences based on metropolitan or local interest (Dolnicki et al., 2023, 391).

Polish law provides for legal solutions that enable the functioning of various forms of cooperation among local government units (special purpose association, association, agreement); these, however, have proven to be insufficient. While working on the draft law on the local government of 1990, a necessity of arriving at special solutions was expressed as to urban areas; however, it was still a long way off before they became institutionalized.

In French and Polish legal science, the concept of metropolis developed much later than in sociological or economic science. It became an issue of law, together with the emerging process of metropolization and its subsequent stages, whose result is the current metropolitan landscape, in the doctrine thought of as “unfinished power”, French: “pouvoir inachevé” (Le Saout, 2000, 459–460).

The article is aimed at presenting the stages of the metropolization process in both the Polish and French local governments in order to establish the projected vectors of change, notably

² As the literature points out, “The dynamic development of functional-spatial relations between the city and its increasingly distant surroundings (often referred to as the space of flows) creates the prerequisites for more intensive cooperation between municipal units. Metropolitan cooperation is becoming an increasingly important prerequisite for socio-economic development and the creation of cooperative advantages in the face of increasing urban and regional competition. Economies of scale, agglomeration and synergy effects are associated with territorial cooperation.” – see Kaczmarek & Mikula (2007, 27).

³ On the topic of the tasks of metropolitan self-government in Poland, see Szlachetko (2020, 365-366).

⁴ See also Hoffman (2017).

⁵ For more on this subject, see Pierre (2011, 2–4).

⁶ For more on metropolitan identity, see Lackowska & Mikula (2018).

⁷ As regards this notion, see Lefèvre (2009, 85–86); Pinson & Rousseau (2011).

within the scope of Polish metropolitan solutions. In both legal orders, as many as three stages can be distinguished: the preparatory stage, the stage comprising the universal pattern and the third – presenting the current pattern of metropolitan institutions.

In both cases, the evaluation of the metropolization process constitutes an important element of the discussion on the vectors of change as regards the position of the metropolis in the modern local government.

The article features both the dogmatic-legal and legal-comparative methods.

2 Metropolization process in Poland and in France – preparatory stage

In normative terms, the preparatory stage of the metropolization process includes drafts and concepts within the scope of metropolitan institutions presented in both legal orders.

Polish law has provided for multiple concepts and drafts of laws from 1990 (to be exact from the revival of the democratic local government after the communist rule); it shows the evolution in the understanding of issues related to metropolitan areas; therefore, initially, the solutions were based on voluntary forms of cooperation; however, it became apparent that they were insufficient as a legal tool to ensure smooth cooperation among units of local government (that is municipalities, districts and regional governments) (Ofiarska & Ofiarski, 2021, 243–244). Furthermore, concepts emerged that assumed the establishment of a new category of a local government unit, which involved the potential modification of the territorial division of the state. As a result, the institution of the municipal association did not yield the expected results in relation to large cities and metropolitan areas.

An important aspect of this preparatory stage was a draft intended to institutionalize the metropolis, which proposed the establishment of the metropolitan district on the supra-municipal level (Sikora, 2015). This draft was authored by several Professors: B. Dolnicki, J. Glumińska-Pawlic and C. Martysz. It provided for keeping the existing basic three-tier territorial division of the state; at the same time, it enabled the creation of an entity better integrated internally than the existing municipal associations already operating in this field (Dolnicki, 2013). However, the draft law on the metropolitan district did not gain the acceptance of the government and was not enacted.

On 20 July 2015, a draft law was presented on metropolitan associations, superseding the draft previously under consideration. It provided for the establishment of a new legal institution of universal nature. The association was to be made of municipalities located within the limits of the metropolitan area and districts on whose territory at least one municipality was located within the limits of the metropolitan area. The draft in question became the basis for the first stage of metropolization under Polish law. However, the policymaker did not introduce the metropolitan association to the catalogue of local government units, making it only a certain legal form of cooperation while performing public tasks.

As far as French law is concerned, the preparatory stage unambiguously indicates that the normative term of metropolis has been evolving together with the metropolization process. From the legal perspective, the metropolis is a form of intermunicipal cooperation (EPCI), in other words an administrative structure incorporating municipalities that decided to implement shared competences (Le Merrer, 2016; Lang et al., 2012, 269–270).

The organization of urban areas had gradually evolved from 1960 and urbanization expanded since the 1990s. Said changes are included in the institutional framework by the French National Institute for Statistics and Economic Research (INSEE), which defined the “urban areas” and

“metropolitan areas” (*aires métropolitaines*). These definitions became a point of reference for the creation of the normative framework for metropolization in France (Marcovici, 2019, 27).

The first act of decentralization witnessed the introduction of a new territorial organization in the French Republic, providing a favorable framework for the development of the metropolis, yet without establishing said framework in the normative sense. This was necessitated by the perception of the metropolis as an effect of the spatial planning policy launched in the 1960s.

The metropolization process in the French Republic has been developing for years, but the publication of the first official reports and drafts only began in 2000, which would include and emphasize the importance of the phenomenon in question.

The focal point of the metropolization process was the report of Balladur’s committee entitled “Time to decide” (French: “*Il est temps de décider*”), which included but was not limited to twenty propositions of the Committee aimed at facilitating the activity of the French territorial administration through the enhancement of its effectiveness and deepening local democracy as a basis for successful decentralization. It was recommended that as many as eleven metropolises be established under the operation of law, starting from 2014, followed by other units and intermunicipal associations, which could voluntarily join the metropolises. Furthermore, the issue was raised that said metropolises must be granted extensive competences (similar to municipalities). Additionally, they were to be equipped with financial means, allowing the implementation of tasks and their functioning. The Committee’s report, as prepared under the leadership of E. Balladur, had a decisive influence on the policymaker within the scope of the metropolization process.⁸

Since passing constitutional act no. 2003-276 of 28 March 2003 on the decentralized organization of the Republic,⁹ the policymaker’s freedom in the creation of new communities had been expanded by allowing the creation of the new category of territorial communities: the territorial community of a special status (see Article 72(1) of the Constitution of the French Republic), which the French policymaker could use for the institution of the metropolis (Pauliat & Deffigier, 2011, 37–38). Despite their legal capacity, the policymaker did not make such a decision. Even though the French policymaker failed to legally acknowledge the metropolis, the context had been changing in which the metropolis was perceived as an administrative structure whose aim was to play a new role in the administrative division of the state.

The initial lack of legal regulations adjusted to the phenomenon of increasing urbanization made it more difficult for metropolises to obtain their own legal form to enhance their legal position, so that they could become an efficient management tool in the local government structure. However, this raised concerns among representatives of local communities (local politicians) as they were afraid to lose their municipal competences and importance in the French local government (Parnet, 2020, 206).

As far as both legal orders are concerned, the preparatory stage was a requisite element of the metropolization process; however, it is characterized by the fact that metropolitan areas have no special legal status. Therefore, the delayed institutionalization of the metropolis does not stem from actual legal impediments. It is necessitated by the concern among representatives of local authorities that they might lose their power and competences in favor of the metropolis.

⁸ For a more extensive discussion, see Waline (2016, 125–126).

⁹ Constitutional Act No. 2003-276 of 28 March 2003 on the decentralised organisation of the Republic (Loi constitutionnelle n°2003-276 du 28 mars 2003 relative à l’organisation décentralisée de la République; NOR: JUSX0200146L).

3 Metropolization process in Poland and in France – universal formula

Under Polish law, the first stage of metropolis institutionalizing is the Act of 9 October 2015 on metropolitan associations,¹⁰ which introduced an association as a universal formula that could apply to many “metropolitan areas” in Poland. The metropolitan association was to serve as an association of local government units situated in a specific metropolitan area (more precisely, municipalities located within the limits of the metropolitan area and districts on whose territory at least one municipality is located within the limits of the metropolitan area). According to the act in question, the metropolitan area was assumed to be a “spatially consistent zone of influence of a city serving as the seat of the voivode or voivodeship assembly, characterized by the existence of strong functional connections and advanced urbanization processes, inhabited by no fewer than 500,000 residents”.¹¹ The metropolitan association was to be formed by the Council of Ministers by way of an ordinance issued *ex officio* or at the request of the council of the municipality located within the boundaries of the metropolitan area. Furthermore, the association could perform public tasks pursuant to agreements entered into with local government units, as well as with government administration bodies (horizontal and vertical agreements). It had both legislative and executive bodies. Pursuant to this regulation, no metropolitan association was established. However, this gave rise to further search for the proper legal form of metropolitan areas.

Meanwhile, under French law, the first stage began by establishing the legal framework of metropolis institutions to act on the reform of territorial authorities pursuant to the Act of 16 December 2010 (RCT Act¹²). The act is the first to have institutionalized metropolises within the French legal order (Faure, 2018, 385; Pauliat & Deffigier, 2011, 37–38).

In due consideration of the concerns of the representatives of municipality authorities and departments, the policymaker had rejected the notion of metropolitan cooperation (as a territorial community pursuant to Article 72 of the Constitution of the French Republic), granting them the status of public establishments for intermunicipal cooperation with their own tax status (EPCI à FP¹³). This form is well-suited for the promotion of municipal solidarity, and, therefore, for reducing public expenditure through the sharing of services, yet without questioning the existence of municipalities. Consequently, the *status quo* was maintained at the expense of the metropolis. By granting the same status of the public institution to all metropolises, the French policymaker created a new legal category, yet within the framework of the reinforced intermunicipal community (Marcou, 2010, 368–369; Douence, 2011, 263).

This new form of intermunicipal cooperation, or EPCI, with its own tax status (as a metropolis), existing pursuant to Article L. 5217-1 -4 CGCT¹⁴ was a part of the administrative structure of the French local government. This metropolitan intermunicipal community was to enable its member municipalities to jointly develop and implement an economic, ecological,

¹⁰ Act of 9 October 2015 on metropolitan associations (U.S.2015.1890 as amended) – hereinafter referred to as the Act of 2015.

¹¹ See Article 5 of the Act of 2015.

¹² La loi n° 2010-1563 du 16 décembre 2010 de réforme des collectivités territoriales (loi RCT), NOR: IOCX0922788L, JORF n°0292 du 17 décembre 2010

¹³ Les établissements publics de coopération intercommunale à fiscalité propre (EPCI à FP).

¹⁴ The General Code of Territorial Collectivities (*Code général des collectivités territoriales* -CGCT) – source: <https://www.legifrance.gouv.fr>

educational, cultural and social planning and development project for their territory in order to enhance its competitiveness and consistency. The policymaker equipped it with extensive competences, which were shifted from the department, region and direct state competences to the metropolis. The RCT Act was a decisive factor in the establishment of metropolitan EPCI (forms of intermunicipal cooperation) solely on a voluntary basis. The municipalities were exclusively competent to apply for the establishment of a metropolis; therefore, the metropolis formula was not as successful as expected (Faure, 2018, 385). Since the Act of 2010, only one metropolitan area has been established, namely “Métropole Nice Côte d’Azur”. Above all else, the policymaker granted the metropolitan EPCI the authority to exercise numerous municipal competences under the operation of law. Municipalities considered these extensive transfers as a factor contributing to their loss of prerogatives and potential risk of them being absorbed by the metropolis, which justified their reluctance to this metropolitan form. Due to the lack of attractiveness of this legal form, pursuant to the RCT Act, metropolises did not position themselves in the territorial landscape of France, waiting for the next stage of metropolization.

The policymaker’s decision of 2010 to grant all metropolises the same status as to the forms of intermunicipal cooperation (EPCI with its own tax system) meant the uniformity of these structures that facilitated the identification of this new institution of metropolis as an intermunicipal structure. However, this resulted in the reduced role and importance in the French local government. Considered as structures of intermunicipal cooperation, metropolises did not have such legal status under the Act as territorial communities (Protière, 2012)(municipalities, departments, regions).

4 Metropolization process in Poland and France – current pattern

Polish law provides for this institutionalization stage of the metropolitan association pursuant to the Act of 9 March 2017 on *the metropolitan association* in the Silesian Voivodeship.¹⁵ With the creation of the legal structure of the metropolitan association, the Act in question referred to the systemic solutions adopted in the Act of 2015, albeit it factored in certain indispensable modifications. It did away with cooperation in the form of a voluntary intermunicipal association and joint performance of tasks in the area of the polycentric Upper-Silesian Conurbation, as they had not yielded expected results) (Dolnicki, 2021, 463). The Act rescinded the creation of a single systemic-competence model for all metropolitan areas in favor of a separate legal regulation for the respective metropolitan areas due to their economic, spatial and financial specificity. Consistently, the policymaker decided to include the specificity and needs of a given metropolitan area while establishing a specific metropolitan association by way of a separate act. The metropolitan association referred to as the Metropolis GZM [Górnośląsko-Zagłębiowska Metropolia] was therefore established.¹⁶ The association is formed by as many as 41 municipalities inhabited by approx. 2,280,000 people and comprises all the municipalities in the Upper-Silesian Conurbation; it is characterized by polycentrism. It was assumed that

¹⁵ See the Act of 9 March 2017 on the *metropolitan association* in the Silesian Voivodeship (i.e. Polish Journal of Laws of 2022.1709) – hereinafter referred to as the Act of 2017.

¹⁶ Ordinance of the Council of Ministers of 26.06.2017 on the establishment of the metropolitan association in the Silesian Voivodeship referred to as “Metropolis GZM” (Polish Journal of Laws, item 1290).

cooperation in the form of an obligatory intermunicipal association and joint performance of tasks in the area of the polycentric Upper-Silesian Conurbation would yield expected results (Dolnicki et al., 2023, 398).

French law provides for this institutionalization stage of the metropolis pursuant to the provisions of the MAPTAM Act,¹⁷ the subsequent regulations of the NOTRe Act,¹⁸ and the provisions of the SPAM Act¹⁹, resulting from the introduction of the third act of decentralization in the French Republic. This reform gave rise to the normative framework of the institution of metropolis under French law, making significant shifts in competences in favor of the metropolis and introducing threshold conditions related to the creation of metropolises and eliminating legal inconsistencies attributable to the new territorial map. Within the framework of the 3rd act of decentralization, the government decided to elevate the status of metropolises, which necessitated redefining their legal status.

The MAPTAM Act was aimed at establishing the new reinforced institution of the metropolis, which could successfully implement legal tasks with the consideration of the characteristic features of the metropolis. This Act provided for the automatic establishment of the following three metropolises under the operation of law: Metropolises of: Greater Paris, Aix-Marseille-Provence and Lyon. On 1 January 2015, the Metropolis of Lyon was established, a territorial unit with a special status (*collectivité territoriale à statut particulier*). L. Janicot indicates that Lyon, as a new territorial community, paved the way to a hitherto unprecedented territorial diversity (Janicot, 2013, 63).²⁰ Meanwhile, on 1 January 2016, the Metropolis of Greater Paris was established, a form of EPCI intermunicipal cooperation with its own tax system with a special status (*EPCI à fiscalité propre à statut particulier*) and Metropolis of Aix-Marseille-Provence, an EPCI with its own tax system subject to certain deviations from common law (*droit commun*) (Morand-Deville et al., 2019, 197).

Aside from the three entities mentioned above, as many as 19 common law metropolises were established (*des métropoles de droit commun*), which – pursuant to Article L. 5217-1 CGCT – legally constitute an EPCI institution with their own tax systems.²¹ Therefore, the Act introduced the first distinction between the three metropolises with a special status and common law metropolises (providing two modes of establishing common law metropolises: obligatory and optional).

Pursuant to the MAPTAM Act, it was also established what associations a metropolis must have with a region in order to revitalize its territories, while setting the objective to join the

¹⁷ Act No. 2014-58 of 27 January 2014 on the modernisation of territorial public action and affirmation of metropolises (LOI n° 2014-58 du 27 janvier 2014 de modernisation de l'action publique territoriale et d'affirmation des métropoles, NOR: RDX1306287L) – referred to as the MAPTAM Act).

¹⁸ Act No. 2015-991 of 7 August 2015 on the new territorial organisation of the Republic (LOI n° 2015-991 du 7 août 2015 portant nouvelle organisation territoriale de la République, NOR: RDX1412429L, JORF n°0182 du 8 août 2015) – referred to as the NOTRe Act).

¹⁹ Act No. 2017-257 of 28 February 2017 on the status of Paris and metropolitan development (LOI n° 2017-257 du 28 février 2017 relative au statut de Paris et à l'aménagement métropolitain, NOR: ARCX1617470L, JORF n°0051 du 1 mars 2017) – referred to as the SPAM Act.

²⁰ For a more extensive discussion, see Pyka (2016).

²¹ There are twenty-one metropolises in France and one metropolis with a special status, which is Lyon, which is both a metropolis and a department. The largest French metropolis is that of Greater Paris (7.2 million inhabitants), followed by Aix-Marseille (1.8 million inhabitants) and Lyon (1.4 million inhabitants). – see Cabrillac (2022, 371).

member municipalities in developing and conducting the economic, educational, cultural and social planning and development projects for their territory, in order to enhance its consistency and competitiveness and contributing to the sustainable and mutually supportive development of the regional territory. The metropolis should strengthen “the economic functions of the metropolitan area, its transport networks and university, scientific and innovative resources in the spirit of regional and interregional cooperation” (see Article L. 5217-1 CGCT). Pursuant to the MAPTAM Act, the metropolis should become the capital city of the region.

In the meantime, NOTRe Act makes various shifts in relation to the division of competences in favor of the metropolis, strengthening it in the performance of tasks.

Lastly, to eliminate certain inconsistencies arising from the new territorial map, SPAM Act significantly lowered the threshold conditions for the establishment of the metropolis, increasing the total number of metropolises to 22 from 1 January 2018.

The acts mentioned above serve as the legal framework for the current pattern of metropolization in France, although still imperfect.

The third act of decentralization established the varied status for all these metropolises adjusted to the local specificity (RTC Acts other than regulations). However, the policymaker grants the metropolises, with the exception of the Metropolis of Lyon, an intermunicipal status.

In light of the MAPTAM and NOTRe reforms, the metropolization process is not intended for the simplification of structures or clarifying competences. On the other hand, the establishment of a different status for the Metropolis of Lyon, presented as a territorial community, did not arouse controversy due to the earlier political agreement entered into between the President of Grand Lyon (du Grand Lyon) and the President of the General Council of the Rhône (le président du conseil général du Rhône) (Marcovici, 2019, 69).

The weakness of the French metropolization process consisted of the state imposing a specific form of territories without holding extensive consultation and obtaining the approval of the metropolitan project by the territorial communities and local institutions. With all certainty, this would strengthen the legal basis of the metropolis institution and its social importance.

The status of the respective metropolises in France is a result of political compromises; it led to the creation of a system that still needs reform. Similarly, this remark applies to the Polish solutions within the scope of the metropolitan association in the Silesian Voivodeship, as regards its organization, functioning (Dolnicki, 2020) and legal status.

5 Conclusions – unfinished metropolization process

The preparatory stage applicable to the metropolization process in both legal orders is a key element in the creation of a proper form for metropolitan areas. However, it is more progressive in its ideas and concepts than in normative regulations. This is attributable to concerns among representatives of the authorities in municipalities and districts (departments) related to the potential loss of power and reduction in real clout in the local government community which is well illustrated by the French example. Albeit, this stage was necessary to take further steps in the metropolization process in Poland and France.

The next metropolization stage was comprised of legal regulations related to the creation of a single institutional pattern for all metropolitan areas, referred to as the universal pattern (in the form of the Polish metropolitan association or the French public association for intermunicipal cooperation – EPCI). However, these solutions were met with criticism in both legal orders as they were not capable of resolving issues peculiar to a specific area, taking into account the

existing forms of local government cooperation and methods of implementing public tasks. The issue in question inspired the search for specialized metropolitan forms within the framework of which the performance of tasks would be possible and optimal. Therefore, in both the Polish and in the French local governments, the metropolis institutionalization model shifted from the universal to the detailed formula, dedicated to specific metropolitan areas – (metropolises “à la carte” – the next stage of the metropolis institutionalization process). It should be pointed out that the status of the respective metropolises in France is a result of political compromises; this led to the creation of a system which still needs reform. This also applies to Polish metropolitan solutions that should correlate with satisfying the needs of residents of metropolitan areas.

It should, however, be observed that the MAPTAM reform of 2014, together with the subsequent acts, was aimed at the state imposing specific reorganization measures (unlike those of 2010). It applied to the automatic establishment of three metropolises with a special status and an obligation to convert eight EPCI into common law metropolises. However, it should be noted that said Act additionally enables the establishment of metropolises on a voluntary basis with the stipulation that specific statutory conditions are fulfilled. Similarly, the metropolitan association model in the Silesian Voivodeship is a legal formula of an obligatory nature, in some respects similar to local government units; however, it still lacks a legal status similar to the local government unit.

As regards Polish law, several bills related to the establishment of new metropolitan associations have been filed during this and the previous terms of the Sejm. Basically, said drafts refer to the legal regulations of the Act on the metropolitan association in the Silesian Voivodeship, yet they do not involve certain modifications referring to the specificity of a given metropolitan area, for instance the draft related to the establishment of the Krakow Metropolis. However, these drafts have not been enacted to date, which also goes to show that there is no political will regarding the extension of the metropolis portfolio in the Polish local government.

In the French Republic, the unfinished metropolization process involves a discussion that lingers in politics and the doctrine of administrative law and is related to the extension of the legal status of the Lyon Metropolis with other metropolises, increasing competences of common law metropolises and the pursuit of the metropolitan identity based on mechanisms of common and democratic election of metropolitan counsellors and the performance of tasks based on metropolitan interest. An example of such activities is Act no. 2022-217 of 21 February 2022 on diversification, decentralization, deconcentration and various means to simplify public activities²² (3DS Act), which modified the organization and competences of the Aix-Marseille-Provence (AMP) Metropolis, resulting from new challenges in the metropolization process. This reform restores local rights to municipalities and establishes the process of restoring the balance in financial relations between the metropolis and its member municipalities. The 3DS Act on diversification, decentralization, deconcentration and various means to simplify public activities was finally enacted by the National Assembly and Senate on 8, 9 February 2022. (Morel, 2022, 1053). This Act, inspired by the President of the Republic in the aftermath of great national debate, provides answers and tools to implement public policies in regions, reacting to specific expectations of given local representatives.

²² LOI n° 2022-217 du 21 février 2022 relative à la différenciation, la décentralisation, la déconcentration et portant diverses mesures de simplification de l'action publique locale, NOR: TERB2105196L, JORF n°0044 du 22 février 2022 – referred to as Act No. 2022-217 or 3DS Act.

Currently, as far as both legal orders are concerned, we are facing the unfinished process of metropolis institutionalization. Polish and French policymakers are still searching for the proper legal form for the metropolis, tailored to the needs of a specific metropolitan area, which is not only a simple form of intermunicipal cooperation. Prior experience serves as the groundwork for the development of new legal formulas within the scope of organization and functioning of the metropolis based on metropolitan interests, intended for the relevant performance of public tasks.

In the future, the vectors of metropolization will be determined by the position of the metropolis in the specific territorial division of the state (as a local government unit performing tasks of the district and selected competences of the municipality following the example of the Lyon Metropolis) or positioning the metropolis in the special division of the state where this institution will still only be thought of as a form of intermunicipal cooperation.

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Emergence of Digitalization and Artificial Intelligence in the Intellectual Property System

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Abstract

This paper was set to address to what extent intellectual property law is prepared for keeping pace with the rapid development of artificial intelligence and digitalization? We examined, by way of using empirical methods, the relationship between artificial intelligence, its regulation and the current trends in intellectual works. The overall conclusion of our research findings demonstrates that current legislation is well suited to support the requirements of technological progress. Nevertheless, there are some new dimensions in terms of worthy proposals that may also be considered. This paper stresses that given AI is capable of bringing significant transformations in our daily lives about, a major paradigm shift in legislation may soon be inevitably required.

Keywords

artificial intelligence, intellectual property, industrial property, copyright

1 Introduction

Nowadays, technology is evolving at an unprecedented exponential rate. Little more than four decades ago, when the first email messages were sent, people were anxious to receive a reply arriving to their inboxes. However, by now this has definitely changed. The development of technology is also aimed at improving the standards of human life, increasing the efficiency of daily activities and solving daily problems and hardships. As the famous scientist Ede Teller put it, “science, technology does not solve all problems, but without science and technology you cannot solve any problem”. That may well be applied to the nexus of technological development and legal regulation, especially within the field of the rapidly changing domain of intellectual property law. This paper was designed to describe the intellectual property system in a way that highlights its relationship with information technologies. Our research aims to take an interdisciplinary approach towards both the instruments for legal protection of intellectual property and the understanding of the peculiarities of the subject-matter, namely that of artificial intelligence and the phenomenon of digitalization. We elaborate on these areas from a legal, economic and technical point of view.

1.1 Research question and hypotheses

This paper poses the following research question: to what extent is intellectual property law prepared for supporting the development of artificial intelligence and digitalization? This may be formulated in terms of three hypotheses, namely:

- H1: Are the current rules on intellectual property rights capable of solving the challenges posed by technological developments?
- H2: Is digitalization likely to raise issues beyond the current rules on intellectual works?
- H3: Will efficient and cost-effective future enforcement of rights be more likely to occur through cross-border regulation?

1.2 Research methodology

The groundwork carried out in preparation for this paper is twofold. First, we examined domestic and international scholarly literature and applicable case law besides reviewing a wide range of qualified statistic data related to the field. In the second phase, we elaborated on theoretical definition-making by way of conducting in-depth interviews with theorists and practitioners in various professional forums who are considered experts in their field. We chose in-depth interviews as a qualitative research method to explore specific sub-questions and to explore the diversity of professional views.

1.3 Conceptual delimitations

Defining the terms precisely was an indispensable requirement of the paper, since the study of the subject in general raises many new and interesting questions, which cannot be examined in a paper of this length. Our work was carried out with a view to completeness, but still within the boundaries of the theoretical subject.

Let us begin with defining the concept of digitalization. The digital revolution was born to replace the world of analogue technologies and make operations more efficient and accessible. According to the Gartner definition, “digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.”¹ It is worth mentioning the Digital Economy and Society Index (DESI),² created by the European Union to measure the digital competitiveness of its member countries. Basically, the DESI index is made up of five dimensions (European Commission, 2018a), these being (i) connectivity, i.e. the coverage, penetration and price of fixed and mobile broadband; (ii) human capital, i.e. the proportion of internet users and ICT professionals, as well as the level of basic and advanced digital skills; (iii) use of internet services, i.e. access to online content, digital communication and online transactions; (iv) the integration of digital technologies, i.e. the relationship between business digitalization and e-commerce; and (v) digital public services, i.e. the digitalization of government, public administration and healthcare. Today, the DESI index focuses on four key areas: human capital, connectivity, integration of digital technology and digital public services. All this shows that digitalization can be classified as a conceptual framework for improving the efficiency of a task based on the information society and the achievements of information technology.

¹ <https://www.gartner.com/en/information-technology/glossary/digitalization>

² <https://digital-strategy.ec.europa.eu/en/policies/desi>

In many cases, the definition of artificial intelligence is problematic not only in the technological field, but also in other areas. For example, the issue has been the subject of active research in the legal scientific context. In legal terms, artificial intelligence is considered as software, despite the fact that it can perform tasks that other previously known software cannot do at all – in fact, as far as we know, only humans can do. Artificial intelligence cannot be treated as a “thing”, since it lacks a physical appearance (a physical object that can be possessed), although this could be remedied by analogy or fiction, and the rules governing the object could be applied in this way. The identification of artificial intelligence as a legal entity is problematic from both a moral and ethical point of view. A new conceptual scope could be defined, but this would raise further questions in terms of differentiation according to technological development (Stefán, 2020).

<p style="text-align: center;">Systems thinking humanly</p> <p>“The exciting new effort to make computers think... machines with minds, in the full and literal sense.”</p> <p style="text-align: center;">(Haugeland, 1985)</p> <p>“[The automation of] activities that we associate with human thinking, activities such as decision-making, problem-solving, learning...”</p> <p style="text-align: center;">(Bellmann, 1978)</p> <p style="text-align: center;">Systems acting humanly</p> <p>“The art of creating machines that perform functions that require intelligence when performed by people.” (Kurzweil, 1990)</p> <p>“The study of how to make computers do things which, at the moment, people do better.”</p> <p style="text-align: center;">(Rich and Knight, 1991)</p>	<p style="text-align: center;">Systems thinking rationally</p> <p>“The study of mental faculties through the use of computational models.”</p> <p style="text-align: center;">(Charniak and McDermott, 1985)</p> <p>“The study of the computations that make it possible to perceive, reason, and act.” (Winston, 1992)</p> <p style="text-align: center;">Systems acting rationally</p> <p>“Computational intelligence is the study of the design of intelligent agents”</p> <p style="text-align: center;">(Poole et al., 1998)</p> <p>“AI... is concerned with intelligent behaviour in artifacts.” (Nilsson, 1998)</p>
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Figure 1 – AI definitions [source: Mesterséges Intelligencia Elektronikus Almanach]

In this paper we employ the European Commission’s (2018b) definition of artificial intelligence.

Artificial intelligence (AI) refers to systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications).

However, for the sake of completeness, we believe it is important to note that this definition needs to be supplemented in view of the specificities of the subject, and that two sub-groups need to be defined at the conceptual level. In the paper, we will specifically mention the concept of high-level artificial intelligence, which we understand to be characterized by the ability to identify genuine problems and develop schemes for solving them, that is to think through and formulate solutions. Whereas we describe the non-natural intelligences below this level low-level artificial intelligences.

2 The history of digitalization and artificial intelligence

When looking at the history of digitalization, it is basically worth looking at the development of information technologies in line with the conceptual delimitations. According to them, digitization is nothing more than the conversion of analogue data into digital form, i.e. the transformation of physical data into electronic form in order to increase efficiency. As a preliminary, its history coincides with the advent of computers and the development of information technology.

Calculating instruments have been around almost since the dawn of humanity and it is almost impossible to say when, for example, the abacus first appeared as such. It is well known that the abacus was actively used in the Roman Empire and was the most important calculating device until the 16th century. A radical change came to pass only with the introduction of the logarithmic function, described by John Napier in the 16th century. Napier used rods to operate the logarithmic system, of which the logarithmic slide rule was the direct successor.

When learning about the history of artificial intelligence, one cannot forget the theory of the Turing Test (Turing, 1950), published by Alan Turing in 1950 in the philosophy journal *Mind* under the title *Computing Machinery and Intelligence*, which still informs our thinking today.

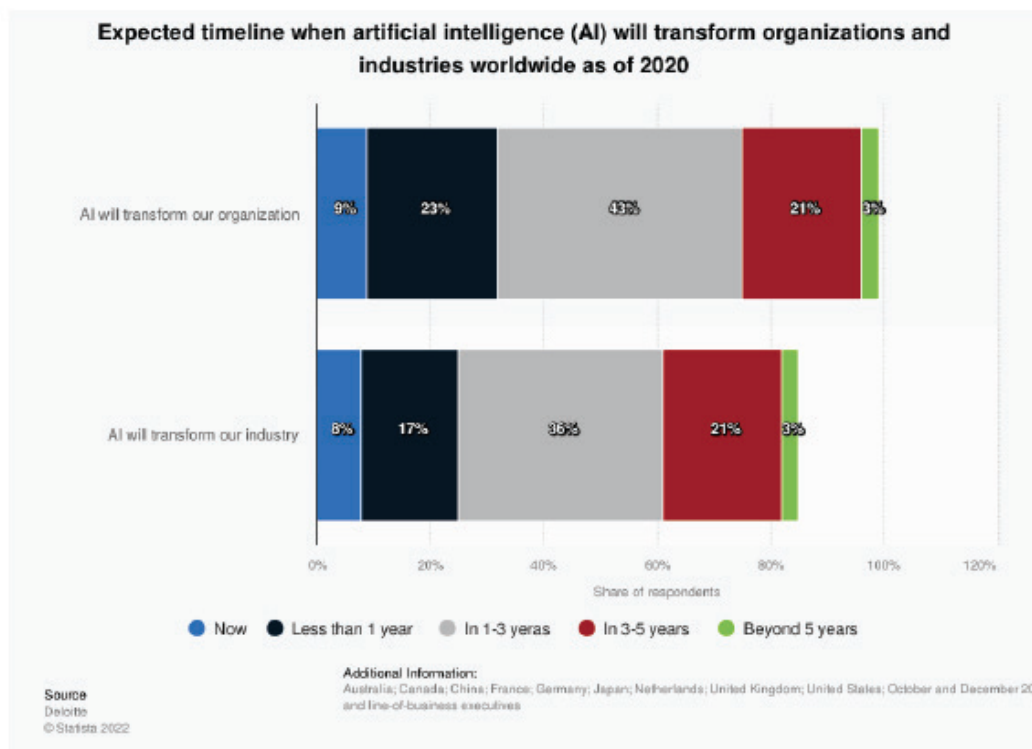


Figure 2 – Artificial intelligence for the transformation of organizations and industries

As illustrated in the figure above, artificial intelligence could lead to a transformation of the corporate organization and of the industry as a whole, according to senior corporate executives surveyed by Deloitte (Mittal et al., 2022). In itself, the question arises that an industrial company with operations that are based on modern technologies and inventions is typically protected by certain instruments of industrial property protection.

3 The historical and legal basis for the protection of intellectual works

Generally speaking, intellectual works can be divided into two main categories: copyright on the one hand, and industrial property rights on the other hand.

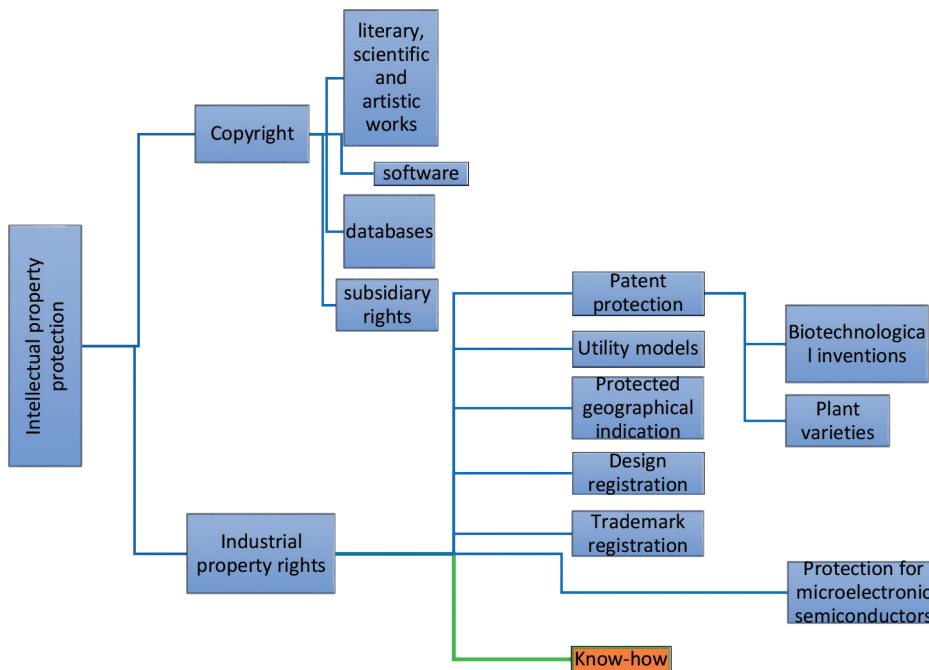


Figure 3 – System of intellectual property protection source: authors' own figure

Between the two forms of protection, copyright is a homogeneous field that cannot be further divided into subgroups, but some specific types of works can be identified. Industrial property, as shown in the figure above, can be further divided into sub-groups (types of protection) and is a heterogeneous field of rights. Their main differences are illustrated in the figure below. The subject of know-how, i.e. proprietary knowledge, is a special area, but we shall still touch on it briefly.

	Copyright	Industrial property rights
Origin of the protection	Automatically created by the creation of the work	Requires official registration (national, EU, international)
Object of protection	Original individual artistic, literary or scientific creation	Varies depending on patent type
Term of patent	In the author’s life and 70 years from the next year after death	Varies depending on patent type
Territorial scope	Legal protection is established in almost all countries on the basis of reciprocity	Only valid in a specific geographical area (depending on patent type)
What is eligible for protection?	Any individual original work of art, literature or science, regardless of its quality	Only works that meet certain requirements (depending on patent type)

Figure 4 – Comparison of copyright and industrial property protection source: authors own figure

3.1 Historical and legal foundations of copyright

Looking at the history of copyright, it is clear that creative activity has never been far from humanity, manifesting itself in tangible form and showing individual originality even without specifically defined protection. However, there are three indicators of the institutionalization of legal protection. First of all, the circumstances under which works can be reproduced, brought about by the development and rapid progress of book printing techniques, and even more so since the advent of Johannes Gutenberg's printing press. Second, the ever-growing emphasis placed on individualism since the late Middle Ages. Breaking with the anonymity that had previously characterized arts and science, the man of the Renaissance rediscovered himself as an intellectual individual. From then on, artists sought to make themselves as widely known as possible. This second aspect can be called the subjective side of copyright, looking at its formation, and third, we must mention the human need, namely the social need arising from the fact that people want to be the "owners" of intellectual works. However, there has also been a trend towards an increasing demand for copyrighted works, which in turn led to the development of property protection alongside intellectual property rights (Nótári, 2010).

In Hungary, the first copyright law was Act XVI of 1884, which extended the scope of copyright to previously published works. However, it was not up-to-date even at that time, as it was entirely based on the earlier German Copyright Act, and while it was being drafted, the Berne Convention was already being prepared, which was not taken into account in the Hungarian legislation (Legeza, 2017).

Today, the basic rules of copyright are regulated by Act LXXVI of 1999 on Copyright (hereinafter: the Copyright Act). It provides that the author is "the one who created the work" (Section 4(1)). In other words, copyright belongs to the creator, and the creator can only be a natural person (human being), as indicated by the term "who".

3.2 Historical and legal foundations of industrial property protection

For a long time, the first step in the universal history of industrial property protection was to keep the idea secret. From the 14th and 15th centuries, this was taken over by the privileges and prerogatives granted by the monarch who held the imperial title. Of course, these cannot be considered as industrial property solutions in the modern sense of the word, since they were monopolies, in fact, granted only to a certain incoherent group of subjects. Generally speaking, both in Antiquity and in the Middle Ages, social relations regarding intellectual works were formulated and remained outside the legal framework (Lontai et al., 2004).

The next big moment in the study of evolutionary issues were the immediate predecessors of today's industrial property systems, where the conditions for obtaining exclusivity were set out in a transparent manner by direct acts of state legislation, and anyone who met them could obtain it, the granting of a patent was no longer at the discretion of the ruler (Papp, 2015).

The first legislation on intellectual property in Hungary was passed in 1733 which provided protection against reprinting, some 300 years after Gutenberg's invention of printing press, whereas the first law on industrial property protection was the extension of the scope of the first Austrian imperial patent to Hungary in 1810 (Tattay, 2001). However, the joint history of Austria and Hungary provides some additional insights to the history of copyright and industrial property law. There existed, as it were, privileges, not qualifying as patents, but similar to them – the first of which was granted in 1672 by King Leopold I to Christian Sind's woolen weaving mill in Linz, known as the "factory patent". Later in the development of the law, there were

so-called “invention patents”, which are closer to modern patents, but granting them was not regulated by law, but only by the exercise of royal patronage. Subsequently, a series of court decrees and imperial patents led to the Austrian Patent Act of 1832, which was also decisive for Hungary. In Hungary, Act XLI of 1893 amended the customs and trade treaty with Austria and enabled the first independent patent law to be enacted after the restoration of legislative freedom (Act XXXVII of 1895), which entered into force on 1 March 1896 (Szarka, 1996).

4 The relationship between intellectual works, digitalization and artificial intelligence

4.1 The relationship between copyright, digitalization and artificial intelligence

As a preliminary remark on the relationship between artificial intelligence and copyright, the current scientific discourse is essentially about the ability of current information technology systems to create works that comply with currently applicable copyright requirements, and what will happen when we reach that technological level. Another difficulty in understanding the issue is that information technology and software have traditionally been understood in terms of human action, carrying out human-directed and defined instructions. As long as software and hardware only mimic the human thought process, our theoretical thinking will not become significantly more complex, but a paradigm shift may be required from the moment we start using predefined parameters to the point where they are characterized by an autonomous ability to self-learn and adapt.

The scientific importance of the topic was particularly high, as the decade between 2010 and 2020 was dominated by the technological development of artificial intelligence, and experts expected and still expect significant developments in copyright regulation (Bond & Cox, 2021).

With regard to copyright, we have established that, under the current rules, only human beings, i.e. authors, can be protected by copyright. However, it cannot be denied that algorithms and artificially intelligent machines may also be able to create original works of an individual nature. In this respect, works of art can be divided into two groups: on the one hand, *computer-assisted works* and, on the other hand, *computer-generated works* (Maggiore, 2018).

There are many debates in academic discourse on how to accommodate the phenomenon of artificial intelligence within the framework of copyright law. In principle, however, there are two possible approaches: a positive one, which means that artificial intelligence should be accommodated in copyright law, and a negative or skeptical one, which means that it should be rejected (Mezei, 2021a). If adopted, however, it is important to consider whether the works created by artificial intelligence will be perceived as the target, subject or object of copyright regulation.

The biggest challenge with the emergence of artificial intelligence is that we cannot distinguish between what is machine-made and what is human made. And if we cannot decide what is machine-made and what is human made, how can we encourage the creator, or does it even make sense to grant copyright to the artificial intelligence or its creator? If the human author as creator loses its relevance the legal rules shall follow (Grad-Gyenge, 2022).



Figure 5 – Painting of Budapest in rococo style created by artificial intelligence called DALL-E source: DALL-E (based on the authors' instructions)

The current state of copyright law is that only natural persons can be authors, and the copyright status of such generated images is of interest (Pogácsás & Ujhelyi, 2022). The scientific literature suggests that in most cases AI only appears to compete with copyright. In the other cases, its position is clear. It would be fortunate if the further development of the copyright toolbox could provide a powerful tool for resolving some of the issues raised, even by creating a new neighboring right (Grad-Gyenge, 2023). If one just asks one specific question, one might also ask whether AI that synthesizes data to create new news can be considered a journalist. If so, is it protected by copyright law (Trapova & Mezei, 2022)?

4.2 The relationship between industrial property protection, digitalization and artificial intelligence

Industrial property is a heterogeneous area of law which, as described above, consists of several different forms of protection. Overall, it is difficult to draw a general conclusion about the relationship with artificial intelligence, so we intend to highlight correlations in the context of each form of protection.

The relationship between artificial intelligence and patent law is perhaps the most controversial area in the field of industrial property protection. Both in scientific discourse and in terms of everyday life, the question arises as to whether an algorithm can create an invention that appears to meet the requirements for patentability. The emergence of artificial intelligence in the field of patent law is not a recent development, with an increasing number of such patents appearing (Fujii & Managi, 2018). This is illustrated in the figure below, which shows an exponential increase in the number of these, perhaps most strikingly in the data from the European Patent Office (EPO).

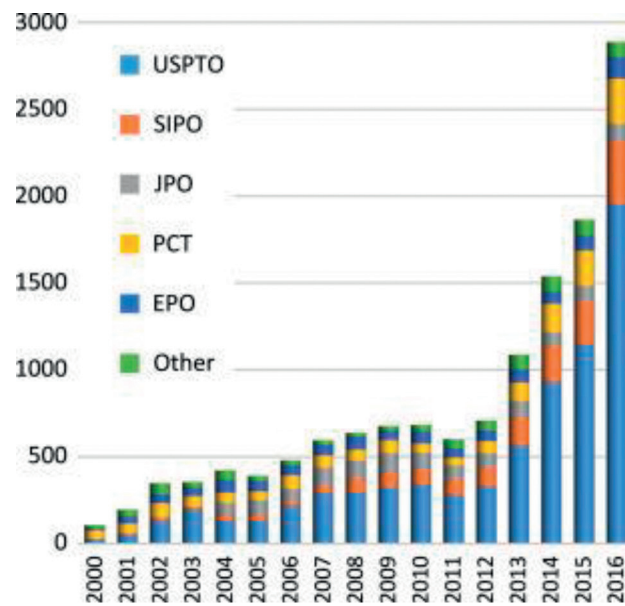


Figure 6 – Distribution of granted patents related to artificial intelligence by patent office source: Fujii & Managi, 2018

If we look at other forms of industrial property protection, similar issues may arise in the area of utility models (i.e. small patents). We should also consider design registrations, where it is questionable whether the requirements of novelty and individuality can be met by an artificially intelligent creation. Another interesting issue is the area of trademark protection, where it is conceivable that the protected work could be created by an artificial intelligence without any particular legal anomalies, although designating the AI itself as the owner of the work could raise problems. For this very reason, we shall address the thorny questions of patents.

Pursuant to Section 7(1) of the Patent Act, “the inventor is the person who has created the invention”. As is the case with copyright, the inventor must be a natural person, a human being. However, in 2021, after considerable scientific and public debate, it was announced that the South African Patent Office had registered the Dabus artificial intelligence patent “for inventions created by it” (HVG, 2021). The invention by artificial intelligence called Dabus was a particularly eye-catching flashing beacon and a soda can based on “fractal geometry” (Papdi-Pécskői, 2021). Nevertheless, the United States Patent and Trademark Office clearly refused to recognize the Dabus as the author creator of an invention (Origo, 2022).

5 Empirical research: in-depth interviews

5.1 Empirical research methodology

We intended to use in-depth interviews with professionals to elaborate on our initial research question and to get the opinions of experts and stakeholders who are familiar with the topic. The in-depth interviews were conducted in a semi-structured format, with some subjects in person and others via online video calls. In defining the sample, we tried to select as wide a range of subjects as possible to ensure that several industry players were represented in the research at the same time. However, the sample was limited to professionals whose job description brings them into contact with intellectual property solutions in which artificial intelligence is

already present or very closely related. The semi-structured in-depth interviews were analyzed using analogue content analysis methods. The results complemented the results of the literature review, partly deductively and partly inductively, as a basis for further sub-questions.

Company/sector	Respondent’s job title
AI company Europe’s largest innovation platform	Senior executive manager
Higher education, university	Lead IP Strategist
Higher education, university	university lecturer in the field of intellectual property
Ministry of Justice	Chief Government Advisor
Hungarian Intellectual Property Office (HIPO)	Head of Department
Office of the Patent Attorney	European and Hungarian Patent Attorney

Table 1 – Job title of interviewees

Source: authors' own editing

5.2 Results of the in-depth interviews

The first interview (I1) was conducted with the director of Europe’s largest innovation platform, who has a degree in economics and has been working in the field of digitalization for years. On the subject of artificial intelligence, the interviewee said that more and more databases and data sets are suitable for analysis by machine algorithms, which can produce new – unexpected – correlations. The interviewee sees a real opportunity in the near future for algorithms to “invent” new technical solutions, but the most interesting question is who will be able to patent the “invention” and who will be able to use or exploit it. In the course of the interviewee’s work, there has been a very strong digitalization and artificial intelligence-based development in the industry, which can, for example, generate very significant predictions in the field of weather forecasting, and the more effective a company’s prediction is, the more market share it can gain, and the algorithms and hardware solutions it uses are kept secret to protect its intellectual property. The role of trade secrets in this area is therefore enhanced. One area to consider, however, is whether the creator of the “original algorithm” should be entitled to any protection when a system evolves in a self-learning way and can draw conclusions, and this is of particular interest when algorithms interact with other algorithms, even partially open-source ones, during their operation. In principle, the interviewee considers it acceptable that artificial intelligence today could be an “inventor or creator” and would in principle grant certain rights to the creator of the original software in respect of the intellectual creations it produces.

When examining this area, interoperability should play a key role, as perhaps one of the most important requirements for the development of artificial intelligence is the data on which it can build, the size and scope of “clean”, ready to cooperate data and databases available as input. This is essential for algorithms’ learning processes of and for the correct discovery of correlations. At the European level, there have been many isolated developments, but there is no interoperability between them, which is therefore not conducive to the development of technology. The interviewee argues that digitalization is still very poorly understood. Even within the same industry, a completely different approach may be required to exploit it in practice rather than to simply carry out some work with the support of information technology.

A review of the intellectual property system may also suggest that a fundamental paradigm shift may be required, but the issue is not straightforward and a number of aspects beyond the law may need to be examined. Let us suppose, for example, that humans create scientific results (inventions) and that artificial intelligence synthesizes these inventions and creates a much more efficient tool. Of course, we could say that artificial intelligence is just a tool, but the question is how long can it be treated as one? We have to split the question in two: on the one hand, if smart algorithms produce results (output) from the data (input) with which they are fed, and these are interpreted by humans, we can clearly talk about a tool. On the other hand, what if we do not use the algorithms as a target tool, and yet, as a quasi-collateral result, correlations, new and unexpected partial results may be obtained that were not intended in the first place. Moreover, these are becoming increasingly frequent, which in turn inevitably leads to the need for a change of mindset. The economic role of this area is a key driver for the future, as demonstrated by the international innovation group where projects are being developed, and this year 40% of the 750 projects are already dealing with artificial intelligence. This figure is also remarkable given that around 50% of project requests come from the industrial sector. The interviewee sees the biggest challenge of digitalization in the coming years as a systemic understanding of what “digital” is and what opportunities it offers, which is always crucial for economic and public actors.

The second interview (I2) was conducted with a leading innovation strategist at a Hungarian university holding a law degree and who has been working for many years on intellectual property, specifically in the field of copyright, and is pursuing a PhD in that very field. In the context of artificial intelligence, digitalization and intellectual works, the interviewee would first of all draw attention to the importance of innovation and, as an area of expertise, to the aspects of copyright. Artificial intelligence creations can be observed today, but it is important to note that they cannot be considered authors, and therefore no protection can be obtained for the product they create. Discussions have also begun in both scientific and industrial circles on how to deal with creations made by artificial intelligence – whether they are inventions or copyright works. The main question is whether the author of artificial intelligence can be the right holder of the works created by the artificial intelligence. Based on the current state of science and technology, there is no perfect solution to the problem. Several theories have emerged that would create some kind of neighboring right in copyright law and some kind of reduced protection for the creator of artificial intelligence in patent law, although these are mostly market-based “expectations” for legislators. Although these are not unacceptable on a theoretical level, their introduction is not necessarily considered justified on a legal-dogmatic basis. In the field of copyright, the issue of the emergence of artificial intelligence is often raised. For example, the creation of new works of art by artificial intelligence that reproduce paintings along certain stylistic lines, or the creation of new works of art by reproducing the literary styles of literary works that are entirely individual in character, but obviously not in the sense in which they would have been created by a natural person. The current regulation of intellectual works in continental legal systems is perceived as an obstacle to technological development, particularly in the area of copyright. The sectors most affected by innovation are software and databases, where the possibility of transferring property rights is of course open, although the term of protection is not particularly realistic. In the case of Anglo-Saxon countries, a market approach based on the marketability of copyright can be very helpful in terms of innovation, or the patentability of software can be seen as an advantage. It can also be observed that economic actors in the process of obtaining protection are in principle paying close attention to the different national, community or higher cooperation

level regulations and the protection that can be obtained there. The strategy of the applicants (entitled parties) is determined by the possibility of obtaining potential benefits from the diversity of regulations, so it could be stated that, in the long run, the states/communities which benefit the most are those which support the protection of innovative solutions. Design registration is a perfect example of this, with applicants filing a community application instead of a national application, because there is no “novelty search” as with a national application, so it is quicker and its scope extends to the Member States anyway – it should be noted that national protection is much more stable and secure, but this is not the market’s main interest. An effective system of support for innovation at international level also seems important in practice, although knowing the international legislative processes and the problems of cooperation, it appears almost impossible to achieve in practice. The Unified Patent Court, if it becomes operational, could possibly set a good example for other areas. However, it should also be mentioned that the written law needs to be complemented by its practical application, which is likely to be a priority in this area as well. Looking ahead, no major changes in the relationship between artificial intelligence and intellectual property are expected at the legal level in the next ten years. However, economic players are becoming more aware of the management of their intellectual property, and a growing number of market players are entering the field, and perhaps regulations will have to monitor their needs more closely.

The third interviewee (I3) is a lecturer at a Hungarian university and vice-president of the Intellectual Property Rights Research Group, who holds a law degree, also works with intellectual property in practice and has a PhD in copyright law. Intellectual property rights, and copyright in particular, are largely determined by technology, and although there are so-called technology-independent rules in the field of intellectual works, new uses always upset the balance that the legislator is trying to create and maintain. However, this observation is not a recent one, stemming from the field of intellectual property rights; the emergence of innovation and new technologies is obviously closely linked to this area of law, and the ability of the legislator to respond to them is therefore not a recent one either. However, it is true that digitalization stands out among them and has already had a significant impact on practice, and artificial intelligence is expected to have a significant impact in the future. This is reflected in the volume of legal literature. The most interesting question, however, is which direction to take if a new regulatory approach is needed, with many sub-issues and regulatory directions being identified. However, it is also important to note that the emergence of each new technology raises the question of whether a paradigm shift is needed in the particular area of law. This phenomenon is now being observed with the spread of artificial intelligence, but probably, by analogy with previous technological changes, there will be no need for radical change. However, it must also be argued that while the paradigm can deal with the issue, this does not mean that the legislation cannot require changes – some fine-tuning. In the field of copyright, there already exists software that, after various inputs – textual descriptions – generates an output that becomes an image, a “visual work”, but the question arises under what conditions this image is used. An example of such famous software using artificial intelligence is mid-journey. Is it even possible to speak of authorship or a work protected by copyright? The terms and conditions of use of the software very often prohibit the commercial use of the work by users who provide input, in the absence of permission from the creator of the software. This raises concerns about the basis on which the creators of the software base their right to authorize the use of the image generated, since there is no direct legal basis for copyright, as the image is created by the artificial intelligence and therefore cannot be a work of authorship. It is also possible, as in the example above, that

the software user's contribution to the creation of the image is such that the resulting image will be considered to be the user's own intellectual creation. The question may also arise as to whether it is necessary to look at this area in such a way that the creator of the software is granted a separate circle of protection, or some kind of neighboring rights, or whether no intervention is necessary at all. These issues are not yet fully explored in science, and there are several arguments for and against each view. If we look at previous technological innovations, market practice has set the direction and this has been followed by legislation, as we have seen with the CDSM Directive (Directive 2019/790/EU). By analogy, it is also worth considering that, when we think of artificial intelligence in the creative process, we can see the same thing as when we think of a work created with commercially available graphics software such as Photoshop. In the case of artificial intelligence-generated images, however, software creators reverse the logic by saying that the software is free to use, but that there is a charge for commercial use of the resulting "work". However, in the case of autonomous artificial intelligence creations, authorship of the work is conceptually excluded, since the creator can only be a human being. The artificial intelligences we encounter today are not yet capable of such breakthrough activity as to justify a systemic paradigm shift. On a theoretical level, it is of course not impossible that, in the future, artificial intelligences will develop to a level of sophistication that can no longer be separated from human intelligence, or even surpass it, but this will have to be considered as a much higher political issue than intellectual property rights. The current development of artificial intelligence does not specifically stand in the way of the legal regulation of intellectual works, if only because of the function of the legal field, although it may be necessary to resolve some of the issues that arise, but this is a phenomenon that can be observed in any technological development. Taking into account international trends, there is no breakthrough in the nature of regulatory change, either in domestic legislation or in the field of law. Given the current state of technology, the rational need for this paradigm shift is not yet justified and the legislation can meet the requirements – with minimal fine-tuning. In the European Union, there is considerable debate, and guidelines are being developed in this area, but it is important to note that these are not intended to bring about a systemic overhaul of intellectual property law, but to help address practices that have become established over the years. If technological progress moves to a much higher level, a systemic rethink of the issues at both national and international level may be required, but this is still some way off.

The fourth interview (I4) was conducted with a lawyer who works as an intellectual property expert at the Hungarian Ministry of Justice. In the context of intellectual property law and the relationship between digitalization and artificial intelligence, the interviewee considered it important to mention that this issue may not be new. A popular phrase in much of the academic literature of the last twenty years has been that "technological change has brought significant advances in the development of intellectual property law", or "the technological revolution is expected to have a major impact on legal regulation", or "the digital revolution is imminent and could change much of the law". It is worth remembering that in Hungary in 1998–1999, at the beginning of the Internet era, we saw the last part of the codification of the copyright law that is still in force. The technological development provoked heated debates and dialogues, and many people talked about the fact that copyright activity will be manifested in a different way in the world of computers and the Internet. The new technical challenges and phenomena pose a very serious – one might say eternal – dilemma as to whether a paradigmatic change in the legal regulation of their effects is necessary. The WIPO (World Intellectual Property Organisation) Treaties, as the first multilateral

conventions, were the forerunners of the digital age and were intended to provide a possible normative response to the technological challenges of Internet use. Looking at the field of digitalization and artificial intelligence, perhaps the most interesting issues are the growing and expanding range of concepts that are being given content. In terms of technological developments, the phenomenon of artificial intelligence is expected to have a major impact on the intellectual property system as a whole. In the field of patents, there are already many applications in this area. However, it is also noticeable that the scientific and practical discourse in this field, but perhaps especially in the field of patents, raises deeper questions, such as whether artificial intelligence can be considered an inventor. This may also raise fundamental questions about patentability. However, similar debates are already emerging in the area of copyright. The WIPO has been working on artificial intelligence for many years, and it is important to highlight the area of the data economy, as well as the European Union's Artificial Intelligence Regulation, which was presented by the European Commission as a regulatory proposal in April 2021 and affects intellectual property rights at the EU level. The most interesting differences in approach between thinkers and theories are well reflected in both fiction and literature. In the case of Asian authors, the robot is man's helper, with man and robot working together. European and American authors, on the other hand, see robots as more frightening creatures. This approach can also be observed in the regulation of intellectual property. A number of principles have been laid down in EU legislation that reflect this distancing attitude.

The fifth interview (I5) was conducted with the Head of Division of the Hungarian Intellectual Property Office, who graduated as an engineer and, due to the nature of the interviewee's field, deals with a large number of patent applications, many of which are related to information technology. It is clear that there is a great deal of intersection between the field of intellectual property and computer programming, particularly from an industrial property protection point of view. Most patent applications already have some form of digital connection. There is definitely a copyright aspect to it, if only because if one wants to make a working technical creation that involves some software then written program code, which inherently contains the copyright aspect of it, is needed. It should be noted that in this technical field, the source code behind the software is actually hidden, it is a trade secret and there is a lot of know-how involved in its operation. There are very few new technical solutions that do not have software behind them, as almost all hardware today has software behind it. The presence of digital devices in inventions has become so commonplace in patent applications that it can no longer be considered a feature in itself. Most of the applications we come across involve some kind of data linking solution implemented by some kind of intellectual creation that is protected in its own right, or a standardized solution once protection has been obtained – these are of course also digital in nature. They cannot therefore be taken into account as independent features because they are so common that it is considered to be professional knowledge to use them, but this is not a new phenomenon and has been the case for at least ten years. As far as the legal framework is concerned, the presence of a digital feature is not a problem when examining applications for novelty, inventive activity and industrial applicability. Such applications fall into two broad categories. On the one hand, there are inventions specifically relating to digital solutions, where the solution that is the subject of the invention is specifically to create some kind of digital solution, for example an encryption or communication protocol or a database manager. On the other hand, there are those inventive solutions that simply apply these digital solutions in an inherently digital way, such as a measuring device. In the latter case, the data collected needs to be analyzed,

presented to the investigator, processed in a given situation – either using big data, artificial intelligence, deep learning or data mining methods – and conclusions need to be drawn. This area should be distinguished from the previous group, because here the solutions use available tools, which are mostly already known solutions, ready-made products, so that the question of novelty and inventive activity does not arise. In this case, it is not necessary to examine the exact structure and functioning of the artificial intelligence. In the former case (i.e. for digital solutions), there are no difficulties in examining the inventive concept, since the inventive activity can be assessed by a more precise delimitation of the inventive characteristics. The exclusions in Section 1(2) of Act XXXIII of 1995 on the Patent Protection of Inventions can easily be overcome by including some hardware in the scope of protection. There is no evidence that innovation based on digitalization is hampered by the current regulation of intellectual property. For the time being, artificial intelligence is treated as a computer program, and until it has an active effect in the “real world”, it should be treated as an algorithm, computer program or mathematical algorithm and therefore not protected. There are, of course, opposing views that it should be treated as a separate field, although these are still in the minority. Patent offices in Europe, the US, Japan and China represent the majority view. It is important to emphasize that technological progress in this field is so rapid that the statute of limitations for these technologies is very short, which means that there is no problem with the lack of separate – *sui generis* – protection for these technologies, as industry protects them along the lines of trade secrets and know-how. In the field of copyright, the speed of technological development is likely to make independent protection unnecessary, since by the time a copyright case reaches the evidentiary stage, the technologies involved are often obsolete. It is likely that industry players, particularly the academic sector, will be the most likely to demand new rules as they are motivated by the need to obtain protection – exclusivity and market advantage in a rapidly evolving field – for as many intellectual products as possible across as wide a spectrum as possible. If artificial intelligence were a designated, dedicated field of technology in its own right, the number of applications in this area would probably grow exponentially. In patent law, the role of inventor could only be taken over by artificial intelligence – in theory – if it is a strong artificial intelligence, which is much more advanced than current technology. Inventive activity goes beyond the idea of an invention being conceived by someone (something), as it involves identifying an existing technical problem, considering it and creating a solution to it. Today’s technology may be able to come up with a problem as a kind of random word generator, but it requires separate activities to identify and solve the answer. It could be argued that artificial intelligence is still a tool for the inventor in the invention process, but not a replacement. Think of the various deep learning algorithms already being used in pharmaceutical research to simulate potential drug compounds alongside huge databases. In this simulation phase, artificial intelligence is more efficient than humans, but it is still only a tool for the inventor. If, at some point, there is a machine capable of performing the full inventive function, the issue will no longer be a matter for intellectual property offices or legislation, but rather for constitutional courts. In fact, if an artificial intelligence is able to carry out the entire inventive process for solving technical problems, it will also be able to do so for other problems – such as economic and social problems – and this will be a matter for society as a whole. Today’s artificial intelligences, being weak examples, do not reach this level, and even if they are involved in invention, they appear as tools used by humans for their inventive activity.

The sixth interview (I6) was conducted with a European and Hungarian patent attorney who graduated as an engineer and has been working on IT-related inventions for many years. Regarding the relationship between intellectual property, artificial intelligence and digitalization, there is an increasing number of professional debates and discussions in the scientific and professional discourse on the various aspects of these issues. Many theories and regulatory concepts have been developed, but there has been no clear move towards major systemic change by legislators, either at national or international level. Regarding the current state of the art of artificial intelligence, Europe and the major countries of the world generally consider that it can be covered by existing legislation. Inventors, developers and companies are increasingly using artificial intelligence to perform tasks at a much higher level of efficiency than humans can. Looking at technical applications, most solutions already have some form of digital content or solution related to software, if only because they are already part of the basic engineering knowledge of the state of the art. Artificial intelligence and “self-learning” algorithms also rely on huge databases. Data and databases are one of the most valuable parts of today’s research and development sector, and companies protect them as a priority and spend considerable sums on developing them. Artificial intelligence performs a wide range of modelling on databases and creates correlations between data across a broad spectrum. Today, when we look at the industrial property aspect of this, especially in the patent area, it is still just a tool in the hands of the inventor, but it is a very valuable tool. The inventors, as well as the companies and institutions that employ them, would naturally be interested in some kind of *sui generis* protection to ensure a higher level of protection for their intellectual property, because at the moment the only protection they have in this area is as trade secrets, which is a completely organic expectation on their part. Stakeholders who invest significant amounts of money and intellectual capital in research and development want to realize a return on their investment as soon as possible, assuming it produces a truly useful outcome. It must also be recognized that a significant proportion of research does not produce the expected results, or that considerable resources are often expended to prove a thesis wrong. Researchers and applicants should be protected at the highest possible level, as this will increase the propensity to innovate, which is in the well-considered interest of all states. The idea of artificial intelligence replacing the inventor is not yet justified by the current state of the art, and the same can be said in the field of copyright, although there are undoubtedly more questions that may arise even today to which the legislator will have to provide adequate answers. The current system of intellectual property law is still able to provide answers to the questions of digitalization and artificial intelligence, even without a major paradigm shift. Science also points to the need for one (Keserű, 2020). Non-man-made copyright works also raise a number of moral issues. This also underlines the need for paradigmatic thinking. (Mezei, 2021b). In the event of significant and disruptive technological change, the whole system may need to be rethought, but this is not yet foreseeable. In the meantime, however, care must be taken to ensure that companies investing in innovation processes are not disadvantaged by technological change. Even so, the issues today are internationalization, harmonized unitary protection and cross-border enforcement of rights, which would truly help innovators and technology development.

	H1: Are the current rules on intellectual property rights up to the challenges posed by technological developments?	H2: Is digitalization likely to raise issues beyond the current rules on intellectual works?	H3: Will efficient and cost-effective future enforcement of rights be more likely to occur through cross-border regulation?
I1	basically, no	definitely yes	yes, international cooperation is essential for the efficiency of the technology
I2.	partly yes, but somewhat hinders development	yes	would be essential for efficiency, but in practice a common international regulation is almost unfeasible
I3.	yes	not in the near future, but in the case of major technical progress	in the case of major technical progress, yes
I4.	apparently able to meet the challenges currently visible	in the case of some technical progress, yes	it would probably be more efficient
I5.	yes	with appropriate technical progress, definitely yes	theoretically, yes
I6.	basically, yes	not today, but it could happen in the long term	it would definitely be more efficient

Table 2 – Results of in-depth interviews in relation to the research hypotheses

Source: authors' own editing

6 Empirical research: observations of a professional forum

In order to learn more about the results of the empirical research and to understand the scientific discourse, we participated in an online professional lecture on intellectual property, focusing on the challenges of artificial intelligence from a legal perspective.

The presentations at the professional forum fell into two broad groups of opinion basically. We can speak of artificial intelligence optimists and artificial intelligence pessimists (Mezei, 2020). However, this approach should be interpreted in terms of whether works or technical solutions created by AI are suitable for replacing the creative role of humans and whether they should be subject to some form of intellectual property protection. AI optimists accept the partial or full creative activity (in terms of copyright), and say that it may be reasonable to recognize either the creator of the artificial intelligence as the copyright holder, or some other related right holder, or even, in abstract cases, the artificial intelligence itself. AI pessimists on the other hand argue that the protection claims of artificial intelligence creations cannot be interpreted within the current legal framework and that a radical change in the legal system is not necessarily required, at least not in the short term. At the heart of the debate, if we want to highlight one context, is the extent to which artificial intelligence could radically change our lives, and here the theories differ considerably. AI optimists tend to imagine a scenario in which algorithms and artificial intelligence bring unprecedented changes to the everyday aspects of our lives, which will inevitably have an impact on intellectual property issues as well.

With regard to our three hypotheses, we may, thus, make the following observations in light of the professional forum. Regarding H1, whether current regulations are adequate, opinions were divided according to whether each thinker had an AI pessimistic or AI optimistic view. For H2, there was some sort of a consensus, but there was a sharp division between those speakers who were looking at the current state of the art and those who focused on possible future developments. Regarding H3, cross-border enforcement of rights would in principle be perceived as more efficient, but it would require a firm political intention to implement.

7 Summary: conclusions and implications

In an unusual way, we thought it appropriate to find out what AI “thinks” of our conclusions; hence, we decided to ask ChatGPT to summarize the nexus of artificial intelligence, digitalization and intellectual creations.

The legal relationship between artificial intelligence (AI) and intellectual property is a particularly relevant and complex issue in today’s digitalized world. AI offers technological solutions that can simulate human thinking and decision-making, and are capable of self-learning, self-improvement and self-operation.

However, such devices are also capable of creating a range of intellectual works, such as software, databases and algorithms, which are protected by property rights. This means that it is important for creators and rights holders to protect such intellectual works and to ensure that they are adequately protected by law.

The development of AI poses new challenges for the legal protection of intellectual works, for example in relation to who is the right holder when works are created by AI. In addressing such issues, stakeholders need to strike a balance between legal regulation and technological developments.

Solutions to legal challenges in the use of AI include data protection, addressing ethical and social issues, and developing a legal framework to regulate responsibility and legal liability for AI.

Overall, the legal relationship between AI and intellectual property is a complex and changing area, evolving with technological developments and related legislation. Legal and regulatory bodies need to keep pace with technological advances to ensure effective protection of intellectual property and the sustainable promotion of innovation.

(ChatGPT)

Concerning our posed research question, it came out that the opinions are roughly balanced, both in terms of the in-depth interviews and the professional presentations. Professionals with an essentially technical background tend to see more radical changes that artificial intelligence is causing or could cause. Those with a marked legal background, on the other hand, tend to believe that legal regulation can keep pace adequately with technological change. Breaking our results down to the hypotheses, the following conclusions can be drawn. Concerning the idea (H1) about the current regulation of intellectual works, the existing regulations are state of the art. However, there are also some voices that consider the regulatory environment as a barrier to technological progress and would like to see more radical change. In any case, the question should be divided into two parts, depending on whether we see artificial intelligence as a potential subject of intellectual creation, or, alternatively, we could consider the possibility

of integrating its emergence as a revolutionary new tool into the system of intellectual property rights.

According to H2, digitalization is expected to raise issues beyond the current regulation of intellectual works, which could justify the application of all research methods. It should be stressed, however, that this statement does not refer to the present, but to a future state, when the development of artificial intelligence has reached a certain level. A number of policy issues may need to be discussed then, and these shall be dealt with similarly to intellectual property rights law.

Regarding H3, we observed that this was the question on which respondents were most likely to agree. Almost all would like to see more effective cross-border enforcement of rights. However, it should be stressed that this response was considered by the research participants even without the context of digitalization and artificial intelligence. In other words, the need for internationalization is not exclusively linked to the development of artificial intelligence.

Finally, let us formulate some practical advice to future legislation. Based on the results of the research and our personal opinions, it would be advisable for the legislator to examine the current state of artificial intelligence in more details, perhaps by way of consulting professional working groups, and to consider in which areas may significant developments be expected. And then shall the issue at a conceptual level be dealt with.

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BOOK REVIEW



Kálmán János (Ed.),
A pénzügyi jog alapintézményei (ORAC, 2022)

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In the 21st century, legal systems and particularly, financial regulation are facing several challenges as a result of globalization, technological development, and economic change.

With the growth of online financial transactions, cybersecurity threats are becoming increasingly serious. Financial institutions and legal systems must keep pace with developments in data protection and protection against online fraud. The emergence of cryptocurrencies such as Bitcoin and digital financial technologies (FinTech) is posing new challenges to traditional financial law. These technologies require a new legal and regulatory framework that allows for innovation while protecting users. International financial regulation also poses a new type of challenge due to the growing interconnectedness of the global economy. Countries must work together to develop transparent and efficient international financial systems. In addition to cooperation, the role of international soft law standards is increasingly being appreciated. The fight against money laundering and terrorist financing is a key challenge for financial regulation. Countries must introduce stricter regulations and cooperate to prevent and detect such activities. Preserving the stability of financial markets and dealing effectively with financial crises remain important challenges. Legal systems must remain flexible to respond quickly to unexpected economic challenges and financial market instability. The growing interest in sustainable finance also poses new legal challenges. Legal systems must keep pace with the growing demand for green financial products and investments and ensure the environmental sustainability of investments.

Financial law is therefore faced with several challenges, which makes it a highly heterogeneous body of law, constantly and often fundamentally changing. Against this background, the book *A pénzügyi jog alapintézményei* (The Basic Institutions of Financial Law), published in autumn 2022 by HVG ORAC, is an attempt to provide a complex, systematic description and a scientifically rigorous treatment of financial law as a branch of law that can be used in education, building on the broad cooperation of institutions providing financial law education in Hungary.

The aim of the book is therefore to provide a comprehensive, scientifically rigorous, and systematic treatment of the diverse, horizontal and vertical aspects of financial law. With this aim in mind, the book basically deals with the rules of financial law in two parts, fiscal and non-fiscal financial law.

Part II „A közpénzügyi rendszer joga” (The law of the fiscal system), which deals with fiscal law, covers the basic definitions of the fiscal system, the European Union’s rules on economic coordination, the European Union’s budgetary law, the domestic budgetary law, the financial law rules of public debt, the rules on national property and asset management and the systematization of tax law, including the Hungarian tax law and tax law of the European Union, while also providing a detailed description of the tax administration procedure.

Non-fiscal financial law is dealt with in two parts: the monetary system and the financial market. Part III, which deals with the monetary system, covers in detail the concept of money, the monetary institutional system, the European System of Central Banks and the European Central Bank, the Magyar Nemzeti Bank (Hungarian National Bank), the regulation of the circulation of money, and the germs of the regulation of virtual currencies. Part IV on financial market law introduces the basic concepts of the financial market, the reasons for and methods of regulating the financial market, the system of financial institutions, and the legal regulation applicable to them, with particular reference to the prudential regulation of financial institutions. In addition, it discusses the basics of financial consumer protection and financial market supervision, the financial supervision system in the European Union and Hungary and the tools for crisis management while also touching on ‘financial private law’. Finally, following fiscal law and non-fiscal law, the book also introduces the basics of accounting law as a highly specialized set of rules that cut across the two major areas of financial law.

Given the constantly changing nature of financial law, the book does not systematize the technical provisions of financial law but rather aims to summarise the theoretical, conceptual, and doctrinal foundations of each area of financial law, thus providing knowledge that can be used over a longer period and applied to the field of financial law, as well as theoretical assistance in navigating the complex and multi-level body of law. The book’s outstanding feature and positive aspect is that it responds to changes in financial regulation by emphasizing the interplay between international financial law, the EU, and national legislation. At the same time, where relevant, the book places emphasis on the practical and theoretical significance of ‘live’ case law, the EU and domestic court practice, in parallel with the dogmatic analysis.

The book is primarily a handbook, but the authors and the editor have laid down a work on the imaginary table of Hungarian legal literature that can be used and exploited in education as well, thanks to its structure, theoretical foundation, and systematization.

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CONTENTS

ARTICLES

- GORDANA MARČETIĆ, TIJANA VUKOJIČIĆ TOMIĆ, IVA LOPIŽIĆ:
IN-SERVICE TRAINING OF LOCAL SERVANTS IN CROATIAN LOCAL
SELF-GOVERNMENT: BETWEEN OLD HABITS AND NEW IDEAS 6
- BACHO BITARI KHUROSHVILI: EVOLUTION OF THE THOUGHTS
OF PUBLIC ADMINISTRATION AND ITS UNDERSTANDING FOLLOWING
THE PERSPECTIVES OF POLITICAL SCIENCE, MANAGEMENT AND LAW 20
- ADELEKE ADEGBAMI, CHARLES I. N. UCHE: GLOBALIZATION:
DOES IT HAVE EFFECTS ON NIGERIA'S GOVERNANCE SYSTEM? 32
- MARCIN ROJSZCZAK: THE DIGITAL SERVICES ACT AND THE PROBLEM
OF PREVENTIVE BLOCKING OF (CLEARLY) ILLEGAL CONTENT 44
- KADIR ADEN: STUDYING THE ROLE OF QUALITY OF GOVERNANCE,
RENEWABLE ENERGY AND EXTERNAL MONETARY ASSISTANCE
AND THEIR REPERCUSSIONS ON THE ECOLOGICAL FOOTPRINT
IN THE CONTEXT OF DJIBOUTI 60
- ADMIRE MTHOMBENI, TAFADZWA CHANGARA, DAVID CHIBHOYI,
NYASHA MAKIWA, CHRISTABEL NYATHI, PATRICK KARIBE:
THE EFFICACY OF PUBLIC ORDER TRAINING IN IMPROVING
PERFORMANCE OF DISTRICT REACTION GROUPS (DRGS) IN THE
ZIMBABWE REPUBLIC POLICE, MUTARE CENTRAL DISTRICT,
MANICALAND PROVINCE, ZIMBABWE 99
- MONIKA AUGUSTYNIAK: METROPOLIZATION PROCESS IN THE POLISH
AND FRENCH LOCAL GOVERNMENTS 111
- GÁBOR SZILÁGYI, JUDIT GYARMATHY: EMERGENCE
OF DIGITALIZATION AND ARTIFICIAL INTELLIGENCE IN THE
INTELLECTUAL PROPERTY SYSTEM 122

BOOK REVIEW

- BETTINA KOZÁK: KÁLMÁN JÁNOS (ED.), A PÉNZÜGYI JOG
ALAPINTÉZMÉNYEI (ORAC, 2022) 143