



UNIVERZITA PAVLA JOZEFA ŠAFÁRIKA
v Košiciach

FAKULTA VEREJNEJ SPRÁVY

1/20
25
ročník XXVI.

ISSN 2453-9236

VEREJNÁ SPRÁVA A SPOLOČNOSŤ

PUBLIC ADMINISTRATION
AND SOCIETY



VEREJNÁ SPRÁVA

A

SPOLOČNOSŤ

PUBLIC ADMINISTRATION

AND SOCIETY

Open Access:



Indexovaný v:/Indexed in:



1/2025

ročník XXVI.

Verejná správa a spoločnosť

Verejná správa a spoločnosť je vedecký časopis fakulty, ktorý uverejňuje vedecké príspevky, príspevky do diskusie a recenzie obsahovo orientované na teóriu a prax verejnej správy. Poslaním časopisu je publikovať významné výsledky vedeckého výskumu z oblasti verejnej správy a príbuzných disciplín súvisiacich so študijným profilom a vedeckým zameraním fakulty. Časopis vychádza v elektronickej verzii.

Public Administration and Society

Public Administration and Society is a scientific journal publishing scientific academic articles, contributions to discussion and reviews having the content orientation on the theory and practice of Public Administration. The mission of the Journal is to publish significant results of the scientific scholarly researches regarding the area of public administration and related disciplines which are connected with the study profile and scientific bias of our Faculty. The Scientific Journal is issued in electronic version.

Vedecký redaktor:

doc. JUDr. Mgr. Michal Jesenko, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach

Výkonné redaktorky:

Ing. Eva Mihaliková, PhD., univerzitný docent, Univerzita Pavla Jozefa Šafárika v Košiciach
PhDr. Darina Koreňová, PhD., univerzitný docent, Univerzita Pavla Jozefa Šafárika v Košiciach

Redakčná rada:

doc. Ing. Anna Čepelová, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
doc. PhDr. Richard Geffert, Ph.D., Univerzita Pavla Jozefa Šafárika v Košiciach
Dr. hab. Anna Haladyj, The John Paul II Catholic University of Lublin
prof. Dr. Ivan Halász, Ph.D., DSc. National University of Public Service, Budapest
Dr. Tamás Kaiser Ph.D., National University of Public Service, Budapest
prof. et. doc. JUDr. Karel Klíma, CSc., Dr. hab., Metropolitní univerzita Praha
prof. Dr. György Kocziszky, Budapest Metropolitan University, Maďarsko
doc. Ing. PhDr. Stanislav Konečný, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
doc. Mgr. Gabriela Kravčáková, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
doc. PhDr. Jaroslav Mihálik, PhD., Univerzita sv. Cyrila a Metoda v Trnave
doc. JUDr. Peter Molitoris, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
Dr. Györgyi Nyikos, PhD., National University of Public Service, Budapest
doc. PhDr. Drahomíra Ondrová, CSc., Univerzita Pavla Jozefa Šafárika v Košiciach
doc. JUDr. Martin Vernarský, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach

Adresa redakcie:

Verejná správa a spoločnosť
Univerzita Pavla Jozefa Šafárika v Košiciach
Fakulta verejnej správy
Popradská 66, P.O.BOX C-2
041 32 Košice
Tel.: 055 / 788 36 17
Fax: 055 / 788 36 65

ISSN 2453-9236 (online)

<https://doi.org/10.33542/VSS2025-1-0>

Zoznam recenzentov:

doc. Ing. Roberta Baťu, Ph.D., Univerzita Pardubice
PhDr. Martin Daško, PhD., univ. doc, Univerzita sv. Cyrila a Metoda v Trnave
PhDr. Miroslav Fečko, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
Ing. Jaroslav Gonos, PhD. MBA, Prešovská univerzita v Prešove
doc. PhDr. Ing. Lýdia Lešková, PhD., univ. prof., Katolícka univerzita v Ružomberku
Ing. Michal Levický, PhD., Univerzita Konštantína Filozofa v Nitre
Dr. habil. Katalin Lipták, associate professor, University of Miskolc
doc. PhDr. Dana Petranová, PhD., Trenčianska univerzita Alexandra Dubčeka v Trenčíne
Ing. Lenka Pčolinská, PhD., Univerzita Pavla Jozefa Šafárika v Košiciach
doc. Ing. Ladislav Suhányi, PhD. MBA, Univerzita Pavla Jozefa Šafárika v Košiciach
doc. PhDr. Agneša Víghová, PhD., Vysoká škola ekonómie a manažmentu v Bratislave
Ing. Mária Vrábliková, PhD., Katolícka univerzita v Ružomberku

Verejná správa a spoločnosť vychádza 2x ročne ako vedecký časopis.

Vydavateľ: Univerzita Pavla Jozefa Šafárika v Košiciach
Šrobárova 2, 041 80 Košice
IČO: 00 397 768

Sídlo vydavateľa: Šrobárova 2, 041 80 Košice



CC BY NC ND Creative Commons Attribution-NonCommercial-No-derivates 4.0
(„Uveďte pôvod – Nepoužívajte komerčne - Nespracováajte“)

Adresa redakcie:

Verejná správa a spoločnosť
Univerzita Pavla Jozefa Šafárika v Košiciach
Fakulta verejnej správy
Popradská 66, P.O.BOX C-2
041 32 Košice
Tel.: 055 / 788 36 17
Fax: 055 / 788 36 65
E-mail: fvs-vss@upjs.sk

Vydanie periodickej tlače: jún 2025

ISSN 2453-9236 (online)
<https://doi.org/10.33542/VSS2025-1-0>

CONTENTS

SCIENTIFIC PAPERS	
A Bibliometric Study of Strategic Agility Based on the Scopus Database Hanene Belahcene, Fatma Zohra Chaib	6
The quality of life of citizens in selected European Union countries Anna Čepelová, Richard Vejo	24
Impacts of electromobility on the environment and society Marcela Taušová, Katarína Čulková, Iveta Ujháziová	37
Inflation and Intellectual Capital: What Do We Know? Natália Slyvkanyč, Jana Budová	48
Nursing as Part of Care for the Poor in Slovak Villages in the First Half of the 20th Century Stanislav Konečný	70
REVIEW	
Trends in Urban Development - Anna Vaňová Michaela Lukačínová	81
Towards Sustainable and Regenerative Development and Society: Social Responsibility as a Potential Pathway - Liběna Tetřevová, Rhys Evans et al. Eva Mihaliková	84
Register of Authors	
	86

SCIENTIFIC PAPERS

A Bibliometric Study of Strategic Agility Based on the Scopus Database

Hanene Belahcene, Fatma Zohra Chaib

<https://doi.org/10.33542/VSS2025-1-1>

Abstract

This study aimed at identifying the current research trends and their areas, the most prominent researchers, countries, and research institutions in the field of strategic agility, and extracting future research topics and trends. This is achieved through a bibliometric analysis of 98 studies published in the Scopus database during the period (2019-2024), using three software tools: CiteSpace, VOSviewer, and KnowledgeMatrix Plus. The study concludes that there are seven research areas in the field of strategic agility (resulting from precedents, agile stagnation, supply chain agility, balanced agile project management, dynamic capabilities, evidence, and need). The study also concludes that this topic has not received adequate research attention in recent years, leading to several research gaps that may form excellent topics in the field of business management.

Keywords: *strategic agility, bibliometric analysis, scopus database.*

Introduction

Strategic agility has emerged as a valuable term that has attracted the attention of many researchers due to its importance in providing organizations with the ability to respond to and handle various changes in their business environment quickly. The term "agility" first appeared in the context of business in manufacturing; the term *lean manufacturing* was used by several researchers at the Iacocca Institute in (1991/1992) in a study sponsored by the U.S. Office of Naval Research (Reed, 2021, p. 130), titled "*Manufacturing Strategies for the 21st Century: An Expert Industry Perspective*".

In this study, it was suggested that agility, instead of mass production, represents the future of manufacturing in the 21st century. Over time, the concept of agility spread from manufacturing to supply chains, business strategy, and competition (Yousoufi, Fadili & Ilahiane, 2022, p. 479). Many studies have been conducted in these areas, offering several definitions of agility. Among these definitions is that of Goldman & Nagel, who define it as "the ability to change customer opportunities in a continuously competitive and unpredictable environment to enhance profitability" (Yildiz & Aykanat, 2021, p. 766). It is also defined as "the ability to survive and evolve in a competitive environment by responding quickly and efficiently

to market changes driven by products and services" (Yildiz & Aykanat, 2021, p. 766). From these definitions, it is clear that agility is essential for the survival and evolution of organizations in a competitive environment, as it provides them with the ability to respond swiftly to changes in their markets and customer preferences. The term *strategic agility* was first used by Roth (Reed, 2021, p. 130), who explained it in the context of manufacturing as *"the ability to create the right products in the right place, at the right time, and at the right price"*. Carl Long is "considered the first to discuss strategic agility from the perspective of strategic management" (Reed, 2021, p. 130), indicating that agility is not only used to maintain a quick response to changing conditions and emerging opportunities but also to focus on a clear strategic objective (Reed, 2021, p. 130). Later, Finnish researchers Yves Doz & Mikko Kosonen developed the concept of strategic agility by covering all its aspects, making it clearer and more comprehensive, which led to its widespread use in business research. Consequently, the fields of study on the subject have doubled and diversified, making it difficult to identify shared criteria among these studies and their direction, complicating the task of pinpointing research gaps that researchers can focus on for future research directions in the field of strategic agility.

Based on the above, this study aims to identify the aspects that previous studies have focused on regarding strategic agility, according to publications in the Scopus database (keywords: *research areas, researchers, countries, and research institutions*). The goal is to provide a clear and defined intellectual framework for researchers regarding the research gaps that could form future research directions on the topic of interest.

This objective is guided by the following research questions:

- What are the subfields of the topic of strategic agility?
- Who are the most influential researchers in the field of strategic agility?
- Which countries and research institutions are the most authoritative in the field of strategic agility?

1. Literature review: (strategic agility)

According to Doz & Kosonen, strategic agility generally refers to an organization's ability to continuously adapt to uncertain environments. These researchers identified three dynamic capabilities necessary for strategic agility: strategic sensitivity, resource effectiveness, and leadership unity. Strategic sensitivity refers to an organization's ability to detect market trends in order to quickly capitalize on new opportunities, while resource effectiveness is the ability to respond rapidly to market changes and stay ahead of the competition. Strategic speed, on the other hand, requires leadership unity and collective commitment, allowing the organization to benefit from growing opportunities without being slowed down by internal conflicts or disagreements (Vrontis et al., 2022, pp. 6-7). In this regard,

Teece (2007) argued that these dynamic capabilities can be grouped into three main categories that enable an organization to remain competitive and survive in the long run while facing various changes (Shams et al., 2021, p. 03). These categories are "sensing" by identifying key environmental changes, "seizing" through making correct decisions in resource allocation, and "transforming" through continuous renewal of competencies (Shams et al., 2021, p. 03). Notably, these categories are similar in nature to the dimensions proposed by Park Young Ki in 2011, which include sensing agility that refers to the ability to detect changes and developments in the external environment (Tsilionis & Wautelet, 2022, p. 03), decision-making agility, which means making the right decisions regarding systems or processes under resource allocation, so that the organization is prepared to seize the opportunity. Seizing opportunities requires bold and swift decision-making (Geiger, 2020, p. 20), and practice agility, which was referred to by Doz & Kosonen (2010) as the internal capability of the organization to quickly form capabilities and reallocate resources (Doz & Kosonen, 2010, p. 374).

In light of what has been presented, strategic agility appears in granting the organization the ability to sense various environmental changes that carry potential opportunities and threats, make correct and immediate strategic decisions to seize those opportunities and avoid those threats, all while quickly assembling, utilizing, and reshaping its capabilities and resources.

2. Methodology and Tools

2.1 Study Methodology

A correct understanding of the topic requires following a precise scientific approach that contributes to achieving the desired results. Therefore, the study methodology was determined based on the topic's requirements, which is represented by the theoretical exploration based on the inductive approach. This will be done through bibliometric analysis of data from 98 studies published in the Scopus database between 2019 and 2024, using three programs: VOSviewer, KnowledgeMatrix Plus, and CiteSpace.

2.2 Bibliometric analysis methodology and tools

Algamdi (2022) pointed out that bibliometric analysis is "one of the scientific mapping fields that uses methods to analyze data from previous research work and study how articles, researchers, fields, and resources are related to each other. This helps to identify research areas, keywords, researchers, countries, and research institutions, relying on several methods, including Citation, Co-citation, Bibliographic Coupling, Co-authorship, and Co-occurrence" (Algamdi, 2022, p. 153).

In this study, Co-occurrence was used to identify research areas in strategic agility, Co-authorship and Citation were employed to determine the most published and cited researchers, countries, and research institutions in this subject, and to identify research gaps and future trends. To do this, the VOSviewer software was used as the primary tool to obtain networks and bibliometric analysis indicators, and it was supported by KnowledgeMatrix Plus and CiteSpace for bibliometric analysis statistics.

2.3 Bibliometric analysis data

The bibliometric analysis database, according to the filtering criteria in the Scopus database, focused on studies related to Strategic Agility in the title, abstract, and keywords from 2019 to 2024. It included 98 studies in the field of business management. The following figure illustrates this:

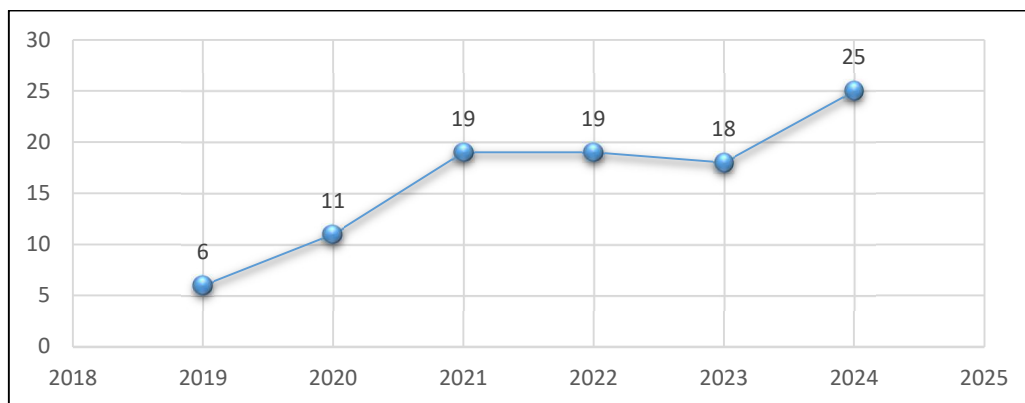


Figure 1: Annual Publications (2019-2024)

Source: Knowledge Matrix Plus and Excel outputs

The figure 1 above illustrates the distribution of the publications used in the bibliometric analysis, showing a significant increase in the number of publications from 2019 to 2021 (6, 11, 19), followed by a stabilization of the number of publications between 2021 and 2022 at 19 publications. This number slightly decreased in 2023 to 18 publications, but it increased again in 2024 to 25 publications. However, it is important to note the need for increased attention from researchers to this topic, especially since it has not recorded high publication rates in the Scopus database, despite its significant importance, which increases as the dynamism of the business environment of institutions grows. As for the different types of these publications, we illustrate them in the figure 2 below as follows:



Figure 2: Types of Publications

Source: Knowledge Matrix Plus and Excel outputs.

The figure 2 above indicates that the research was limited to 95 articles, 2 book chapters, and a book in terms of the number of books. This suggests that the topic of strategic agility has not received sufficient attention from researchers for publication in the Scopus database from 2019 to 2024. This may be due to the publishing criteria and conditions set by this database or the journals indexed within it, which made it difficult for researchers to publish in them, or it could be that this topic was not among the research focuses of these journals.

The following table illustrates the most important journals within the Scopus database that focused on strategic agility between 2019 and 2024:

Table 1: Journal most interested in strategic agility

Number of Publications	Journals
7	Journal of International Management
5	Uncertain Supply Chain Management
6	California Management Review
5	IEEE Transactions on Engineering Management
4	Journal of World Business
4	Journal of Business Research
4	Technological Forecasting and Social Change
4	Management Decision
4	Academy of Strategic Management Journal
4	Human Resource Management Review
4	Journal of Knowledge Management

Source: Vosviewer outputs

It can be observed from the table 1 that one of the journals most interested in strategic agility, based on the number of publications within the Scopus database, is the *Journal of International Management*. This will be beneficial for researchers interested in this topic, as they can focus on the journals listed in the table 1 above, with this journal being the primary one for publishing their research.

3. Presentation and discussion of bibliometric analysis results

In this section, the results of the bibliometric analysis are presented and discussed, aiming to enable researchers to understand the various research trends on the topic of strategic agility. This is achieved by identifying the most commonly used and popular keywords in the field, its main areas, the prominent researchers (whose publications can be cited), as well as the most referenced countries and research institutions (to provide an overview of contributions across regions and disciplines). Based on this, research gaps will be identified, which could form future research topics for researchers and scholars in the field of strategic agility.

3.1 Keywords

The term strategic agility shares a network-like relationship with many terms, totaling 589 terms, as indicated by the Scopus database using the VOSviewer software. The figure 3 below illustrates the most important keywords in the topic of strategic agility.

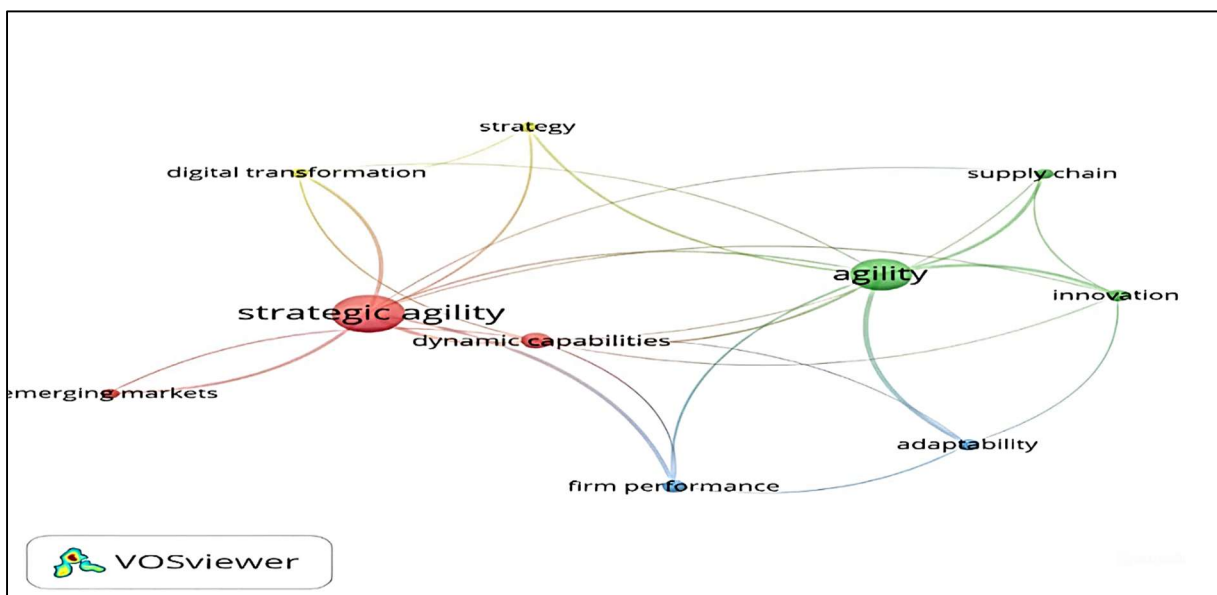


Figure 3: Keyword Network

Source: VOSviewer outputs

The previous figure 3 shows the most common and widely used keywords in the topic of strategic agility by researchers. This can be further clarified in the following table:

Table 2: Most common and widely used keywords by researchers

Keywords	Number of Uses	Colors
Strategic agility	105	Red
Dynamic capabilities	19	
Emerging markets	7	
Agility	73	Green
Innovation	10	
Supply chain	7	
Firm performance	11	Blue
Adaptability	10	
Strategy	7	Yellow
Digital transformation	7	

Source: Prepared by the researchers based on the outputs of VOSviewer

The table 2 above shows the most common and widely used keywords by researchers in the topic of strategic agility, which have been grouped into colored clusters as shown in Figure 3. The red cluster represents the keywords related to the research field of *Strategic agility*, *Dynamic capabilities*, and *Emerging markets*. The second cluster, in green, includes *Agility*, *Innovation*, and *Supply chain*. The third cluster, in blue, includes *Firm Performance* and *Adaptability*. Finally, the yellow cluster includes *Strategy* and *Digital transformation*. This clearly indicates that the topic of strategic agility has subfields for research.

To identify the most important of these subfields in detail from 2019 to 2024, the CiteSpace program was used. CiteSpace is a tool for visualizing information that translates the research field into mapping functions between research boundaries and intellectual frameworks. The figure 4 illustrates this as follows:

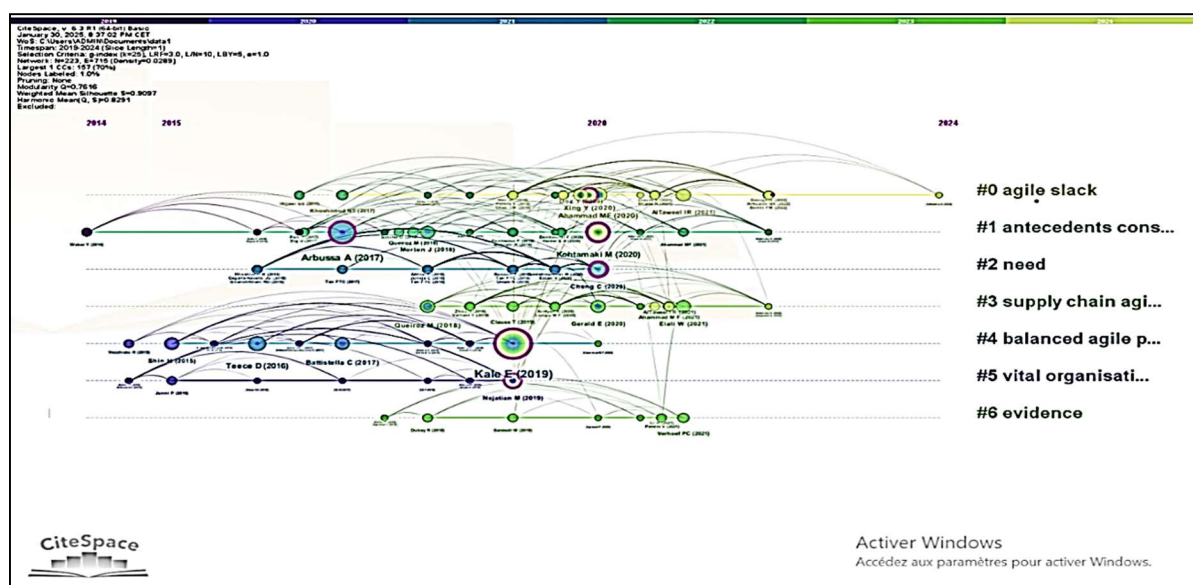


Figure 4: Visualization of Subfields Based on the Timeline

Source: CiteSpace outputs

The figure 4 above further clarifies the most important subfields of strategic agility, as illustrated in the table 3 below:

Table 3: Key Subfields in Strategic Agility

Terms (mutual information)	Top terms (LSI)	Silhouette	Size	Cluster ID	Cluster
Knowledge management (1.19)	Strategic agility	0.877	17	1	Antecedents Consequence
Knowledge-intensive SME (1.23)	Strategic agility	0.837	15	0	Agile Slack
Financial performance (0.25)	Strategic agility	0.921	10	3	Supply Chain Agility
Bet (0.76)	Strategic agility	0.93	10	4	Balanced Agile Project Management
Strategic agility (0.1)	Strategic agility	0.99	7	5	Vital Organisational Capabilities
Bet (0.1)	Evidence	0.915	7	6	Evidence
Strategic agility (0.17)	A literature review on agility – Is there a need to develop a new instrument?	0.999	6	2	Need

Source: CiteSpace outputs

According to the table 3 above, there are 7 subfields for research in the topic of strategic agility from 2019 to 2024, which are as follows (Appendix 1):

- **Antecedents Consequence:** This can be considered as prior studies that highlight the most significant publications based on citations. These studies, categorized as prior studies by LSI and Knowledge Management (1.19) using MI, address topics such as business model updates, innovation, and how to build and maintain strategic agility. The most cited article in this field is by Adomak, S (2022), titled "Strategic agility for small and medium-sized enterprises in emerging economies: antecedents, outcomes, and boundary conditions."
- **Agile Slack:** This subfield includes various researcher orientations identified through citations in strategic agility studies. These orientations focus on human resource management, entrepreneurial teams, and the role of innovation in organizational performance. Strategic agility helps achieve a competitive advantage, supported by Mohammad, As's 2022 paper titled "The impact of strategic agility on creating competitive advantage: Evidence from Jordanian insurance firms."

- **Supply Chain Agility:** This subfield highlights the role and importance of strategic agility during the COVID-19 pandemic in sustaining businesses and improving the performance of small and medium-sized enterprises.
- **Balanced Agile Project Management:** This subfield covers the research orientations of researchers on absorptive, dynamic, and focused capabilities, linking them to business model development, strategic agility, and its role in organizational performance. The primary cited article in this field is by Kurniawan, R (2020), titled "The effect of balanced agile project management on firm performance: The mediating role of market orientation and strategic agility."
- **Vital Organisational Capabilities:** This subfield includes the research orientations of the most cited researchers, focusing on acquisition processes, customer relationship management, and paving the way for strategic agility.
- **Evidence:** This subfield outlines the need for digital transformation and digitization to support strategic agility, which is a key factor in addressing crises.
- **Need:** This subfield involves a literature review on strategic agility, addressing whether there is a need to develop a new tool. The main research orientations in this area are business intelligence and technology and their role in supporting agility.

3.2 Researchers

The most prominent researchers interested in the topic of strategic agility, according to the Scopus database, are shown in the figure 5:



Figure 5: Prominent Researchers

Source: Knowledge Matrix Plus outputs

The figure 5 above shows the most prominent researchers interested in publishing on the topic of strategic agility, including Muthuveloo Rajendran and Khan Zaheer. It is important to highlight the necessity for researchers in this field to pay close attention to the works of these scholars and focus on their significance.

After reviewing the prominent researchers in this area, we will now focus on the most influential or cited researchers in the topic of strategic agility, based on the number of publications and citations, as shown in the figure 6:

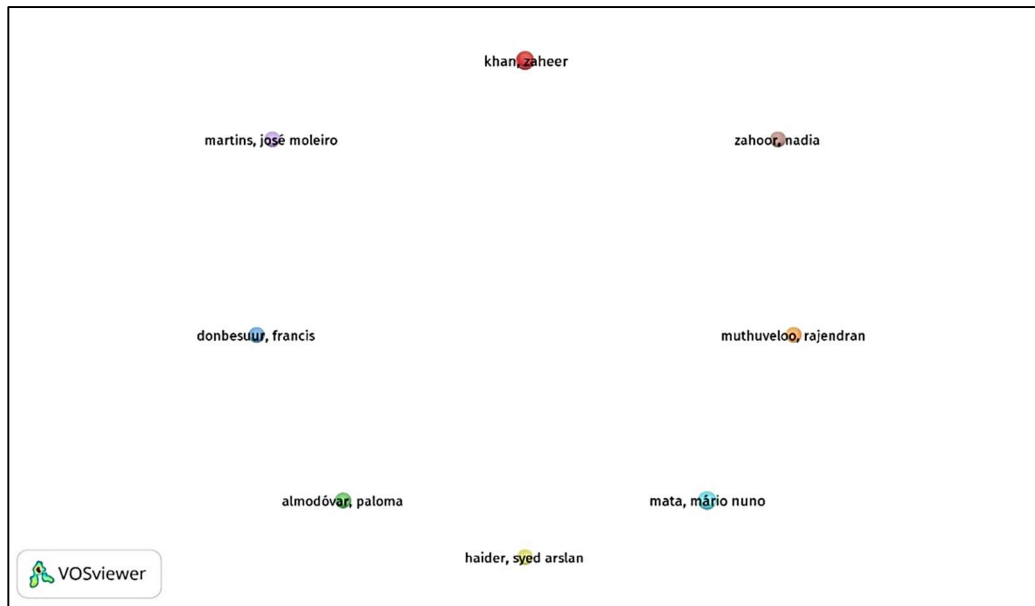


Figure 6: Researcher Network in Strategic Agility

Source: VOSviewer outputs

The figure 6 above shows that the most prominent researcher based on the number of publications is *Khan Zaheer*, with 4 publications. However, based on the number of citations, *Vrontis Demetris* is the most cited researcher, with 251 citations. This information is further detailed in the following table:

Table 4: Most Cited Researchers Based on Number of Publications and Citations

Researchers	Publications	Citations	Total Link Strength
Khan Zaheer	4	108	1
Vrontis Demetris	3	251	1
Almodovar Paloma	3	24	0
Donbesuur Francis	3	39	0
Haider Syed Arslan	3	86	0
Martins José Moleiro	3	32	0
Mata Mario Nuno	4	38	0
Muthuveloo Rajendran	3	29	0
Zahoor Nadia	3	69	0

Source: Prepared by the researchers based on the outputs of VOSviewer

Based on the above, we can conclude that understanding the most prominent researchers in the study of strategic agility, based on their number of publications, reveals the diversity of their research works. Meanwhile, the number of citations reflects the value of their publications, which can be considered as key references for future citations in scientific publications.

3.3 Countries and research institutions

The following figures 7 and 8 show the most cited countries and research institutions in the field of strategic agility, based on the number of publications, according to the Scopus database.

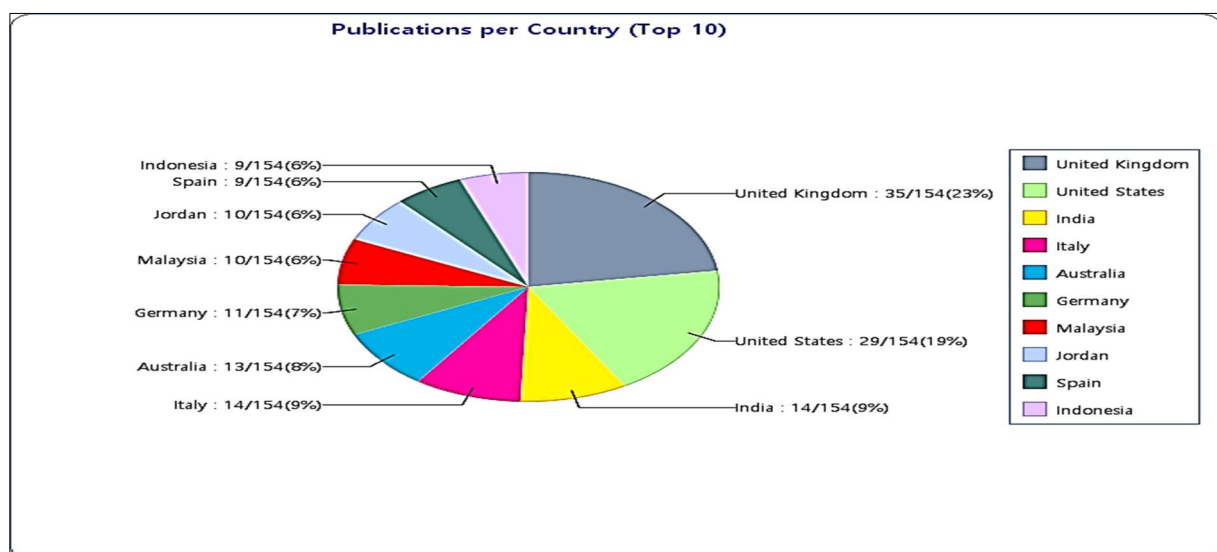
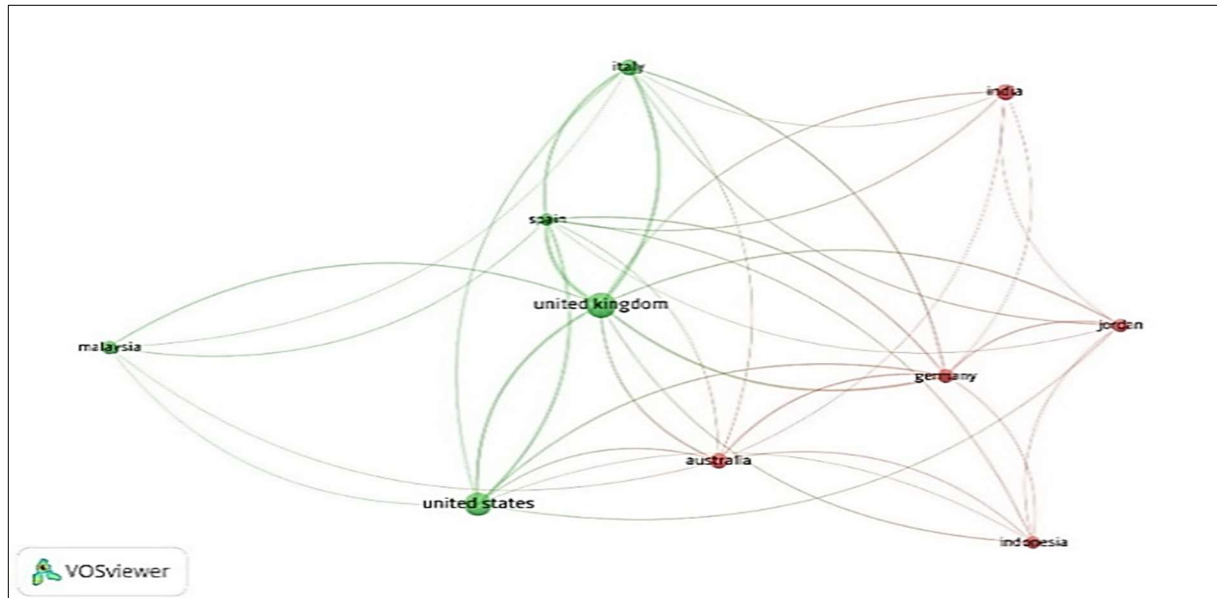


Figure 7: Referencing Countries

Source: Knowledge Matrix Plus and VOSviewer outputs

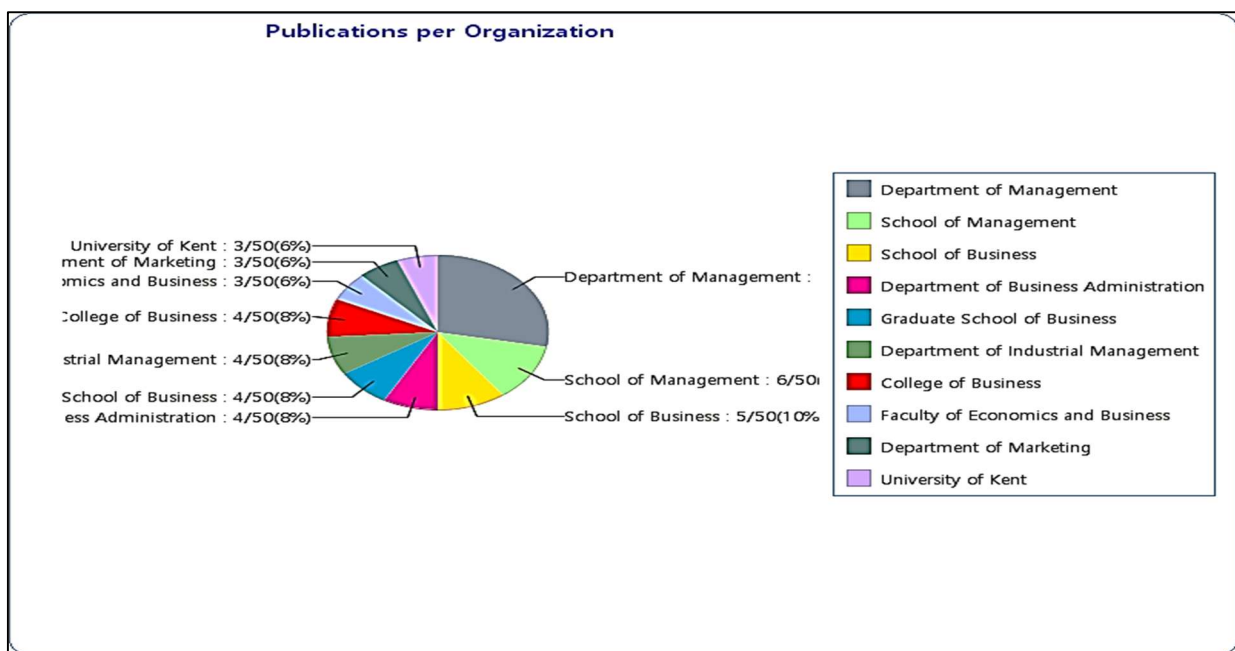
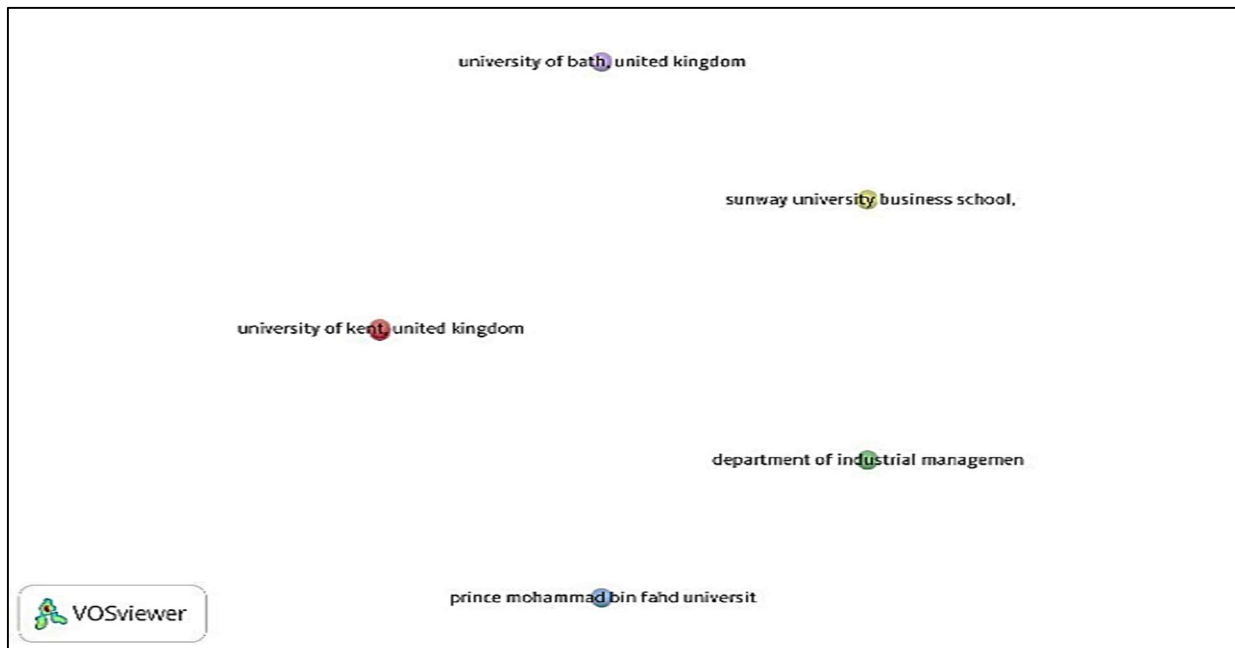


Figure 8: Referencing Research Institutions

Source: Knowledge Matrix Plus and VOSviewer outputs

Figures 7 and 8 show that the most prominent countries in the field of strategic agility, which are among the top 10 in terms of publications on this topic, include; the United Kingdom, the United States, India, Italy, Australia, Germany, Malaysia, Jordan, Spain, and Indonesia.

- **Department of Management** from various universities, including *Ca' Foscari University of Venice, Italy*.
- **School of Management** from various universities, such as *Universiti Sains Malaysia, Malaysia*.
- **School of Business** from *University of Leicester, United Kingdom*.
- **Department of Business Administration** from various faculties and universities, such as *Faculty of Business, Amman Arab University, Jordan*.
- **Graduate School of Business** from various universities, including *North Dakota State University, United States*.
- **Department of Industrial Management** from *Management and Accounting Faculty, Shahid Beheshti University, Iran*.
- **College of Business** from *University of Nebraska, United States*.
- **Faculty of Economics and Business** from *University of Jember, Indonesia*.
- **Department of Marketing** from various universities, such as *School of Business, The University of Jordan, Jordan, University of Kent, United Kingdom*.

These results indicate that these countries stand out for their scientific production from 2019 to 2024 and are leading contributions in the field of research within the Scopus database. As for the research institutions identified based on the Scopus database, they are considered leaders in publishing on the topic of strategic agility, and they belong to the same countries that are most cited in this subject according to Scopus. Therefore, researchers who wish to pursue further studies in this field can consider these institutions for internships or collaborative research opportunities with the researchers from these institutions if they want to do so.

3.4 Discussion of bibliometric analysis results (research gaps and future direction)

Through the identification of the most commonly used keywords in the research on strategic agility within the Scopus database for the period 2019-2024, which belong to one of the subfields of this topic (Table 3), namely: *Antecedents Consequence* (Innovation and Emerging Markets), *Agile Slack* (Innovation and its Key Role in Organizational Performance), *Supply Chain Agility* (Firm Performance and Supply Chain), *Balanced Agile Project Management* (Dynamic Capabilities), *Vital Organisational Capabilities* (Strategic Agility), *Evidence* (Digital Transformation), and *Need* (Agility), we were able to deduce several potential research gaps that have been overlooked in the published studies within the Scopus database, particularly in the field of business management. These gaps include:

- *Lack of sufficient research on how organizations can build and maintain strategic agility* to benefit from it in enhancing innovation and renewing business models. Furthermore, there is no clear one-way direct effect of strategic agility on these two variables.
- *While there are literature reviews on strategic agility that indicate the role of business intelligence and technology* in achieving and supporting it, there is a need for more (theoretical-applied) research addressing other variables to clarify this. Achieving strategic agility doesn't solely rely on internal environmental variables (such as business intelligence that focuses on gathering and analyzing internal data); there is a need to consider external environmental variables, such as competitive intelligence, which focuses on gathering and analyzing data related to the external environment.
- *Although the importance of strategic agility for organizations in sustaining their operations and improving performance, particularly during the COVID-19 pandemic, is clear*, there is a need for research that highlights the essential pillars needed for strategic agility to become a key factor in addressing crises. Given that organizations today operate in uncertain environments where risks that threaten their continuity can appear at any moment, they need strategic agility based on strategies to deal with environmental uncertainty. The exploitation and exploration strategies emphasized by Lim, Wei, Sambamurthy, and Lee (2021), which are considered foundational antecedents of strategic agility (Ahammad et al., 2021), are particularly relevant here.

These research gaps have been identified based on the omissions in the publications available in the Scopus database, and these gaps have guided us toward outlining some future directions for research in strategic agility. These directions could be explored and published in one of the journals indexed in Scopus, as mentioned previously. The following are some of these future research directions:

- **The importance of applying strategic agility to enhance innovation:** Although an organization might possess strategic agility, there might be a gap in its application. This means there is a mismatch between the speed at which the organization adapts to change and the emergence of unforeseen challenges, making it difficult to achieve its objectives.
- **The reciprocal effect between strategic agility and business models:** For strategic agility to be effectively practiced, the business model must be flexible, adaptable, and focused on innovation, which aids in responding rapidly to changes. Conversely, organizations must have strategic agility to renew their business models. Strategic agility helps in quickly adjusting the business model in response to environmental changes.

- **The role of artificial intelligence and big data in supporting strategic agility:** Given the significant challenges organizations face amid the rapid developments in information technology (particularly digital technology maturity), organizations must be more agile and flexible in dealing with these changes to ensure their survival and continuity. Here, artificial intelligence and big data have emerged as methods that enhance an organization's ability to adapt, sense changes, predict them, and respond swiftly.
- **The role of competitive intelligence in achieving strategic agility:** Since strategic agility requires other variables such as business intelligence and technology, competitive intelligence is proposed as a crucial variable in achieving strategic agility. However, competitive intelligence has not been addressed in the publications available in the Scopus database.

These gaps and directions highlight areas that require further investigation and offer opportunities for future research to make significant contributions to the literature on strategic agility. By addressing these underexplored areas, researchers can enhance our understanding of how organizations can effectively implement and sustain *strategic agility*, especially in dynamic and uncertain environments. Additionally, exploring the integration of emerging technologies like artificial intelligence, big data, and competitive intelligence into strategic agility frameworks can provide valuable insights for businesses seeking to remain competitive in rapidly changing markets. Such research could also inform practical strategies for organizations aiming to improve their resilience and innovation capabilities in the face of disruption.

4. Conclusion

The topic of strategic agility has attracted significant research interest from many scholars and business management specialists, with numerous studies linking it to various variables. Among these, 98 studies published in indexed journals in the Scopus database (the focus of this study) from 2019 to 2024 were analyzed bibliometrically using the following tools: VOSviewer, KnowledgeMatrix Plus, and CiteSpace. The findings reveal that strategic agility reflects an organization's ability to quickly adapt to changes in its business environment. It consists of three core capabilities: sensing agility, decision-making agility, and action agility. Research on this topic has covered seven subfields: Antecedents Consequence, Agile Slack, Supply Chain Agility, Balanced Agile Project Management, Vital Organisational Capabilities, Evidence, and Need. Among the most notable researchers in this area are Khan Zaheer and Vrontis Demetris, based on the number of publications and citations. The United Kingdom, the United States, India, Italy, Australia, Germany, Malaysia, Jordan, Spain, and Indonesia are

among the leading countries and research institutions that are most cited, published, and referenced in the field of strategic agility within the Scopus database.

Based on the findings limited to the Scopus database, it was concluded that there are several research gaps that could serve as future topics for researchers in this area.

Despite the results of this study, it remains partial and specific to the Scopus database, focusing on publications in English during the period from 2019 to 2024 and relying on bibliometric analysis methods. From this perspective, the results are not comprehensive. Future studies, including research on other databases, would indeed broaden the scope and time frame of the studies, providing a more complete picture and enabling a more accurate identification of research gaps in the subject of the study of interest.

References

- ADOMAKO, S. et al. 2022. Strategic agility of SMEs in emerging economies: antecedents, consequences and boundary conditions. *International Business Review*, 31(06), 102032. <https://doi.org/10.1016/j.ibusrev.2022.102032>.
- ALFARAJAT, M.J. 2023. Strategic agility and supply chain agility: potential antecedents of SMEs performance. *Uncertain Supply Chain Management*, 11(03), 875-884. <http://dx.doi.org/10.5267/j.uscm.2023.5.011>.
- ALGAMDI, A. 2022. A Bibliometric Analysis of Artificial Intelligence applications during COVID-19 Based on Web of Science (WoS) Database. *Journal of Engineering Sciences and Information Technology*, 06(04), 151-174. <http://dx.doi.org/10.58205/fber.v6i1.1563>.
- CHAN, J.I.L., MUTHUVELOO, R. 2020. Vital organisational capabilities for strategic agility: an empirical study. *Asia-Pacific Journal of Business Administration*, 12(03/04), 223-236. <https://doi.org/10.1108/APJBA-12-2019-0261>.
- DOZ, L.Y., KOSONEN, M. 2010. Embedding Strategic Agility: A Leadership Agenda for Accelerating- Business Model Renewal. *Journal of Long Range Planning*, 43(02/03), 370-382. <https://doi.org/10.1016/j.lrp.2009.07.006>.
- GEIGER, R.J. 2020. Agility Measurement for Large Organizations [PhD thesis, Department of the Air Force, Air Force Institute of Technology, Air University]. USA. <https://scholar.afit.edu/etd/4340>.
- HAIDER, A.S. et al. 2021. A literature review on agility-is there a need to develop a new instrument?. *International Journal of Entrepreneurship*, 25(03), 1-14. <https://www.researchgate.net/publication/351088723>.
- KURNIAWAN, R. et al. 2020. The impact of balanced agile project management on firm performance: the mediating role of market orientation and strategic agility. *Review of International Business and Strategy*, 30 (04), 457-490. <https://doi.org/10.1108/RIBS-03-2020-0022>.

MOHAMMAD, AS. 2022. Impact of strategic agility on creating competitive advantage: evidence from jordanian insurance companies. *International Journal of Business Innovation and Research*, 28(01), 101-118. <http://dx.doi.org/10.1504/IJBIR.2022.122970>.

PFAFF, Y. 2023. Agility and digitalization: why strategic agility is a success factor for mastering digitalization – evidence from industry 4.0 implementations across a supply chain. *International Journal of Physical Distribution and Logistics Management*, 53(05/06), 660-684. <http://dx.doi.org/10.1108/IJPDLM-06-2022-0200>.

REED, J.H. 2021. Strategic Agility and The Effects of Firm Age and Environmental Turbulence. *Journal of Strategy and Management*, 14(02), 129-149. <https://doi.org/10.1108/JSMA-07-2020-0178>.

SHAMS, R. et al. 2021. Strategic Agility in International Business: A Conceptual Framework for "Agile" Multinationals. *Journal of International Management*, 27(1), 100737. <https://doi.org/10.1016/j.intman.2020.100737>.

TSILIONIS, K., WAUTELET, Y. 2022. A model-driven Framework to Support Strategic Agility: Value-added Perspective. *Journal of Information and Software Technology*, 141(03), 106734. <https://doi.org/10.1016/j.infsof.2021.106734>.

VRONTIS, D. et al. 2022. Strategic Agility, Openness and Performance: A Mixed Method Comparative Analysis of Firms Operating in Developed and Emerging Markets. *Review of Managerial Science*, 17(05), 1-34. <https://doi.org/10.1007/s11846-022-00562-4>.

YILDIZ, T., AYKANAT, Z. 2021. The Mediating Role of Organizational Innovation on The Impact of Strategic Agility on Firm Performance. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(04), 765-786. <http://dx.doi.org/10.1108/WJEMSD-06-2020-0070>.

YOUSOUFI, N., FADILI, M.H., ILAHIANE, N. 2022. La relation entre «agilité» et «résilience» des PME: Etat de l'art et orientation de recherche. *Revue Francaise d'Economie et de Gestion*, 03(09), 475-493. <https://www.revufreg.fr/index.php/home/article/view/883/683>.

Contact address

Hanene Belahcene

Postdoctoral Researcher specializing in Strategic Management

Badji Mokhtar University, Annaba, Algeria

Department of Management Sciences

Ibn Badis Complex, Badji Mokhtar University BP 12, Annaba 23000, Algeria

E-mail: hanene.belahcene@univ-annaba.org

Fatma Zohra Chaib

Professor of Management Sciences

Badji Mokhtar University, Annaba, Algeria

Department of Management Sciences

Ibn Badis Complex, Badji Mokhtar University BP 12, Annaba 23000, Algeria

E-mail: fatma-zohra.chaib@univ-annaba.dz

The quality of life of citizens in selected European Union countries

Anna Čepelová, Richard Vejo

<https://doi.org/10.33542/VSS2025-1-2>

Abstract

This study presents an analysis of the quality of life in selected Member States of the European Union, with particular emphasis on socio-economic conditions. The primary objective is to compare living standards, subjective well-being, and the population's capacity to manage household income in the analysed countries. The research framework incorporates indicators such as gross domestic income measured in current prices and in purchasing power parity, the ability or inability of households to meet financial obligations, and overall life satisfaction. Consideration is also given to regional disparities and the influence of economic development on the quality of life. The findings reveal significant differences across the selected countries, underscoring the necessity for targeted policy interventions aimed at mitigating these disparities. A specific focus is placed on the Slovak Republic, with the aim of evaluating the quality of life of its citizens through the comparative analysis of selected economic and financial indicators. This paper contributes to the broader discourse on quality of life assessments and may serve as a foundation for formulating effective strategies to enhance living conditions in the Slovak Republic.

Keywords: *quality of life, living standards, indicators, the comparative analysis, citizens.*

Introduction

Quality of life is a concept that has many attributes and can be viewed from different perspectives. Also, the sense of quality of life can be subjective for different individuals with a tendency to compare. Some people consider the quality of life in terms of social status, economic situation while others include the availability of health care, cultural, and other services. If we move from subjective feeling to more objective criteria in order to measure quality of life, we arrive at various indicators and indices through which this concept can be realistically quantified, measured, compared, and evaluated.

Quality of life is a vague concept that represents a valuation of human life itself. It is based on the effect of humans on the environment and the environment on humans. Quality of life brings together objective and subjective aspects. The subjective dimension is primarily related to the individual and is closer in content to concepts such as personal or human happiness. On the other hand, the objective dimension relates to a given territorial unit (region,

municipality), is more oriented on public or community problems and is closer in content to notions of sustainability or liveability. Objective quality of life also refers to those living conditions that are measurable. It encompasses a broad set of assessable indicators, including service accessibility, income conditions, access to education, the quality of healthcare, and others. It is widely recognized that particular living conditions and the overall standard of living substantially shape individuals' life chances and future prospects. Subjective quality of life pertains primarily to people's lived experience and their perceptions thereof. Determining precisely how to measure or evaluate subjective quality of life is methodologically challenging, because it is influenced by numerous factors. Older adults, members of different income groups, persons with disabilities, and those without disabilities will assess their lives differently. The appraisal of subjective quality of life is therefore highly individualized. For this reason, subjective experience and quality of life are predominantly matters for sociological research (Heřmanová 2012).

Quality of life, originally framed within political science and economic concepts, began amid shifts in value orientations and standards of living to permeate other disciplines. As a result, it has secured a stable place across the social sciences and related fields, including sociology, psychology, education, medicine, and others. This broad interdisciplinary interest complicates the precise identification and delimitation of the specific factors and dimensions of quality of life. The difficulty stems chiefly from the diversity of disciplinary theoretical approaches and the use of differing research methods. Each field articulates its own definition of quality of life, on the basis of which it subsequently specifies the relevant domains (Škoda et al. 2008).

The quality of life of the population is a difficult concept to grasp because of its multidimensionality and complexity. It touches on the understanding of human existence and the meaning of life. It examines the environmental, economic, social, cultural, psychological, spiritual and other conditions for a healthy and happy life. A comprehensive view takes into account not only external conditions but also the inner dimensions of human life. The concept of quality of life is largely abstract and is influenced by a large number of factors. Despite considerable inconsistency, quality of life is becoming a holistic concept and there is a growing effort to define it comprehensively (Murgaš 2009). Matis (2002) characterizes the concept of quality of life as the facet of life that expresses through the standard of satisfaction the qualitative dimension of meeting material needs together with spiritual needs. In his view, quality of life is a component of individual as well as supra-individual and societal life; it cannot be captured solely by quantitative characteristics but also requires attention to attributes that are not readily measurable, such as personal life satisfaction. The World Health Organization (1995) conceives quality of life as an individual's perceived position in life, shaped by the

cultural context and value systems that surround them, and related to their goals, expectations, standards, and concerns.

Quality of life is influenced by factors such as air quality, connection to public water supply, safety and quality of transport infrastructure, construction of sewerage systems, waste management, care of public spaces, opportunities for cultural and sporting activities, availability and quality of housing and housing stock and others (Kohutková and Baus 2012). Many of these factors are the responsibility of municipalities and towns (or local government as a whole). Thus, the leadership of the local government, through its development, strategic plans or specific decisions, can significantly influence the quality of life of the inhabitants of a given area.

The OECD Better Life Initiative – Measuring Well-Being and Progress deals with measuring quality of life not only in terms of GDP but also in the following areas:

- Material living conditions (housing, income, work).
- Quality of life (relationships, education, environment, civic engagement, health, safety, overall life satisfaction and work-life balance) (OECD 2023).

In addition to the OECD, quality of life is also addressed by Eurostat, which has defined the following indicators:

1. Material and living conditions.
2. Productivity and labour.
3. Education.
4. Health.
5. Leisure and social interaction.
6. Physical and economic security.
7. Governance and fundamental human rights.
8. Environment.
9. Overall life experience.

The term quality of life is interdisciplinary, encompassing social, economic, health, environmental and political conditions. Examination from a variety of perspectives by different scientific disciplines has caused it to have many definitions. Scientific disciplines offer different methods and tools to measure it. The choice depends on the objective for which they are being studied therefore it must be clear which group it is. The research can focus on the quality of life of the global population when it is about the quality of life in a given country or when comparing the life needs of individuals when the individual quality of life is examined (Holková 2011).

The results of the work - Quality of life of citizens EÚ

The quality of life of the population, as mentioned above, can be measured and assessed through a number of indices and indicators. For the purposes of this article, we will focus on selected economic and social indicators that define the baseline state of quality of life. The selected economic and social indicators are analysed over the time period 2023 - 2018. This six-year period is characterised by dynamic changes and development of not only economic but also non-economic indicators. The economic and social development in the society was influenced by the state interventions as a tool to address the negative consequences of the global pandemic COVID-19 and the war in Ukraine.

For the purposes of this article, we focused on assessing the status and impact of selected financial indicators on the quality of life. We analysed five selected indicators that characterise the quality of life of residents in selected European Union countries. The following indicators are analysed in the paper:

Disposable income is a key economic indicator that represents total current household income net of current expenditures such as taxes, social contributions and interest. This income is an important indicator of how much money households have available for consumption or savings. Disposable income is a basic indicator of household economic comfort. It provides information on the financial capacity of households to make purchases, which has a direct impact on overall consumption and hence on economic growth and stability.

Real gross disposable household income is an economic indicator that represents the amount of money households have available for spending and saving after income taxes and other compulsory levies are taken into account. This indicator is calculated as the gross personal income of all household members plus rental income and other components of income at household level, minus taxes and social security contributions. The components of disposable income include wages and salaries, social benefits and other regular income. Current expenditure such as taxes and social contributions are deducted from this income to obtain net disposable income. In econometrics, disposable income is analysed to understand the relationships between household income, consumption and savings. This information is the basis for making economic forecasts and policies aimed at improving the economic conditions of the population. Adjusted gross disposable household income per capita at PPS is calculated as the adjusted gross disposable income of households and non-profit institutions serving households (NPISHs) divided by the purchasing power parity (PPP) of actual individual household consumption (Eurostat 2024).

Purchasing power parity (PPP) is an indicator of price level differences between countries. PPP tells us how many currencies units a given amount of goods and services costs in different countries. PPPs can thus be used as currency conversion rates to convert

expenditure expressed in national currencies into an artificial common currency, the purchasing power standard (PPS), thereby eliminating the impact of differences in price levels between countries. The main use of PPPs is to convert national accounts aggregates into comparable volume aggregates. Applying nominal exchange rates in this process would overstate the disposable income of countries with high price levels compared to countries with low price levels. The use of PPPs ensures that the adjusted disposable value of all countries is valued at a single price level and thus reflects only differences in the actual volume of the economy. The indicator is based on data from the annual accounts of the non-financial sector.

Table 1: Adjusted gross disposable household income per capita expressed at purchasing power parity (PPS)

Geo / year	2018	2019	2020	2021	2022	2023
EÚ 27	22 066	22 795	23 090	24 344	25 919	27 627
Czech republic	19 426	20 354	21 002	23 222	23 952	24 700
Slovak republic	14 781	15 518	16 400	17 313	18 533	19 411
Austria	26 442	26 740	26 779	28 939	31 052	32 502
Hungary	15 043	16 006	16 060	17 427	19 015	20 663
Poland	16 789	17 709	19 225	19 280	20 268	21 065

Source: own processing according to Eurostat 2024

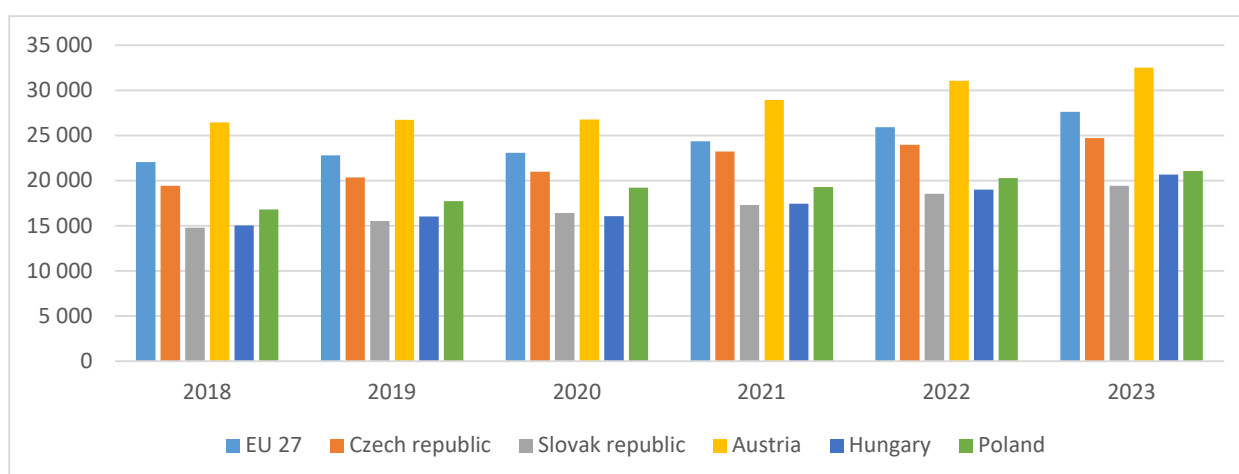


Figure 1: Adjusted gross disposable household income per capita expressed at purchasing power parity (PPS)

Source: own processing according to Eurostat 2024

Adjusted gross disposable household income per capita expressed at purchasing power parity (PPS) for the 2018 to 2022 reference period. shows an increase, according to Eurostat. Data for 2023 for the Slovak Republic could not be obtained. Gross disposable income shows an increase, for the whole period under review, which can be assessed as positive. In 2022, the Slovak household only reached 71.50% of gross disposable income of the European Union household. The Czech household in 2022 reached up to 92.41% of gross disposable income of the EU household. The same trend is shown in the other periods under review. It can be concluded that the household income in the Slovak Republic as well as the burden on the expenditure side is higher in the Slovak Republic than in the Czech Republic. We will look at the issue of expenditures in the following text. Among the analysed countries, Austria achieved the highest gross disposable income, expressed in purchasing power parity, in 2023, which is higher than the EU average. The Czech Republic ranked second, and Poland came third. The worst position is held by the Slovak Republic, which cannot be viewed positively in terms of the quality of life of its citizens.

Table 2: Real gross disposable household income per capita (index = 2008)

Geo/ year	2018	2019	2020	2021	2022	2023
EÚ 27	105,75	107,94	108,03	110,44	110,12	111,05
Czech republic	115,15	119	121,28	127,8	123,87	121,68
Slovak republic	121,02	123,36	124,11	126,89	125,83	123,22
Austria	98,02	97,87	96,77	98,6	99,65	98,48
Hungary	127,49	135,77	135,56	145,35	151,23	154,58
Poland	139,8	146,2	155,56	152,13	150,07	151,93

Source: own processing according to Eurostat 2024

Table 2 shows the changes in real gross disposable household income of the 27 countries of the European Union, the Czech Republic, the Slovak Republic and other country through an index. The table shows the year-on-year changes (increases and decreases) in real disposable income. For calculation of the index, 2008 is used as the base year. The table shows that the 27 countries of the European Union in 2022 recorded a 10.12 % increase in household income compared to 2008. Over the period under review, EU countries showed an average annual growth of 8 %. The countries analysed have significantly improved their position relative to the European 27 average. Real gross disposable household income per capita in the Czech Republic recorded the highest percentage growth in 2021. In that time period, real gross household income increased by 27.80% compared to 2008. The same trend

was observed in 2021 in the Slovak Republic, where income grew by 26.89 % compared to 2008. Between 2018 and 2020, real gross disposable household income per capita (2008 index) in the Slovak Republic grew at a faster rate than in the Czech Republic. The decline in real gross disposable household income per capita in the Czech Republic and the Slovak Republic occurred in 2022 compared to 2021.

One of the economic indicators used to assess the quality of life of the population is the after-tax equivalent disposable household income. **Equivalent disposable income** is the total household income after taxes and other deductions available for spending or saving, divided by the number of household members converted into adults. Equivalent disposable income is calculated by dividing the household disposable income by the equivalent household size. This income is then allocated to each household member. The equivalent scale is used to calculate the equivalent household size. For the calculation of poverty indicators, the so-called modified OECD scale has been used in accordance with Eurostat methodology, where coefficients of 1 are used for the first adult household member, 0.5 for the second and each adult household member, 0.5 for 14 years and older, and 0.3 for each child under 14 years of age. The resulting figure is called the equivalent disposable income and is attributed equally to each household member. The median of the equivalent disposable income is the value of the equivalent disposable income which divides the set by income level into two equal parts according to the number of persons (Statistics 2024).

Table 3: Median equivalent income (net) by age and gender – SILC and ECHP in €

Geo / year	2018	2019	2020	2021	2022	2023
EU 27	16 832	17 325	18 296	18 368	19 083	20 350
Czech republic	9 088	9 995	10 627	10 625	12 146	13 656
Slovak republic	7 462	8 119	8 703	8 473	8 819	9 214
Austria	25 176	25 729	26 555	27 428	27 844	31 443
Hungary	5 424	5 852	6 478	6 619	6 975	7 423
Poland	6 574	7 124	8 022	8 297	8 944	10 048

Source: own processing according to Eurostat 2024

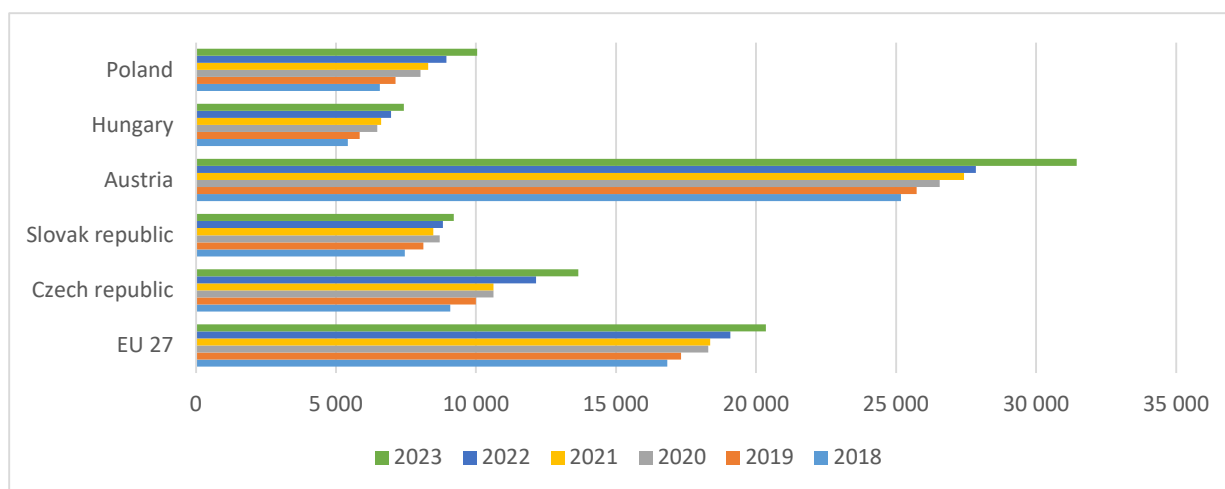


Figure 2: Median equivalent income (net) by age and gender – SILC and ECHP in €

Source: own processing according to Eurostat 2024

The median net income in the EU27 shows an increasing trend over the whole period analysed. In the EU27, the median value of net equivalent income has risen from €16 832 in 2018 to €20 350 in 2023, an increase of €3 518 (20.9%). An analysis of the median equivalent net income in the Czech Republic and the Slovak Republic for 2018 to 2023 shows the same upward trend. In the Czech Republic, the equivalent net income increased from €9 088 to €13 656, an increase of 66.55%. In the Slovak Republic, the median equivalent net income increased from the original €7 462 to €9 214, representing 23.48%. Year-on-year, equivalent net income grew at a higher rate between 2018 and 2020 in both the Czech Republic and the Slovak Republic. Between 2020 and 2021, at the time of the pandemic, there was a decrease in equivalent net income, especially in the Slovak Republic, from €8 703 to €8 473, a decrease of €230 per person. The Czech Republic maintained its equivalent income in 2021 at almost the same level as in 2020. At the time of the COVID-19 pandemic, the EU27 shows a half percentage point increase in equivalent net income in 2021. In 2023, the median equivalent income (net) by age and gender reached its highest value in Austria, amounting to €31,443. Compared to the EU average, this indicator in 2023 is higher by more than €11 100. The worst result was recorded by Hungary at €7 423, with the second-to-last place held by the Slovak Republic. In Slovakia, the median equivalent net income is less than 50 percent of the EU average. Similarly, this indicator cannot be viewed positively in terms of the quality of life of its citizens.

Other problems we have been encountering recently include the problem of not being able to make ends meet. This issue analyses whether the net monthly income of citizens in the countries analysed is large enough to cover all the compulsory payments and payments that a citizen needs to meet their basic monthly expenses. The following table presents the

percentage of citizens who are unable to make ends meet. They are thus unable to ensure a minimum subsistence level and have no savings left to build up.

Table 4: Inability to make ends meet – EU-SILC survey in %

Geo / year	2018	2019	2020	2021	2022	2023
EU 27	7,5	6,5	7,6	7	6,8	6,8
Czech republic	4,5	3,3	3	3,2	3,1	3,7
Slovak republic	8,4	9,4	8,6	9,3	9,7	10,4
Austria	4,5	4,0	3,9	4,0	4,7	5,0
Hungary	12,1	8,6	10,7	9,8	8,1	7,9
Poland	5,3	4,5	3,8	3,3	3,7	3,8

Source: own processing according to Eurostat 2024

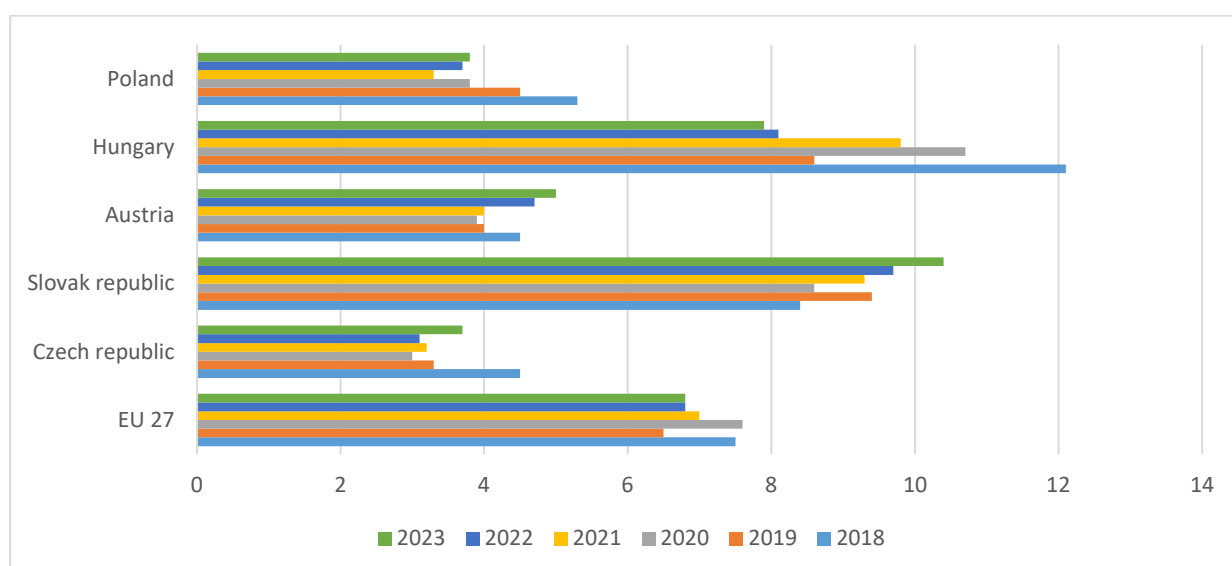


Figure 3: Inability to make ends meet – EU-SILC survey in %

Source: own processing according to Eurostat 2024

Table 4 shows that the EU27 average is 6.8 %. This means that, on average, 7 % of the population is unable to provide adequately for the cost of living, let alone save for a “rainy day”. Statistically, the population of the Czech Republic is below the EU27 average. Since 2018, the Czech Republic has seen a decline in the percentage of the population who cannot make ends meet. The best situation was in 2020 in the pre-pandemic period, where only 3 % of the population did not have sufficient finances for monthly expenses. Compared to the Czech Republic, Slovak citizens have more problems with personal finances. On average, 9 % of the population was unable to make ends meet during the period analysed. Table number

4 shows that in 2023, 10.4 % of the population of the Slovak Republic is unable to make ends meet. The best results, besides the Czech Republic, are achieved by Poland with 3.8 %, and Austria ranks third. All three of these countries have a lower percentage than the EU average. Similarly, the trend of this indicator's development in the Slovak Republic needs to be critically assessed. While all other analysed countries show a decrease in the percentage of people unable to make ends meet during the observed period, only Slovakia has shown an increase since 2018. This fact reflects a decline in the quality of life for citizens in the Slovak Republic. This situation worsened during the pandemic. Critical numbers in the Slovak Republic were recorded in 2023, where one in ten people were unable to meet their needs. The inability to cope with unexpected financial expenditures is linked to this fact. The following Table 5 presents the opinions of the respondents, i.e. citizens regarding this issue.

Table 5: Inability to cope with unexpected financial expenses – EU-SILC survey in %

Geo / year	2018	2019	2020	2021	2022	2023
EU 27	32,2	30,9	32,5	30,2	31,5	31,2
Czech republic	23,7	21,8	19,6	18,1	17,5	19,7
Slovak republic	31,5	30	26,1	27	27	29,3
Austria	20,1	18,5	17,6	18,6	19	22,8
Hungary	33,3	33	35,7	34,8	33,9	31,5
Poland	31,7	29,3	25,7	24,5	27,1	25,7

Source: own processing according to Eurostat 2024

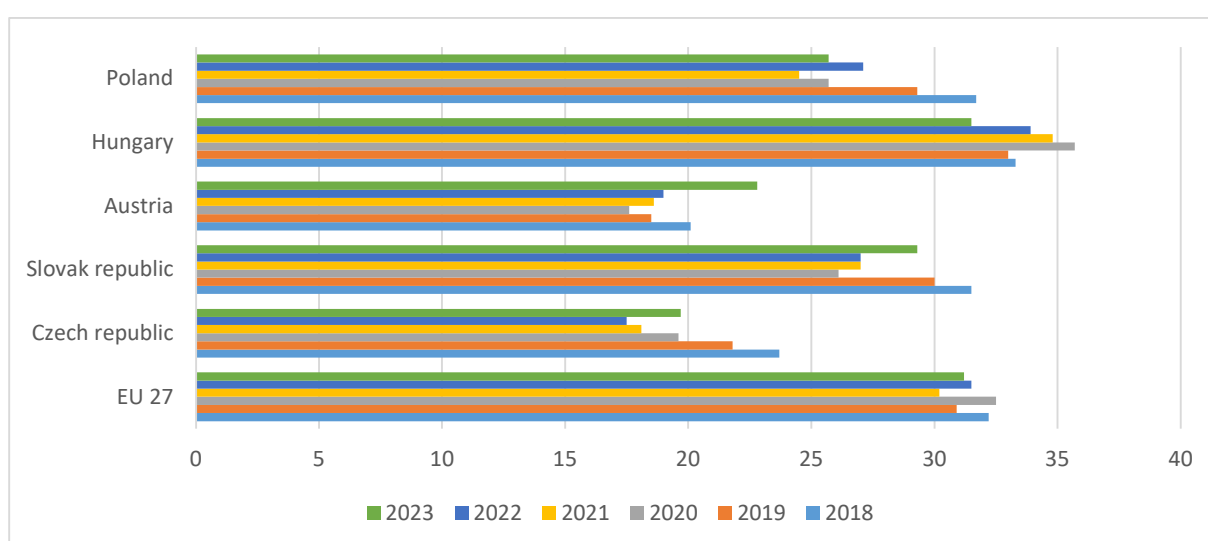


Figure 4: Inability to cope with unexpected financial expenses – EU-SILC survey in %

Source: own processing according to Eurostat 2024

The inability to cope with unexpected financial expenditures is related to, among other things, the low level of savings that a citizen could use in an emergency. The Eurostat survey shows that there is a growing number of citizens in the European area who are unable to cope with unexpected financial expenses. In the EU27, a favourable situation was recorded in 2021, when 30% of the population was unable to cope with unexpected financial expenses. In the case of the Czech Republic and the Slovak Republic, both corresponding figures were below 30 %, lower than in the EU27. Again, in the Czech Republic, the situation is more favourable despite the COVID-19 pandemic and the war in Ukraine. In both countries analysed, the situation was most favourable in 2020. Up to and including 2023, the percentage of citizens unable to cope with unexpected financial situations has been gradually rising. In 2023 in the Czech Republic, less than 20 % of the population is unable to face the problems of paying for emergencies. In the Slovak Republic, this percentage is reaching 30 %.

Conclusion

As previously mentioned, the quality of life of residents can be measured and assessed using a wide range of indices and indicators. For the purposes of this study, we focused on selected economic and social indicators that define the baseline state of quality of life. These selected economic and social indicators were analysed over the period from 2018 to 2023. This six-year period has been characterised by dynamic changes and developments not only in economic but also in non-economic indicators. The economic and social development of society has been influenced by state interventions aimed at mitigating the negative consequences of the global COVID-19 pandemic and the war in Ukraine. The analysis of selected indicators over time was conducted in the context of selected European Union countries.

In conclusion, it must be stated that the quality of life, as measured by selected economic and social indicators, is higher in the Czech Republic than in Slovakia. The Slovak Republic has long lagged behind the EU average and selected member states, as demonstrated by the analysis of key economic indicators. This fact is documented in the preceding tables and graphs included in this study. An undeniable factor that negatively impacted the quality of life was the COVID-19 pandemic from 2020 to 2022. The pandemic significantly affected not only the functioning of the business and non-business sectors but also the economic and social well-being of the population. The consequences of the pandemic have persisted beyond 2022, further exacerbated by the war in Ukraine. These two major global events have significantly influenced the standard of living in the Slovak Republic. Both

the government and the citizens of Slovakia are still grappling with the economic repercussions of the years 2020 to 2022, which continue to be felt today.

The economic trends observed in the analysed indicators suggest that the Slovak government will have to implement unpopular economic measures to stabilise and reduce the state deficit. The government's proposed measures for consolidating public finances, set to take effect from 2025, will increase expenses not only for businesses but also for households. This development will negatively impact the quality of life of the residents of the Slovak Republic.

References

EUROSTAT, 2024. *Households disposable income*. [cit. 2025-02-22]. Available at: <https://ec.europa.eu/eurostat>

EUROSTAT, 2024. Adjusted gross disposable income of households per capita in PPS. [cit. 2025-02-16]. Available at: <https://ec.europa.eu/eurostat>

EUROSTAT, 2018. Survey on household income and living conditions in the Slovak Republic. [cit. 2025-02-20]. Available at: <https://ec.europa.eu/eurostat>

EUROSTAT, 2024. Inability to make ends meet. [cit. 2025-02-22]. Available at: <https://ec.europa.eu/eurostat>

HEŘMANOVA, E. 2012. *Koncepty, teórie a měření kvality života*. Praha: Sociologické nakladatelství. ISBN 978-80-7419-106-0.

HOLKOVÁ, V. 2011. Európske dimenzie spotreby a kvality života. *Ekonomické rozhľady* [online]. Available at: https://euba.sk/www_write/files/SK/ekonomicke-rozhľady/er1_2011_Holkova-9482.pdf.

KOHUTKOVÁ, I., BAUS, P. 2012. Faktory ovplyvňujúce kvalitu života v obciach národného parku Veľká Fatra z pohľadu miestnych obyvateľov. *Acta Environmentalica Universitatis Comenianae* [online], vol. 20, no. 2, pp. 39 – 44. [cit. 2024-07-12]. Available at: https://fns.uniba.sk/fileadmin/prif/actaenvi/ActaEnvi_2012_2/05_Kohutkova_Baus_Acta2012_2.pdf.

MATIS, J. 2002. *Spôsob života a životný štýl*. Liptovský Mikuláš. ISBN 80-968719-8-6.

MURGAŠ, F. 2009. Kvalita života a jej priestorová diferenciácia v okresoch Slovenska. *Geografický časopis* [online]. Ružomberok: Katolícka univerzita v Ružomberku, Pedagogická fakulta. Available at: https://www.sav.sk/journals/uploads/03121108GC-09-2_Murgas.pdf.

OECD, 2024. Social Issues Migration Health. [cit. 2024-08-14]. Available at: https://www.oecd-ilibrary.org/social-issues-migration-health/data/oecd-social-and-welfare-statistics/better-life-index-edition-2019-1_74ade212-eng.

ŠKODA, J. et al. 2008. Hodnocení objektivních parametru kvality života mladších. *Kvalita života II*. Ústí nad Labem: Univerzita J. E. Purkyně, pp. 34-51. ISBN 978-80-7414-045-7.

WHO, 1995. The world health organization quality of life assesment (WHOQOL): Position paper feom the World Health Organization. *Sof'. Sci. Med.* [online], vol. 41, no. 10, pp. 1403-1409 [cit. 2024-09-14]. Available at: <https://www.sciencedirect.com/journal/social-science-and-medicine/vol/41/issue/10>.

Contact address

Assoc. prof. Anna Čepelová, PhD.
<https://orcid.org/0000-0003-2556-645X>
Pavol Jozef Šafárik University in Košice Faculty of Public Administration
Department of Economics and Management of Public Administration
Popradská 66, 040 11 Košice
Email: anna.cepelova@upjs.sk

Mgr. Richard Vejo
Internal doctorand
Pavol Jozef Šafárik University in Košice Faculty of Public Administration
Department of Economics and Management of Public Administration
Popradská 66, 040 11 Košice
Email: richard.vejo@student.upjs.sk

Impacts of electromobility on the environment and society

Marcela Taušová, Katarína Čulková, Iveta Ujháziová

<https://doi.org/10.33542/VSS2025-1-3>

Abstract

The paper deals with electromobility and analyses its impacts on the environment, evaluates the emissions of electric cars in comparison with conventional combustion engine vehicles. It points out current trends and current developments in the electric car market, with the aim of analysing and predicting future developments. The aim of the paper is to clarify the impacts of the extraction of strategic raw materials used in lithium-ion batteries, and to highlight their constantly growing production. The result of the paper is increased awareness of electromobility and its impact on society, where the geographical location of the city or municipality proves to be an important factor. The paper also offers a quality basis for forming an objective and constructive opinion on all the problems and advantages associated with electromobility.

Keywords: *electromobility, emission, emission-free use of vehicles.*

Introduction

In today's fast-paced and hectic times, full of electronic devices without which we can hardly imagine our daily lives, it is important to also think about issues related to the production, sustainability and recycling of these technologies. Electric cars, which have become increasingly popular in recent years and are rapidly breaking into the market, are no exception. In the case of electric cars, people are mostly divided into two camps (Tao and Qin, 2022). The first camp is made up of those who are advocates and supporters of the production and use of electric cars for environmental protection and reducing the carbon footprint. The second camp is made up of people who do not support this "current trend" and are not convinced that electric cars are ecological and environmentally friendly. The first camp focuses exclusively on the "landless" use of electric cars and often neglect the factors associated with the production, processing and recycling of individual components. On the other hand, the second camp focuses mainly on the negative aspects of electric vehicles, such as mining, processing and recycling, and neglects the benefits of electric vehicles in terms of reducing emissions.

The article deals with electric mobility and analyzes its impacts on the environment, evaluates the emissions of electric vehicles compared to conventional combustion engine vehicles, and points out current trends and developments in the electric car market, aiming to analyze and predict future developments. The main method of obtaining results was quantifying the share of hybrid and electric vehicles in global markets and the method of comparing emissions of the studied types of vehicles. We will therefore address these current issues related to electric vehicles through an analysis of international trade in hybrid and electric vehicles, which will provide an up-to-date overview of trends and trade relations in this area. At the end of the paper, we will focus on a comparison of emissions produced during the life cycle of an electric vehicle and a vehicle with an internal combustion engine. The outcome of the work is increased awareness of electric mobility, which provides a basis for forming an objective and constructive opinion on all issues as well as the advantages associated with electric mobility.

1. Theoretical foundations

From a technological perspective, electromobility is advantageous primarily in terms of the efficiency of the electric motor, which reaches up to 90% efficiency, which is significantly higher than the efficiency of the combustion engine. Electric propulsion also allows flexibility in vehicle design, such as the possibility of all-wheel drive without a cardan shaft and the location of the batteries in the floor, which lowers the centre of gravity and improves the stability of the vehicle. Recuperation, the process of recovering energy from braking and deceleration, is another key factor contributing to the efficiency and energy savings during the operation of electric vehicles (Sanguesa et al., 2021).

There are currently several types of electrified vehicles, such as hybrid (HEV), plug-in hybrid (PHEV), pure electric vehicles (BEV) and range-extending electric vehicles (REEV). Each type offers different advantages depending on the required range, charging infrastructure and efficiency of the energy systems. However, the development of pure electric vehicles (BEV) seems to be the most promising, as they have the greatest potential to reduce CO₂ emissions, especially when combined with the decarbonisation of the energy sector, where renewable and nuclear energy sources play a key role (Husain, 2021).

However, the production and operation of electric vehicles also comes at an environmental cost (Hawkins et al., 2012). The largest share of emissions during the life cycle of battery electric vehicles comes from the production of batteries, which require the extraction of raw materials such as lithium, cobalt and nickel, an energy-intensive process with negative environmental impacts. Although battery production causes approximately 40% higher emissions compared to hybrid and internal combustion vehicles, these emissions are

significantly reduced during the operation of electric vehicles, especially if the electricity is generated from renewable sources. Decarbonisation of the energy sector, which includes the wider use of renewable and nuclear energy sources, is therefore essential to further reduce emissions and improve the environmental benefits of electric vehicles.

An important aspect that affects the environmental impact of electric vehicles is the treatment of batteries at the end of their life. Remanufacturing, reuse and recycling of batteries are key processes that can help reduce the need for new raw materials and reduce the environmental impact of producing new batteries. Although recycling technologies still face various challenges, such as battery variability and the energy intensity of recycling processes, improving these processes is essential for the sustainable development of electric vehicles. Remanufacturing batteries extends their life and can reduce the cost of battery replacement, which also reduces the environmental cost of producing new batteries (Koech et al., 2024). Reusing batteries in less demanding applications, such as energy storage in renewable sources, can reduce their environmental impact.

The importance to study subject of the research is underlined by number of studies, such as Pietrzak and Pietrzak (2020), confirming importance of the electromobility increase in cities due to the pollution due to the public transport. This results from the different quality of the power in power system (Chudy and Mazurek, 2019). Later, Pietrzak and Pietrzak (2021) confirmed the problem is solved by increase of renewable energy sources share. Not every country in EU has electricity sources. This depends mainly on the type of energy mix and state support (Adamczyk et al., 2024). Popularization of green vehicles requires strategic management of the state (Kozłowska 2023). Solving of the presented problem could have significant impact also to the employment and economic indicators (Bravo et al., 2024).

2. Analysis of the international business with hybrid and electric vehicles

In this section, we analyse the import of hybrid and electric cars from countries outside the EU, reaching EUR 48 billion in 2023, an increase of 31% compared to 2022. The largest share was made up of electric vehicles (EUR 23 billion), followed by hybrids without connection to the electric grid (EUR 16 billion) and plug-in hybrids (EUR 9 billion).

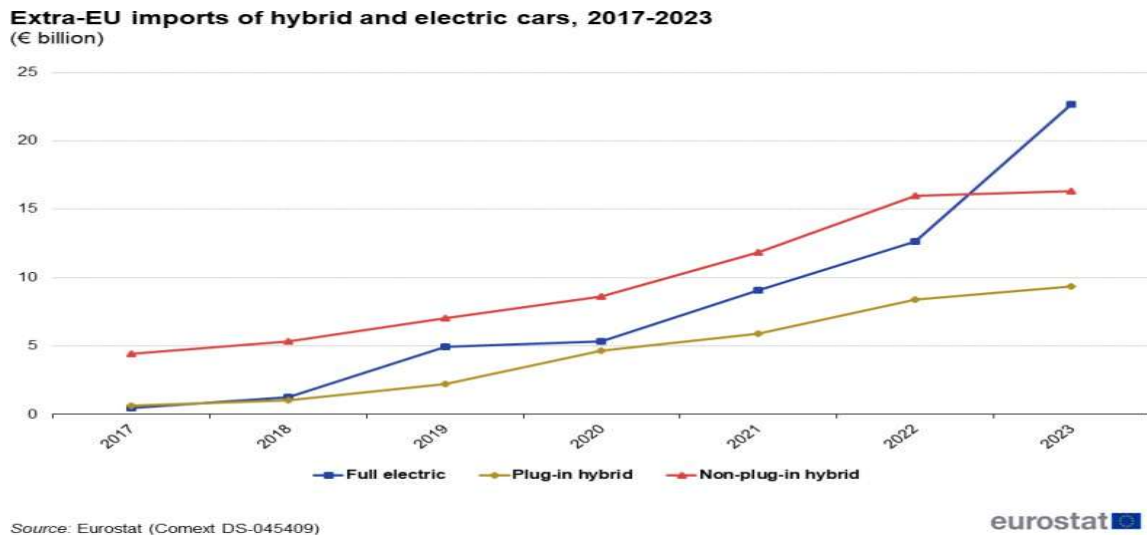


Figure 1: Import of electric and hybrid vehicles outside EU in billion EUR 2017 - 2023

Source: Eurostat, 2025

The graph shows a significant increase in imports of all three vehicle categories, with the most dynamic growth recorded by fully electric vehicles, which reached the highest import volume in 2023, exceeding 20 billion Euros. Fully electric vehicles (blue curve) recorded the most significant growth, especially after 2020. This trend is likely related to increased demand for electric vehicles, strengthening environmental regulations and growing investments in charging station infrastructure. Plug-in hybrid vehicles (yellow curve) grew at a smoother pace, with their imports gradually increasing every year. Although their share in total imports grew, they did not achieve the same dynamics as fully electric vehicles. Non-plug-in hybrid vehicles (red curve) (red line) had the highest import volume of all categories in the period 2017-2021. However, after 2022, their growth stagnated, while imports of fully electric vehicles surged, surpassing hybrids in 2023.

Exports of hybrid and electric vehicles to non-EU countries were even higher at €62 billion (+6% compared to 2022). Exports were also dominated by electric vehicles (€30 billion), non-plug-in hybrids (€23 billion) and plug-in hybrids (€10 billion). [6] Figure 2 shows exports of electric and hybrid vehicles from non-EU countries, in billions of euros, from 2017 to 2023.

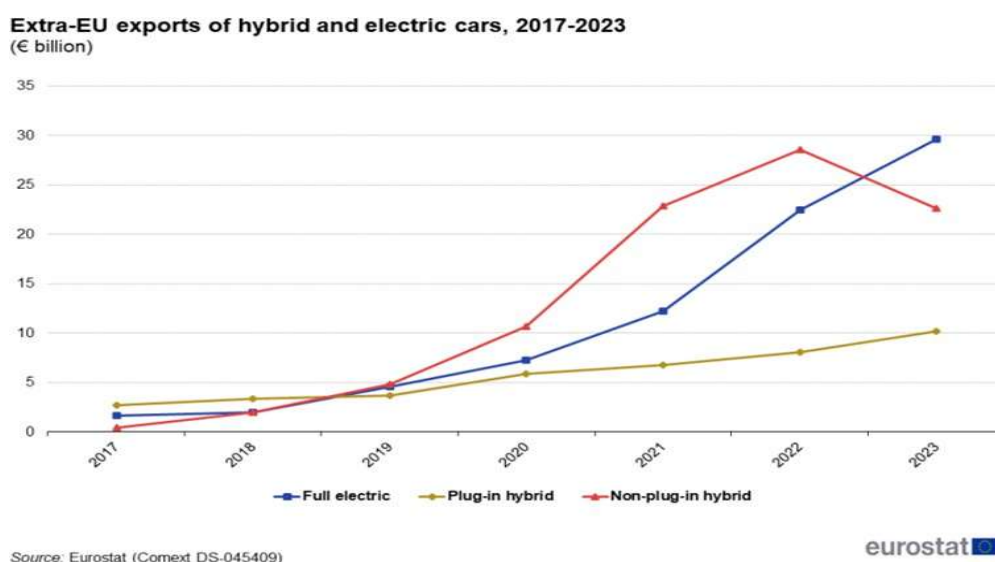


Figure 2: Export of electric and hybrid vehicles outside EU in billion EUR 2017 -2023
Source: Eurostat, 2025

3. Rate of hybrid and electric vehicles on import and export

In 2023, hybrid and electric cars accounted for 44% of total car imports into the EU, up 37 percentage points from 2017. Fully electric cars accounted for 21% of total imports (+20 pps compared to 2017), plug-in hybrids 18% (+12 pps), and non-plug-in hybrids 6% (+5 pps).

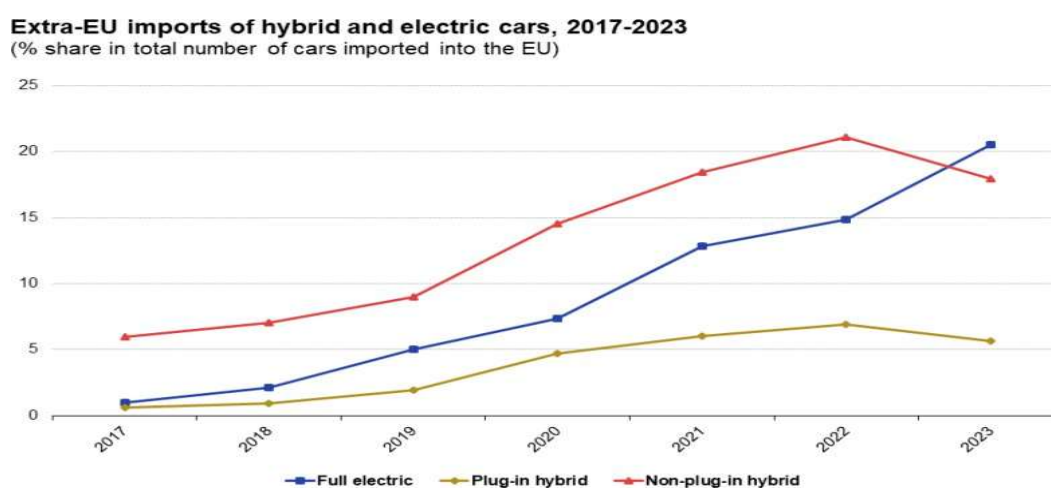


Figure 3: Import of hybrid and electric vehicles outside EU 2017 – 2023 (% rate on total number of imported vehicles to EU)

Source: Eurostat, 2025

Full electric vehicles (blue curve) – Their share of imports has grown significantly since 2017, with accelerated growth since 2020. In 2023, they reached a share of around

20%, almost equalling non-plug-in hybrids. This development reflects the increased demand for electric vehicles, supported by environmental regulations and technological advances. Plug-in hybrid vehicles (yellow curve) – This category grew at a steady pace, but remained the least represented compared to full electric vehicles and non-plug-in hybrids. Growth slowed down since 2022 and even fell slightly in 2023. This may be related to the increased preference for pure electric vehicles over hybrid solutions. Non-plug-in hybrid vehicles (red curve) – Until 2022, they were the most important category within hybrid and electric vehicle imports, with their share reaching over 20% in 2022. However, they recorded a decline in 2023, probably due to a shift in demand towards fully electric vehicles. In exports in 2023, electric and hybrid cars accounted for 27% of the total volume, which is 24 p. p. more than in 2017.

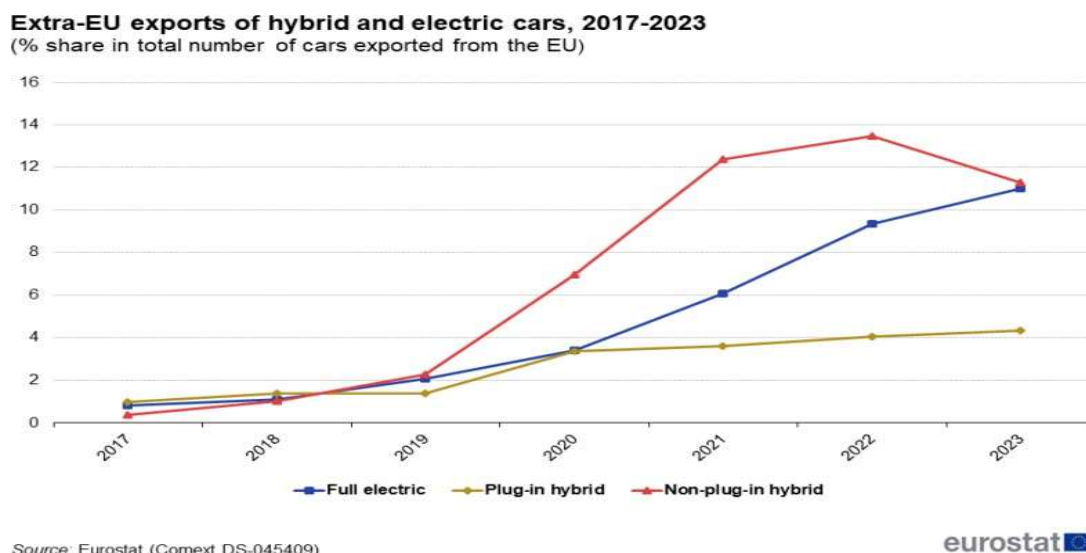


Figure 4: Export of hybrid and electric vehicles outside EU, 2017 – 2023 (% rate on total number of exported vehicles from EU)

Source: Eurostat, 2025

Fully electric vehicles (blue curve) - The share of these vehicles in total exports has increased every year. In 2017, it was only around 0.5%, but by 2023 it had grown to almost 11%. The most significant increase occurred between 2020 and 2023, indicating growing demand for electric vehicles outside the EU. Plug-in hybrid vehicles (yellow curve) - The development in this category has been more stable, without significant fluctuations. They started at around 0.5% in 2017 and reached around 4.5% in 2023. The increase has been smooth, especially since 2019, but has been relatively slow compared to the other two categories. Non-plug-in hybrid vehicles (red curve) - These vehicles have seen the steepest increase. In 2017, they accounted for around 1% of exports, but their share has been rising rapidly – especially between 2019 and 2021, when it rose to more than 12%. They peaked in

2022 (almost 14%), but in 2023 there was a slight decline to a level comparable to fully electric vehicles.

Of all three categories, non-plug-in hybrids have had the fastest and most significant growth. However, fully electric vehicles have shown significant and steady growth in recent years, catching up with the leading position. Plug-in hybrids maintain a less dynamic but steady growth. This development highlights the growing importance of low- and zero-emission technologies within European automotive exports.

4. Comparison of selected vehicles from the view of emissions

Life cycle emissions represent the total amount of greenhouse gases released into the atmosphere over the entire life of a product. This process includes emissions arising from the production, use and subsequent disposal of a given product. To objectively compare emissions, a standardized unit is used - metric tons of carbon dioxide equivalent (tCO₂e), which takes into account different types of greenhouse gases and their potential to contribute to global warming. The following table shows emissions in individual stages of the life cycle of medium-sized battery electric (BEV), hybrid electric (HEV) and internal combustion (ICEV) vehicles, assuming a 16-year period of use and a total distance travelled of 240,000 km.

Table 1: Comparison of BEV, HE, ICEV

Period of living cycle	Battery electric vehicle (BEV)	Hybrid electric vehicle (HEV)	Internal combustion vehicle (ICEV)
Production (tCO₂e)			
Battery production	5	1	0
Vehicle production	9	9	10
Utilization (tCO₂e)			
Fuel/electricity production	26	12	13
Direct exhaust emissions	0	24	32
Maintenance	1	2	2
Liquidation (tCO₂e)			
Processing at the end of living cycle			-1
TOTAL EMISSIONS (tCO₂e)	41	48	55

Source: own processing according to Visual Capitalist (2021)

While it is not surprising that battery electric vehicles have the lowest emissions over their entire life cycle, several other key lessons can be drawn from the data:

1. The production of battery electric vehicles is more emission-intensive compared to hybrid and internal combustion vehicles, with the difference reaching approximately 40%. This is due to the high energy intensity of the extraction and processing of

minerals such as lithium, cobalt and nickel, which are essential for the production of batteries. In addition, the assembly process of electric vehicles itself is quite energy-intensive.

2. The largest share of emissions in the life cycle of BEVs comes from the production of electricity needed to operate them. Therefore, decarbonisation (the process of reducing or completely eliminating emissions of carbon dioxide (CO₂) and other greenhouse gases) of the energy sector, in particular through the wider use of renewable and nuclear energy sources, can significantly contribute to reducing the overall emissions of these vehicles.
3. One of the most important emission reductions is the proper recycling of materials and components at the end of the vehicle's life cycle, which can help offset some of the emissions generated in the earlier stages of their life cycle. However, complete and energy-efficient recycling of batteries is not yet carried out worldwide, as, as we have already mentioned, the design of batteries is very diverse and therefore time- and economically demanding for complete professional recycling. [19]

5. Discussion

Based on the analysis, which points to growing production and increasing interest in fully electric vehicles, it can be assumed that the demand for electric cars will increase significantly in the coming years:

- In the context of current knowledge regarding the extraction of strategic raw materials, especially lithium, cobalt and nickel – essential for the production of lithium-ion batteries, which are a key component of electric vehicles – we consider the most strategically important element of the entire life cycle of an electric vehicle to be the effective and sustainable recycling of batteries. Recycling is the only long-term sustainable way to reduce the environmental burden caused by the primary extraction of these raw materials (Dunn et al., 2021). From an environmental point of view, the extraction and production of electricity are among the largest producers of emissions in the entire life cycle of an electric vehicle.
- From the perspective of reducing the carbon footprint, it is therefore crucial to ensure that electricity production comes mainly from renewable sources (such as solar, wind, hydropower and biomass) and from nuclear power plants. This would at least partially eliminate the need for electricity production from fossil fuels, especially from coal-fired power plants, which have high carbon dioxide emissions.
- Based on the analyzed data and available expert studies, the use of electric vehicles appears to be most effective especially in urban agglomerations with high population density. It is in these areas that the highest level of exhaust gas pollution, which can be

avoided by electric propulsion, can be expected (Zhang et al., 2021). In addition, in cities, there is a higher probability of availability of infrastructure for charging electric vehicles and at the same time there is less need for long ranges, which reduces the demands on battery capacity.

An important factor to consider is the geographical location of the city. Optimal conditions for battery operation are achieved in areas with a moderate and stable climate zone, where the risk of battery degradation due to extremely low or high temperatures is minimized. Temperature has a significant impact on the lifespan, performance and safety of batteries.

Conclusion

Electromobility, as a modern trend in the automotive industry, has undergone a long development from experimental vehicles in the early 20th century to today's practically usable models, which are gradually becoming increasingly popular and efficient. A significant moment in this transformation was the revival and development of electric vehicles in the second half of the 20th century, when these vehicles began to reappear on the market, supported by technological advances in batteries, electric motors and innovations in the field of propulsion and energy recovery. With the growing interest in sustainable mobility and ecological solutions, electromobility has come to the fore as a key alternative to traditional combustion engine vehicles.

Overall, electromobility brings significant environmental and economic benefits, especially in terms of reduced greenhouse gas emissions and operating costs. However, to ensure the sustainable development of electromobility, it is essential to improve battery production processes, implement effective recycling systems and ensure the decarbonization of the energy sector. Cooperation between industry, academic institutions and legislative bodies is key to creating effective and sustainable solutions that will support the further development of electromobility and minimize its environmental impact.

References

- ADAMCZYK, J., DZIKUČ, M., DYLEWSKI, R. 2024. Assessment of selected environmental and economic factors for the development of electro-mobility in Poland. *Transportation* 51, 2199–2223. <https://doi.org/10.1007/s11116-023-10402-3>.
- BRAVO, Y., DUARTE, R., SARASA, C. 2024. Economic and environmental impacts of the shifts to electromobility in Spain: A multiregional input–output framework. *Journal of Industrial Ecology*, 28(6), 1743-1754. <https://doi.org/10.1111/jiec.13565>
- DUNN, J., SLATTERY, M., KENDALL, A., AMBROSE, H., SHEN, S. 2021. Circularity of Lithium-ion battery materials in electric vehicles. *Environmental Science & Technology*, 55(8), pp. 1-12.

EUROSTAT. 2025. *Business and production of hybrid and electric vehicles*. [online]. [cit. 2025-04-10]. Available at: <https://ec.europa.eu/eurostat/statistics-explained/SEPDF/cache/101733.pdf>

HAWKINS, T.R., GAUSEN, O.M. & STROMMAN, A.H. 2012. Environmental impacts of hybrid and electric vehicles—a review. *International Journal of Life Cycle Assess* 17, pp. 997–1014. DOI: 10.1007/s11367-012-0440-9.

HUSAIN, I. 2021. *Electric and hybrid vehicles*. Pub. Location Boca Raton, ImprintCRC Press, 498p. ISBN 9780429490927.

CHUDY, A., MAZUREK, P.A. 2019. Electromobility – the importance of power quality and environmental sustainability. *Journal of Ecological Engineering*, 20(10), 15–23. <https://doi.org/10.12911/22998993/112713>.

KOECH, A.K., MWANDILA, G., MULOLANI, F. 2024. A review of improvements on electric vehicle battery. *Heliyon*, 10(15), pp. e34806.

KOZŁOWSKA, M. 2023. Development of Electromobility in Poland as a Way to Reduce the Negative Impact of Land Transport on the Climate Małgorzata Kozłowska. *Wrocław Review, of Law, Administration & Economics* Vol 13:1, 2023 DOI: 10.2478/wrlae-2023-0004.

PIETRZAK, K., PIETRZAK, O. 2020. Environmental Effects of Electromobility in a Sustainable Urban Public Transport. *Sustainability*, 12(3), 1052; <https://doi.org/10.3390/su12031052>.

PIETRZAK, O, PIETRZAK, K. 2021. The Economic Effects of Electromobility in Sustainable Urban Public Transport. *Energies*, 14(4), 878; <https://doi.org/10.3390/en14040878>.

SANGUESA, J.A., TORRES-SANZ, V., GARRIDO, P., MARTINEZ, J. F., MARQUEZ-BARJIA, J.M. 2021. A Review on Electric Vehicles: Technologies and Challenges. *Smart Cities* 2021, 4(1), pp. 372-404. DOI: 10.3390/smartcities4010022.

SONG, X. GUO, Y., ZHANG, J., LI, X., ZHOU, J., XUE, Z. 2019. Fracturing with Carbon Dioxide: From Microscopic Mechanism to Reservoir Application, *Joule*, 3(8), pp. 1913 – 1926.

TAO, R., QIN, L. 2022. Public perception of electric vehicles on reddit over the past decade. *Communications in Transportation Research*, 2, p. 100070, ISSN 2772-4247. DOI: 10.1016/j.commtr.2022.100070.

VISUAL CAPITALIST. 2021. *Life Cycle Emissions: EVs vs Combustion Engine Vehicles*. [online]. [cit. 2025-04-10]. Available at: <https://www.visualcapitalist.com/life-cycle-emissions-evs-vs-combustion-engine-vehicles/>

ZHANG, R., ZHANG, J., LONG? Y., WU, W., LIU, J., JIANG, Y. 2021. Long-term implications of electric vehicle penetration in urban decarbonization scenarios: An integrated land use–transport–energy model, *Sustainable Cities and Society*, 68, pp. 102800. ISSN 2210-6707. DOI: 10.1016/j.scs.2021.102800.

Contact address

doc. Ing. Marcela Taušová, PhD.
ID ORCID 0000-0002-5544-2872
Technical University of Košice
Faculty of Mining, Ecology, Process Control and Geotechnologies
Letná 9, 040 01 Košice
E-mail: marcela.tausova@tuke.sk

doc. Ing. Katarína Čulková, PhD.
ID ORCID 0000-0001-5884-4036
Technical University of Košice
Faculty of Mining, Ecology, Process Control and Geotechnologies
Letná 9, 040 01 Košice
E-mail: katarina.culkova@tuke.sk

Iveta Ujháziová
Technical University of Košice
Faculty of Mining, Ecology, Process Control and Geotechnologies
Letná 9, 040 01 Košice
E-mail: iveta.ujhaziova@student.tuke.sk

Inflation and Intellectual Capital: What Do We Know?

Natália Slyvkanyč, Jana Budová

<https://doi.org/10.33542/VSS2025-1-4>

Abstract

This paper focuses on a bibliometric examination of the literature addressing the intersection between inflation and intellectual capital — two important yet traditionally distinct areas of research. Amid inflation and the growing importance of intangible assets, the relationship between instability and knowledge-based resources is gaining significance. Intellectual capital plays a key role in enhancing competitiveness, and innovation capacity within firms. However, its connection with inflation is inconsistently addressed in the literature. Using bibliometric analysis of 5,704 records from the Web of Science database (1990–2025), this study maps the development, structure, and thematic clusters of research in this domain. The findings suggest that, in the literature, inflation is often associated with corporate investment in intangible assets. In many studies, intellectual capital is presented as a potential stabilising factor during periods of uncertainty, particularly in sectors reliant on innovation and human expertise.

Keywords: *inflation, intellectual capital, bibliometric analysis, interdisciplinary research, intangible assets.*

Introduction

So far, the connection between inflation and investment in knowledge assets has not been extensively studied in academia. Investment in knowledge assets, which includes intangible fields like software development, brand management, production processes, and employee training, is vital for technological innovation, economic growth, enhanced corporate competitiveness, and overall economic advancement. This applies not only to private firms but also to the public sector, where investments in digital infrastructure, data systems, training of civil servants, and strategic knowledge management are increasingly important for effective governance and service delivery. These investments affect technological development and total factor productivity through various channels, potentially increasing production capabilities or minimising inefficiencies. While intellectual capital – often identified with intangible assets such as research and development, design, brand value, employee training, and business process reorganisation – is widely acknowledged as a crucial factor for sustainable growth,

research specifically examining how inflation impacts investment in these intangible assets remains scarce (Fan et al., 2023).

The study conducted by Fan et al. (2023) utilises panel structural vector autoregression (PSVAR) methodology across a sample of 29 developed economies for the period from 1995 to 2019. It provides empirical evidence pertaining to both the short- and long-term impacts of inflation shocks on investments in intangible assets. The findings indicate a robust and statistically significant association between investments in intangible assets and price volatility, with inflation recognised as a pivotal determinant influencing investment behaviour. Notably, inflation shocks demonstrate a high degree of synchronisation with investment in intangible assets, particularly during periods of economic expansion and contraction. Among the various types of inflation, Food Consumer Price Inflation (FCPIA) shocks exert the most substantial adverse effect on investments in intellectual assets, followed by shocks associated with Core Consumer Price Inflation (CCPIA) and Energy Consumer Price Inflation (ECPIA). Specifically, FCPIA shocks account for approximately 10% of the variability in investments in knowledge assets, in contrast to the influence of CCPIA shocks, which falls within a range of 0.5% to 0.8%. Overall, inflation shocks tend to precipitate a more pronounced decline in investments in knowledge assets in non-Western European nations compared to their Western European counterparts, potentially reflecting disparities in economic development levels. Furthermore, the reduction in investment subsequent to a positive inflation shock appears to be more persistent in economies characterised by higher inflation rates. Conversely, Producer Price Inflation (PPIA) exhibits a comparatively smaller and delayed impact on investment when juxtaposed with Consumer Price Inflation, indicating a more indirect relationship. Nonetheless, the findings regarding core inflation effects remain inconclusive; certain results suggest that a negative shock in CCPI fosters an increase in investments in knowledge assets, while alternative analyses propose that a 1% reduction in inflation corresponds to an approximate 0.5% decrease in investment over a six-year timeframe.

The relationship between intellectual capital and financial distress, as well as corporate profitability, is critically examined, considering inflation as a significant macroeconomic variable. Intellectual capital is recognised as a pivotal source of competitive advantage and enhanced financial performance, frequently defined as the disparity between a company's market value and its book value (Oktarina, 2018). The principal components encompass human capital, structural capital, and relational capital (Xu and Wang, 2018). The effective management of intellectual capital is deemed essential for fostering value creation and advancing business performance (Hendry et al., 2022). Oktarina's (2018) study concentrated on forecasting financial distress within the Indonesian manufacturing sector by analysing financial indicators, macroeconomic variables (including inflation), and the level of intellectual

capital. The results indicated that inflation exerted a detrimental effect on financial distress, with elevated inflation correlating with a diminished likelihood of encountering financial difficulties. This outcome was consistent with certain prior research while contradicting others. The authors elucidated that manufacturing firms engaged in producing everyday consumer goods could more readily transfer increased costs to end consumers during inflationary periods, thus mitigating the risk of financial distress. Furthermore, the same study revealed that although intellectual capital, as gauged by the Value Added Intellectual Coefficient (VAIC), was examined as a potential predictor of financial distress, the hypothesis concerning its influence was not substantiated, which stands in opposition to some earlier findings (Oktarina, 2018).

Furthermore, inflation has been analysed as a potential moderating variable in the relationship between intellectual capital and corporate profitability. One study (Nadiana et al., 2024) examined not only the direct impact of intellectual capital on profitability but also whether inflation moderated this relationship. The findings confirmed that intellectual capital had a positive and statistically significant impact on profitability, consistent with previous empirical research. However, the hypothesis that inflation moderates the influence of intellectual capital (measured by VAIC) on corporate profitability was not supported. The authors suggested that in an environment of unstable and rising inflation, the value created by intellectual capital could diminish, thus negatively affecting profitability and reducing firms' attractiveness to investors (Nadiana et al., 2024).

In a different research context, a study by Hendry et al. (2022) explored the influence of intellectual capital and inflation on stock returns, with corporate profitability analysed as a mediating variable. The findings indicated that neither intellectual capital nor inflation had a direct effect on stock returns. However, intellectual capital was found to have a positive and statistically significant impact on profitability, while inflation showed no significant effect within this model. Moreover, profitability was unable to mediate the relationship between intellectual capital or inflation and stock returns (Hendry et al., 2022).

Beyond empirical studies examining the correlation between intellectual capital and inflation, theoretical explorations have focused on the prospective application of intellectual capital within inflationary frameworks (Ziesemann, 2023). One innovative concept introduced is Intellectual Capital Money (ICM), a novel financial mechanism that enables the creation or acquisition of financial resources through the exchange of intellectual capital. This mechanism aims to facilitate unrestricted access to intellectual resources while promoting their generation and effective utilisation. The author posits that funding via ICM could serve as a precise monetary infusion aimed at bolstering the development of intellectual capital, consequently enhancing economic output from both supply and demand perspectives. In contrast to

conventional non-targeted monetary stimulus, which risks inducing inflationary pressures if production levels do not rise commensurately, an ICM injection, by fostering output growth, has the potential to alleviate or entirely negate pressures on price levels. Theoretical evaluations grounded in the quantity theory of money indicate a non-linear response of the price level to ICM injections, projecting either a modest price increase or sustained price stability, particularly in scenarios where intellectual capital is adeptly generated and preserved. Analogous conclusions emerge from analyses employing IS-LM and AD-AS models, which suggest that an ICM injection is anticipated to shift both the aggregate demand and aggregate supply curves to the right, potentially expediting economic output growth while neutralising inflationary pressures. These scholarly considerations underscore the viability of the ICM mechanism as a strategic instrument for anti-stagflationary monetary policy, capable of facilitating substantial economic growth with minimal or negligible impact on the price level (Zieseemann, 2023).

Overall, although the relationship between intellectual capital (or knowledge assets) and inflation has been examined from various perspectives, the current body of research remains relatively limited and fragmented. The diversity and occasional contradictions in empirical findings underscore the complexity of these interactions. Moreover, the emerging theoretical proposals, such as the concept of Intellectual Capital Money, suggest innovative avenues for further exploration. For public administration, this topic is equally relevant, as governments are not only regulators but also active investors in knowledge assets—through public R&D programs, digital transformation, employee training in civil service, and national innovation strategies. Consequently, a significant research gap persists regarding the specific mechanisms through which inflation impacts investment in intellectual capital and the broader economic implications. Addressing this gap could considerably enhance the understanding of how intangible assets interact with macroeconomic variables in different economic contexts.

1. Methodology

This study employs bibliometric analysis as a fundamental research methodology. The bibliometric analysis within this research domain is guided by the assessment of empirical data from published literature, emphasising key themes (Leung et al., 2017). This method utilises mathematical and statistical techniques for various types of communication (Pritchard, 1969). In our research, we utilise the standardised science mapping workflow established by Aria & Cuccurullo (2017), Cobo et al. (2011), and Zupic & Čater (2015). The standardised workflow includes 5 stages: study design, data collection, data analysis, data visualisation, and interpretation.

This study employs a bibliometric approach to examine and elucidate research trends, patterns, and evolution, as well as to identify potential gaps in the existing literature regarding the relationship between intellectual capital and inflation. The bibliometric approach is grounded in standard bibliometric techniques, including bibliographic coupling, co-authorship, co-citation, and co-word analysis. A description of these standard bibliometric techniques is provided in the following Table 1.

Table 1: Bibliometric techniques

Bibliometric technique		The unit of analysis used	Kind of relation
Bibliographic coupling	Author	Author's oeuvres	Common references among author's oeuvres
	Document	Document	Common references among documents
	Sources	Journal's oeuvres	Common references among the journal's oeuvres
Co-author	Author Country	Author's name Country from affiliation Institution from affiliation	Authors' co-occurrence Countries' co-occurrence
	Institution		Institutions' co-occurrence
Co-citation	Author	Author's reference	Co-cited author
	Document	Reference	Co-cited documents
	Journal	Journal's reference	Co-cited journal
Co-word		Keyword, or term extracted from	Terms' co-occurrence title, abstract or document's body

Source: own proceeding

Based on this study design, we formulate the following research questions:

RQ1: What has been the trend in scientific publications on intellectual capital and inflation in the WoS database over time?

RQ2: Which countries publish the most on this topic, and how do they collaborate?

RQ3: How is the research on intellectual capital and inflation conceptually structured, and which theoretical frameworks prevail in the field?

RQ4: What does the relevance matrix represent in academic research?

RQ5: What is the distribution of authors and sources in academic publications?

Data was collected on 4 March 2025 from the Web of Science database to conduct this study. The Web of Science is a comprehensive database that offers reliable and robust qualitative publications for researchers. Published records were selected based on inclusion criteria such as keywords, document type, language, Web of Science categories, and subject area. All inclusion criteria are detailed in Table 2.

Table 2: Inclusion criteria applied for data collection in the Web of Science

Inclusion criteria	
Keywords	“intellectual capital” AND “inflation” OR “deflation” OR “intangible assets” OR “CPI” OR “HCPI”
Document type	Article
Language	English
Web of Science categories	Economics, Management, Business, Business Finance, Multidisciplinary Sciences, Political Science
Subject area	Business Economics, International Relations, Mathematical Methods in Social Sciences, Government Law, Mathematics, Public Administration
Final sample	5,920 Documents

Source: own proceeding

Duplicate documents were excluded to ensure further use of the sample. Consequently, the final sample utilised for bibliometric analysis comprised 5,704 records from 1990 to 2025 (utilising the final publication year for complete information).

Collected samples were analysed in RStudio using the “bibliometrix” package. This package provides a comprehensive approach to bibliometric analysis from various perspectives: overview, sources, authors, documents, social structure, conceptual structure, or clustering of records.

2. Results

Between 1990 and 2025 (utilising the final year’s publication number), a total of 14,535 authors contributed to 5,704 publications across 1,015 sources. The annual growth rate of publications stands at 14.31%. Key information regarding the collected data is summarised in Table 3.

Table 3: Main information about the collected data

Description	Result
Timespan	1990 – 2025
Sources	1,015
Documents	5,704
Authors	14,535
Available keywords	11,199
Average document age	8
Annual growth rate	14.31%
Average citations per document	27.75

Source: own proceeding

According to year-to-year changes in publication numbers, we can conclude that interest in scientific publishing is increasing. During the COVID-19 crisis, we observed a slight

decrease in publishing; however, from 2020 onward, the number of published articles increased significantly. With inflation growing worldwide, particularly after 2021, companies and policymakers started examining the role of non-physical assets, such as human and structural capital, in enhancing performance and resilience. The COVID-19 pandemic revealed the weaknesses of countries and organisations that disregarded intangible assets, negatively affecting socio-economic growth. In 2020, the global economy faced a significant downturn, resulting in higher unemployment and poverty rates worldwide, although the economic effects varied widely between nations. Countries that focused on tangible assets and traditional economic models were hit hard. Conversely, innovative nations that valued intangible assets and adopted a modern knowledge-based economy successfully weathered this crisis (Ben Hassen, 2022).

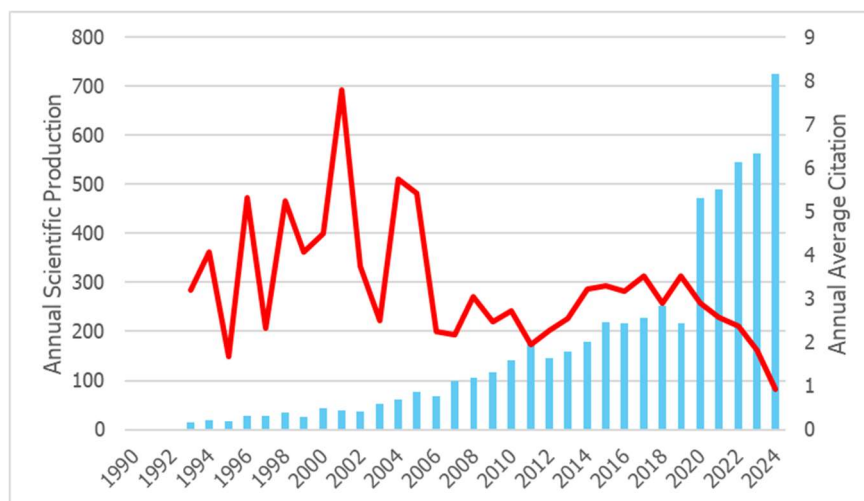


Figure 1: Annual scientific production and citations during the observed period

Source: own proceeding

Figure 2 shows the global distribution of publications on intellectual capital and inflation. The data indicate that the United States leads significantly with 3,605 publications, followed by China, which also has substantial research output. Other notable contributors are India, the United Kingdom, Germany, and Australia, each with moderate to high levels of activity. European countries and parts of Southeast Asia maintain consistent academic interest. In contrast, regions like Central Asia, parts of Africa, and the Middle East exhibit low research activity or lack representation in the dataset. This distribution suggests that research on intellectual capital and inflation is primarily found in economically advanced or rapidly developing nations, highlighting the strategic importance of intangible assets in addressing macroeconomic challenges like inflation.

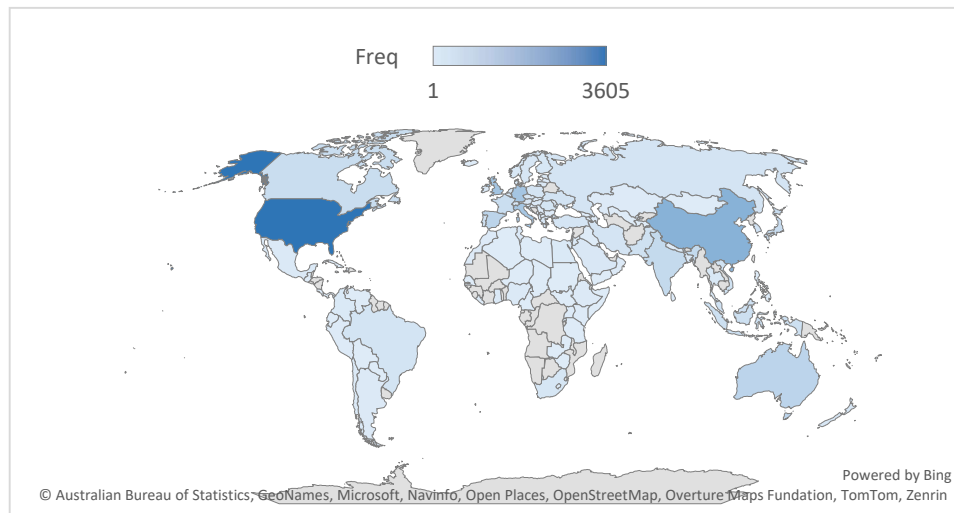


Figure 2: Country scientific production

Source: own proceeding

Additionally, from the perspective of countries, we examine whether authors from the 20 most frequent publishers publish as a single country or multiple countries, illustrating the openness to collaboration among academics. The United States leads the research landscape with the highest number of publications, primarily single-country publications (SCP). Following closely is China, which presents a strong research presence and a balanced distribution of single-country and multi-country publications (MCP), highlighting active international collaboration. Italy, the United Kingdom, and Spain are significant contributors, showcasing a robust involvement in international co-authorship. Other notable nations include Australia, Germany, India, and Japan, reflecting a geographically diverse research community. While most countries show a preference for SCPs, some — like France, Canada, and Malaysia — demonstrate a higher proportion of MCPs, indicating a willingness to engage in cross-border academic cooperation. This trend emphasises the global importance of the topic and the interplay between national research initiatives and international collaboration in enhancing scholarship in this field.

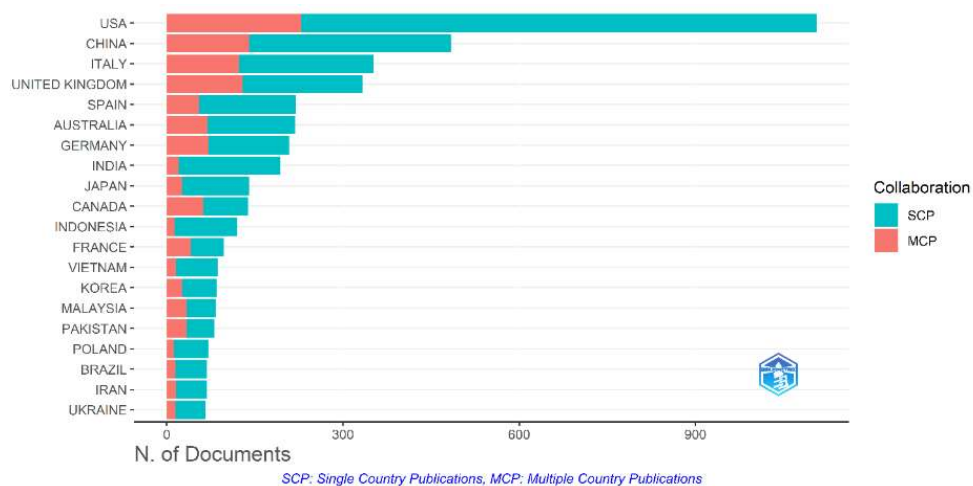


Figure 3: Country collaboration ratio

Source: own proceeding

To enhance understanding of cross-country cooperation, we present Figure 4, which visualises the international collaboration network. This map illustrates a dense web of co-authorship links among countries, with darker lines indicating more frequent collaborations. The United States emerges as a central hub in the global research network, showcasing robust collaborative ties with both developed and developing nations across all continents. Significant transnational links are noted among European countries, particularly the United Kingdom, Italy, and Germany, and various partners in Asia, including China, India, and Malaysia. Moreover, Australia exhibits extensive global connectivity, particularly with Asian and European counterparts.

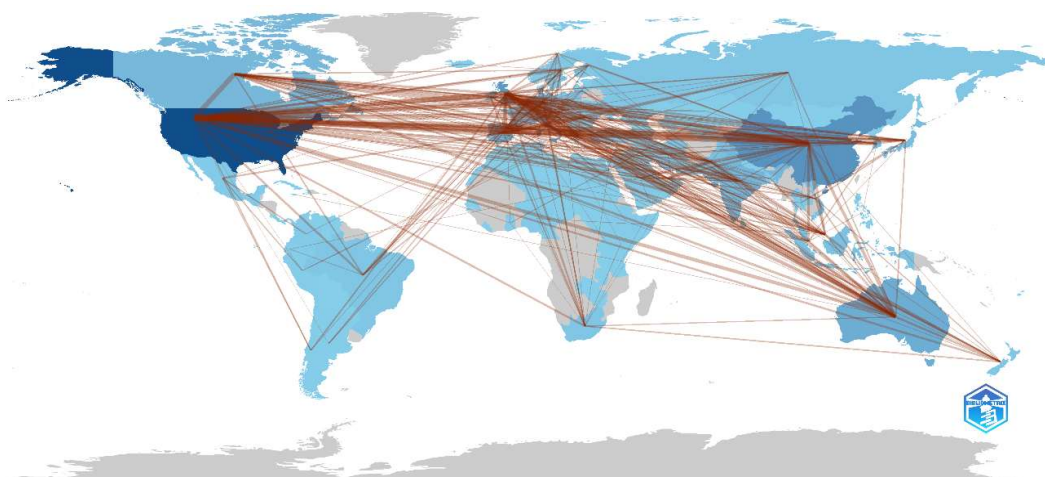


Figure 4: Country collaboration map

Source: own proceeding

Figure 5 presents a Conceptual Structure Map generated through Multiple Correspondence Analysis (MCA), illustrating the intellectual structure of the analysed corpus. This map was generated using factor analysis, a statistical technique used to explore and identify underlying relationships among variables. This method reduces data by grouping related items into distinct factors, simplifying complex datasets for more effective analysis. Numerous sources emphasise that factor analysis proves particularly beneficial in diverse fields such as psychology, marketing, and finance. It aids in uncovering latent constructs that influence observed behaviours and trends. Researchers can identify common factors that drive various outcomes by examining the correlations among variables, enhancing insights and decision-making processes (Radanliev & De Roure, 2021; Valderrama et al., 2022; Vasquez-Torres, 2018). MCA effectively transforms complex bibliometric or textual data into a low-dimensional space while maintaining the relational proximities between terms. In this instance, the two primary dimensions—Dim 1 (46.45% of the variance) and Dim 2 (20.87%)—collectively elucidate a significant portion of the variation in term usage across documents, thus providing a substantial two-dimensional conceptual framework. The analysis of term distribution uncovers multiple research clusters that are thematically distinct yet interrelated. In the top-right quadrant, the predominance of keywords such as "market value," "empirical evidence," "financial performance," "firm performance," "corporate governance," and "disclosure" is noted. This quadrant reflects a body of literature that predominantly addresses corporate finance, governance mechanisms, and their implications for firm-level outcomes, indicating a robust tradition of empirical and performance-oriented research. In the lower-right quadrant, terminologies such as the resource-based view, competitive advantage, capabilities, strategy, and knowledge management are shown to be closely interconnected. These concepts manifest a theoretical framework grounded in strategic management and organisational competencies, highlighting the significance of internal resources and knowledge as determinants of sustainable competitive advantage. The proximity of innovation, technology, and performance management suggests the existence of a subcluster that associates the development of strategic capabilities with performance driven by innovation. The top-left quadrant encompasses terms such as earnings, valuation, value relevance, and returns, which are clustered within the realm of financial accounting and capital market research. These terms underscore the scholarly inquiry into the impact of accounting information on valuation and investor decision-making, frequently rooted in value relevance theory and empirical capital markets research. In the bottom-left quadrant, one finds terms such as monetary policy, inflation, prices, dynamics, tests, and time series. This cluster is characterised by its distinctly macroeconomic and econometric focus, reflecting research that utilises quantitative methodologies to investigate policy effects and economic variables' behaviour over time. The inclusion of models, panel data, and growth variables further underscores the methodological

emphasis of this particular thematic area. In the central area of the map, terms such as investment, risk, market, behaviour, assets, and productivity indicate interconnected concerns that integrate macro- and micro-level analyses. These central terms function as conceptual bridges, linking diverse research domains and demonstrating the multidisciplinary essence of the literature under examination. The convex hull, represented in red, encapsulates all the plotted terms and visually defines the conceptual boundary of the field, thereby highlighting the diversity of themes and the extent of interconnections among them. In summary, the conceptual structure map provides a sophisticated perspective of the intellectual landscape, illustrating the organization of core research topics and integrating theoretical and empirical contributions across various thematic domains.

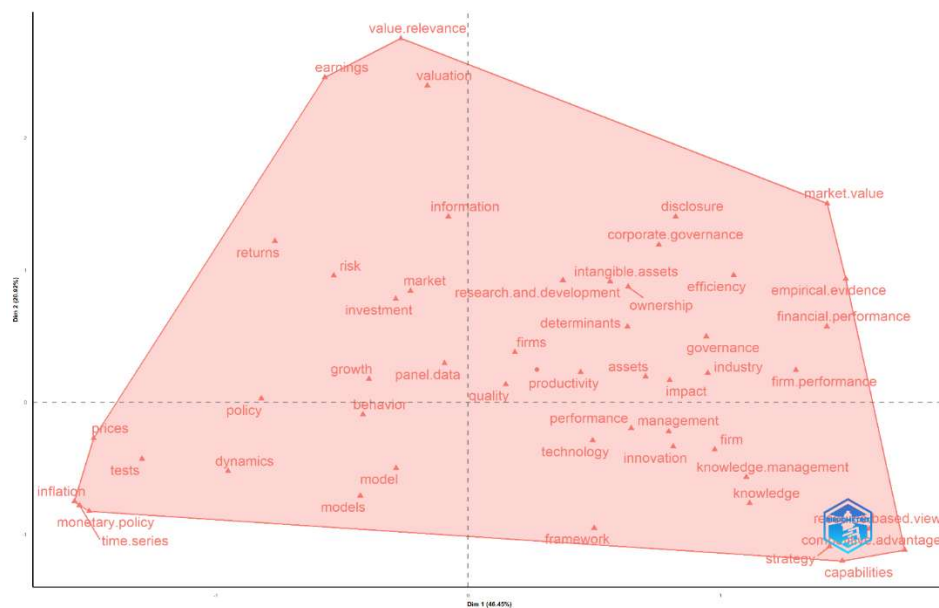


Figure 5: Conceptual structure map - MCA

Source: own proceeding

Figure 6 presents a detailed dendrogram resulting from a hierarchical clustering analysis, which organises keywords within the analysed corpus based on their co-occurrence patterns. This hierarchical algorithm systematically creates nested groupings by progressively merging the most similar clusters. This procedure enables the identification of meaningful thematic groupings at varying levels of granularity. The height of each node in the dendrogram reflects the dissimilarity (or distance) between merged clusters, with lower branches indicating stronger associations among terms. At the base of the dendrogram, individual keywords—highlighted in red—are arranged into smaller subclusters according to their conceptual relationships. As one ascends the tree, these subclusters progressively merge into larger thematic clusters. For instance, terms such as "resource-based view," "capabilities," and "competitive advantage" cluster closely, symbolising a theoretical framework oriented towards

strategic management. Similarly, terms like "corporate governance," "firm performance," and "financial performance" form a cluster that denotes empirical studies in corporate finance and governance. In contrast, on the opposite side of the dendrogram, concepts including "monetary policy," "inflation," and "time series" are grouped together, reflecting a focus on macroeconomic and econometric research. This hierarchical arrangement also underscores the role of certain terms (e.g., "innovation," "technology," "productivity") as thematic connectors, emerging at junctions where various clusters converge, thereby suggesting their importance across multiple disciplines.

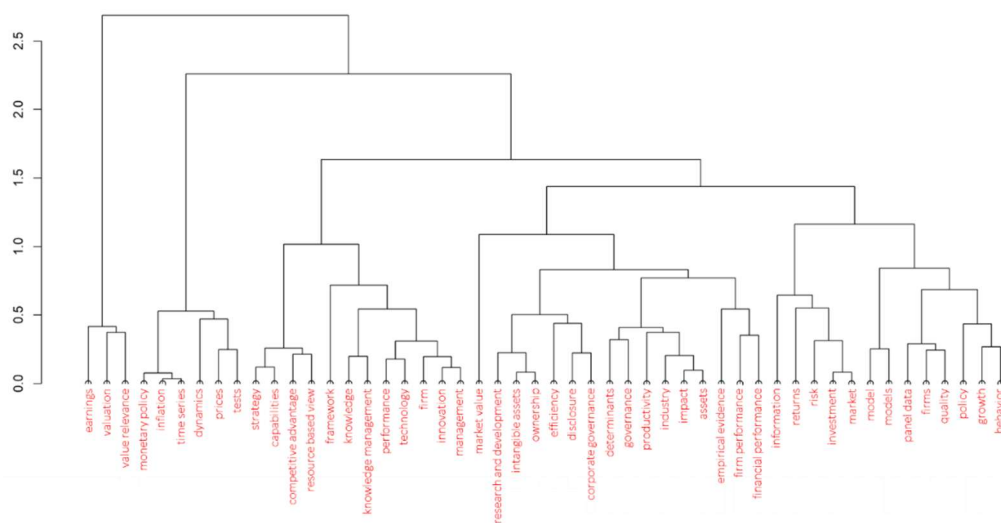


Figure 6: Dendrogram

Source: own proceeding

The keyword co-occurrence network map illustrates the intellectual structure of academic literature at the intersection of intellectual capital and inflation. This visualisation reveals three main thematic clusters, each representing a unique stream of research. The dominant green cluster includes studies that focus on the firm-level implications of intellectual capital, particularly regarding performance, innovation, management, and knowledge creation. This cluster emphasises a strategic management and organisational performance viewpoint, demonstrating how intellectual resources play a critical role in competitive advantage and value creation. In contrast, the red cluster relates to financial economics and comprises keywords such as investment, valuation, earnings, and returns. This suggests a research area that explores how intellectual capital influences financial outcomes and market behaviour, often through empirical modelling and the use of panel data methodologies. Although smaller, the blue cluster addresses the macroeconomic context, characterised by terms like inflation, monetary policy, and prices. This thematic area aims to understand the broader economic environment in which firms operate, specifically the effects of inflationary trends on financial

decision-making and the valuation of intellectual capital. Key bridging concepts such as performance, impact, and information connect these clusters, hinting at a growing interdisciplinary integration of micro- and macro-level analyses. Overall, the map depicts the complex and evolving research landscape linking intellectual capital and inflation, covering key domains of strategic management, finance, and economics.

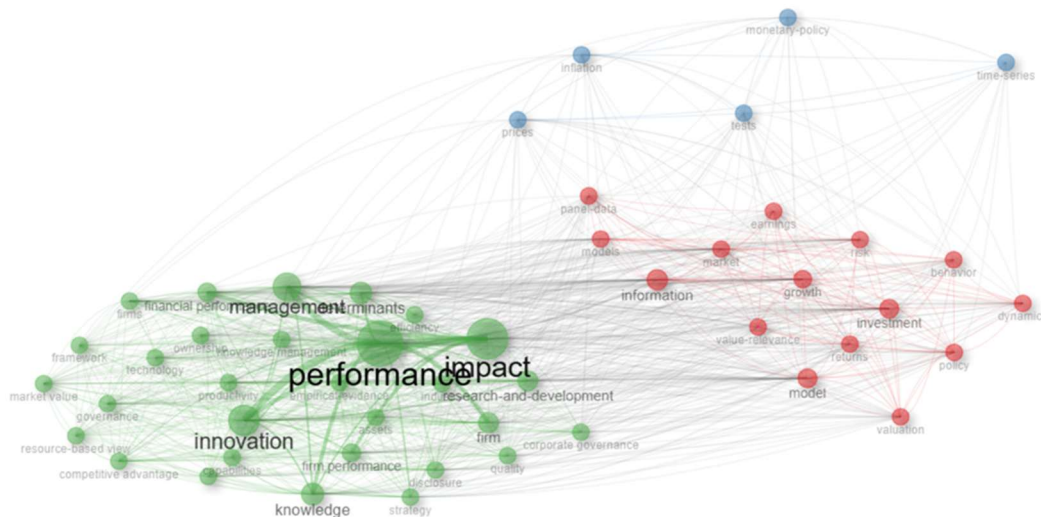


Figure 7: Co-word network

Source: own proceeding

The keywords representing the principal topics are also delineated in the thematic map. This thematic map serves as a comprehensive illustration of the conceptual landscape within the literature on intellectual capital, elucidating the relative development and significance of key research themes. In the upper-right quadrant, we identify what are termed "motor themes," which include intangible assets, research and development (R&D), and productivity, as well as macroeconomic concepts such as inflation, monetary policy, and deflation. These themes are characterised by a high level of development and centrality within the field, indicating their crucial role in shaping the research agenda. Inflation refers to the general increase in the price level of an economy, which erodes the purchasing power of money; monetary policy denotes the set of central bank measures (e.g., interest rates or regulation of the money supply) aimed at ensuring price stability; and deflation represents the opposite of inflation, namely a decline in the price level, which may lead to economic stagnation. Their inclusion among the "motor themes" highlights their key significance in linking economic and intellectual capital. These themes are characterised by a high level of development and centrality within the field, indicating their crucial role in driving the research agenda. They are viewed as key pillars that support and integrate various strands of research, reflecting a mature and interconnected body of work. Conversely, the lower-right quadrant highlights "basic themes," such as intellectual

capital, human capital, and innovation. Although these themes are foundational concepts and are frequently cited throughout the literature, their comparatively low density suggests that there remains substantial room for further theoretical elaboration and methodological innovation. The lower-left quadrant represents "emerging or declining themes," which encompass topics like the consumer price index, exchange rate, and policy. These themes currently occupy a peripheral position within the discourse, indicating they may either represent nascent areas of inquiry with potential for growth or signify areas of waning interest within the literature. Finally, the central-left zone includes what can be classified as "intermediate themes," such as China, economic growth, and COVID-19. These topics are moderately developed and do not yet command the central focus of mainstream academic discourse, suggesting they are in a transitional phase of research relevance. Overall, the thematic structure reveals a field anchored in core constructs while simultaneously evolving to incorporate broader economic and policy dimensions. This dynamic interplay between established and emerging themes underscores the ongoing evolution of intellectual capital research and its responsiveness to changes in the broader socio-economic context.

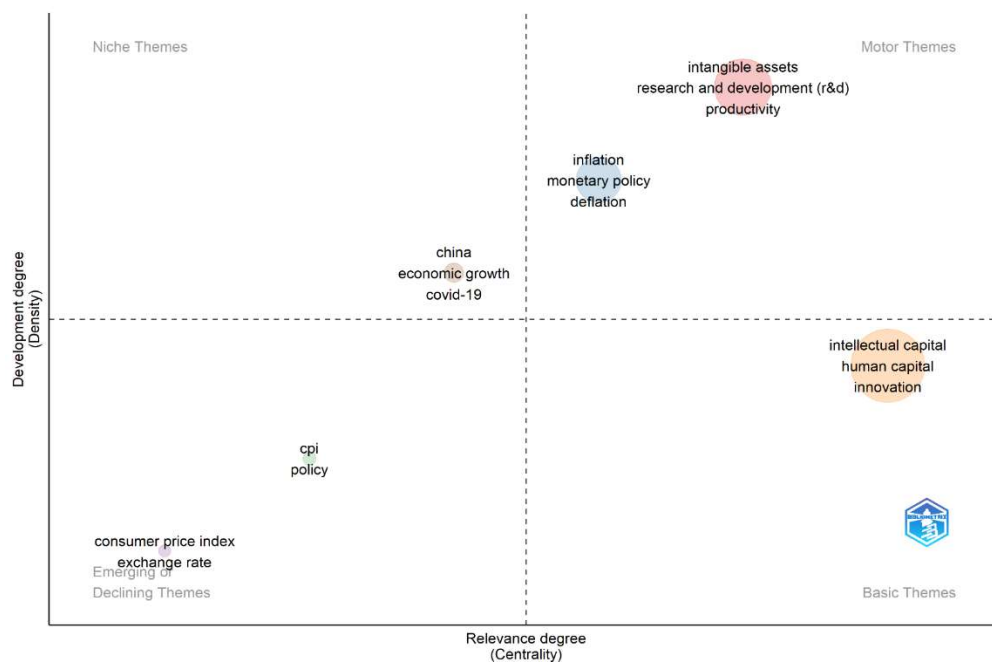


Figure 8: Thematic map

Source: own proceeding

To understand the distribution of publications between authors and sources, we use Lotka's and Bradford's laws. Lotka's law is a fundamental informetrics law for analysing the authors (similar to Bradford's law for sources). Lotka's law, named after Alfred J. Lotka, is a special application of Zipf's law that describes the frequency of publication by authors in any

given field. Let's define X as the number of publications, Y as the number of authors with X publications, and k as a constant that depends on the specific field. Lotka's law states that $Y \propto X^{-(k)}$. Lotka initially claimed that $k = 2$, but subsequent research has shown that k varies depending on the discipline. Alternatively, Lotka's law can be expressed as $Y' \propto X^{-(k-1)}$, where Y' is the number of authors with at least X publications. These two expressions can be proven equivalent by taking the derivative (Qiu et al., 2017).

Figure 9 illustrates the author productivity distribution based on the theoretical framework of Lotka's Law, a cornerstone principle in bibliometrics. Lotka's Law suggests that the count of authors publishing papers is roughly proportional to the number of those who publish just a single paper; in other words, a small number of authors produce a significant number of publications, while a large majority contribute only one piece of work. The figure contains two lines: a solid line indicating the empirical distribution of author productivity derived from the dataset and a dashed line denoting the theoretical distribution as predicted by Lotka's Law. The Figure markedly displays a steep left-skewed distribution, reflecting that over 75% of authors have authored just one publication, aligning with the fundamental concept of Lotka's Law. As the number of authored documents rises, the share of prolific authors diminishes significantly. For example, fewer than 10% of authors have published more than 3 documents, with the proportion continuing to decline with each additional publication. The close correspondence between the solid and dashed lines points to a robust empirical fit to Lotka's theoretical model. This relationship indicates that the publication patterns in the dataset follow a power-law distribution, a typical characteristic across numerous scientific domains. Specifically, a small cohort of highly productive authors contributes a disproportionate share of the overall research output.

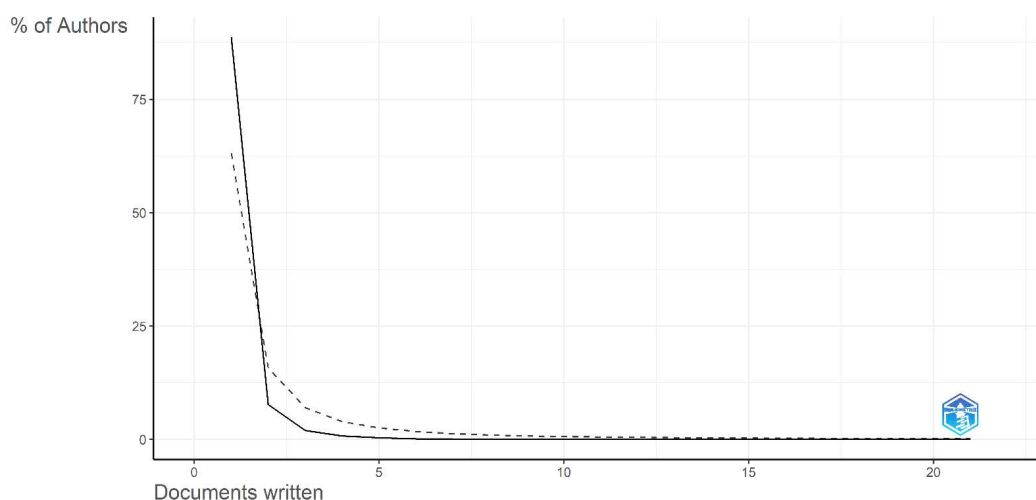


Figure 9: Lotka's Law

Source: own proceeding

The main journal bibliometric analysis tool is Bradford's law (similar to Lotka's law for authors). Bradford's law is a pattern first described by Samuel C. Bradford in 1934 that estimates the exponentially diminishing returns of searching for references in science journals. According to the law, if the number of articles sorts journals in a field into three groups, each with about one-third of all articles, then the number of journals in each group will be proportional: $1:n:n^2$ (Naranan, 1970). In many disciplines, this pattern is called a Pareto distribution.

Figure 10 illustrates the distribution of academic sources according to Bradford's Law of Scattering, a principle frequently employed in bibliometric analysis to determine the most significant journals within a given research field. The figure depicts the number of articles published by each source plotted against the logarithmic rank of the source, effectively highlighting the concentration of academic output among a select group of journals. The curve showcases a pronounced decline from left to right, indicating that a limited number of journals are responsible for a disproportionately high volume of articles. This trend aligns with Bradford's Law, which asserts that scholarly articles in any domain are not uniformly distributed across all journals; rather, a few key journals account for a substantial portion of publications, followed by a larger cohort of journals that contribute progressively fewer articles. The shaded area on the left side of the graph marks the "core sources", representing journals with the highest concentration of relevant literature. These core journals constitute the nucleus of the research domain and are critical for any thorough literature review or bibliometric study. Among the journals frequently found in this core group are the Journal of Intellectual Capital, PLOS ONE, Applied Economics, Scientific Reports, and Economic Modelling. These figures indicate that these journals have published the most articles pertinent to the subject and thus serve as primary venues for scholarly communication in this area. Outside of this core zone, the number of articles per journal decreases significantly, leading to the 'periphery' of the distribution. This area encompasses a diverse array of journals, which, while potentially relevant, are often more specialized and diffuse in their coverage. The curve's long tail indicates that valuable contributions may still be present in non-core sources; however, the probability of encountering high-density thematic content diminishes markedly outside the core region. Applying Bradford's Law in this context fulfils multiple crucial functions. Firstly, it facilitates the identification of the most pertinent journals for researchers aiming to remain updated in their field or undertake systematic reviews. Secondly, it offers strategic guidance for authors in deciding where to submit their manuscripts for publication. Thirdly, it enhances the understanding of knowledge structures and dissemination patterns within the studied domain. The observed distribution affirms the validity of Bradford's Law in this research area, underscoring the idea that scholarly productivity is highly concentrated among a select number of

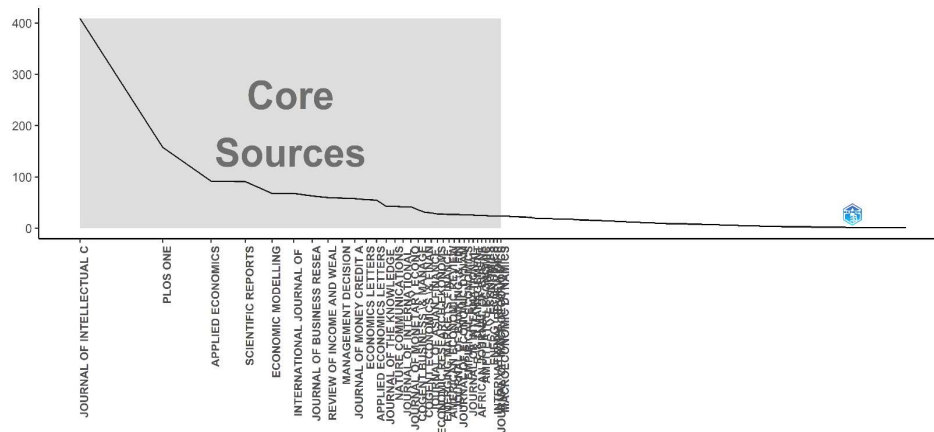


Figure 10: Bradfors's Law

Source: own proceeding

Conclusion

Over the past decade, the topic of inflation has re-emerged as a central focus within economic discourse, underscoring its complexity beyond merely being a price-related issue. Inflation now plays a significant role in influencing not only individual purchasing power but also corporate behavior and strategic decision-making processes across various sectors. Recent analyses presented in a multitude of academic studies, such as those conducted by Evers et al. (2020) and Kassouri (2024), suggest that inflation should be viewed as a multifaceted phenomenon, its impacts reverberating through various aspects of the economy. Its effects reach far beyond traditional monetary policy frameworks, affecting critical areas such as investment flows, the dynamics of the labour market, innovation trajectories, and overall productivity levels within economies. In the current economic landscape, characterised by persistent inflationary pressures, understanding the multifarious effects of inflation is crucial, especially regarding its influence on the allocation of resources towards intangible assets.

This study undertakes a comprehensive bibliometric investigation of the scholarly literature concerning two pivotal economic concepts: inflation and intellectual capital. Using bibliometric analysis as the methodological framework, the research seeks to map and uncover how these two areas are addressed and connected within the academic discourse. While both inflation and intellectual capital have attracted significant scholarly attention individually, their interrelationship remains vastly underexplored within the academic literature. This study offers a comprehensive literature review and the bibliometric connections of these two significant topics. With the help of fulfilling the research question, we provide a detailed bibliometric analysis.

In addressing the first research question, we conducted a thorough examination of the evolving trend in the publication of studies related to the connection between inflation and intellectual capital. Our findings indicate a significant increase in scholarly interest starting around the year 2020, coinciding with the global economic disruptions caused by the COVID-19 pandemic. This period marked a pivotal moment in which numerous firms began to reassess their operational frameworks, further leading to a heightened focus on understanding the implications of inflationary pressures on intellectual capital. Such a surge in research efforts underscores the critical need for organizations to navigate the complexities of economic shifts while leveraging their intangible assets to maintain competitive advantages. During that time, firms with a higher intangibles ratio managed to address macroeconomic problems more effectively than those that were entirely focused on tangible assets.

Reflecting on second research question, we explored which countries are the leaders in research and which cooperation networks and connections they have. The research findings underscore the significant disparity in publication outputs among countries, with the United States leading the way, followed by China and other prominent nations. The emphasis on intellectual capital and inflation research primarily within economically advanced and rapidly developing countries highlights the essential role of intangible assets in navigating macroeconomic issues. Moreover, the analysis of authorship reveals a tendency towards single-country publications, particularly in the United States, while also illustrating a noteworthy level of international collaboration, especially among European and Asian nations. This indicates a growing recognition of the importance of cross-border academic cooperation in enriching scholarship in the field. The international collaboration network further illustrates these dynamics, showcasing the United States as a pivotal hub in global research, facilitating connections that enhance knowledge sharing across various geographical regions. Overall, this study emphasises the vital role of research on intellectual capital and inflation in fostering global scholarly engagement and the collaborative spirit that underpins contemporary academic inquiry.

The factorial analysis and the keywords analysis (also mentioned as key-word network) fulfil the third research question. This study provides a comprehensive analysis of the intellectual structure surrounding the interplay between intellectual capital and inflation. The findings reveal three distinct yet interconnected research streams: the impact of intellectual capital on firm performance and innovation, the relationship between intellectual capital and financial economics — particularly in terms of investment and valuation — and the implications of macroeconomic factors, notably inflation and monetary policy, on financial decision-making. By integrating these themes, the study underscores the significance of intellectual capital as a critical determinant of competitive advantage and performance in varying economic contexts.

This multidimensional approach enhances our understanding of how intellectual capital not only drives firm-level outcomes but also interacts with broader economic dynamics.

Regarding the fourth research question, the thematic landscape of intellectual capital research delineates a nuanced interplay among various topics, revealing a vibrant field that is both solidly grounded in established concepts and responsive to emerging trends. The identification of motor themes highlights the core areas that drive the discourse, such as intangible assets and productivity, which are crucial for advancing the research agenda. Meanwhile, the basic themes, although foundational, indicate opportunities for further exploration and methodological innovation. The emerging or declining themes suggest areas where future research could either thrive or has begun to diminish, reflecting the dynamic nature of academic inquiry. Lastly, intermediate themes signify transitional topics that are gaining traction but have yet to achieve prominence. Collectively, these findings underscore the importance of continuously adapting research efforts to address evolving economic and policy aspects, ensuring that the discourse around intellectual capital remains relevant and impactful in today's rapidly changing environment.

In addressing the last fifth research question, the author and source distributions analyses reveal significant insights into academic publishing dynamics. The findings demonstrate that author productivity follows Lotka's Law, with a small percentage of authors producing the majority of publications. Specifically, over 75% of authors contribute only a single publication, indicating a stark power-law distribution in scholarly output. Conversely, the evaluation of journal contributions through Bradford's Law highlights that a limited number of journals are primarily responsible for the bulk of publications in a given research field. The identification of core journals is crucial for researchers, as these sources represent the nucleus of relevant literature. Overall, these results emphasize the concentration of both authorship and academic output, reinforcing the importance of strategic source selection for enhanced research effectiveness and knowledge dissemination.

By delving into the nexus between intellectual capital and inflation, this investigation presents substantial scholarly significance, alongside notable practical implications for businesses. In an era marked by chronic inflation coupled with rapid technological advancements, it becomes imperative for enterprises to grasp how they can strategically leverage their intangible assets—including knowledge, innovation, and human capital — to maintain competitiveness and enhance resilience in an unstable economic environment. Intellectual capital serves as a vital component in driving enhanced productivity and adaptability within organisations. It acts as a stabilising force amid economic turbulence, allowing firms that effectively cultivate and manage their intellectual resources to thrive. In parallel, inflation influences organisational investment strategies and resource allocation

decisions, thereby shaping the broader economic ecosystem necessary for fostering and developing intellectual capital. Thus, this exploration of the relationship between inflation and intellectual capital is essential from a macroeconomic perspective. It serves as a critical determinant of long-term economic growth and sustainable development, highlighting the need for both policymakers and business leaders to consider these dynamics in their strategic frameworks and operational strategies. Understanding how inflation interacts with intellectual capital unlocks pathways for resilient economic growth in an increasingly complex economic landscape.

Our research presents several notable limitations that warrant acknowledgement in the context of literature analysis. Firstly, the data lag issue poses a significant challenge. In our effort to maintain the most current information, we have chosen not to exclude data from the year 2025. This decision was made to enhance the relevance of our findings. However, while the foundational information is likely to remain stable, fluctuations in the number of publications could impact our conclusions drawn from this dataset. Secondly, there exists a coverage bias due to the inherent limitations of the databases utilised in our study. These databases do not provide uniform coverage across all languages, leading us to primarily emphasise English literature, the predominant language of scientific dissemination. Consequently, the data representing publications in less commonly represented languages may lack reliability, thereby limiting the overall comprehensiveness of our findings. These limitations highlight the necessity for caution when interpreting our results. Researchers should exercise restraint in drawing conclusions about the currency of the data and consider the language bias that is intrinsic to our database selection. In summary, it's crucial to approach our findings with an awareness of these limitations, which may influence the generalizability and applicability of our research outcomes.

References

- ARIA, M., CUCCURULLO, C. 2017. Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), pp. 959–975. DOI: <https://doi.org/10.1016/j.joi.2017.08.007>.
- BEN HASSEN, T. 2022. The GCC Economies in the Wake of COVID-19: Toward Post-Oil Sustainable Knowledge-Based Economies?. *Sustainability*, 14(18), pp. 11251. DOI: <https://doi.org/10.3390/su141811251>.
- COBO, Manuel J., et al. 2011. Science mapping software tools: Review, analysis, and cooperative study among tools. *Journal of the American Society for information Science and Technology*, 62(7), pp. 1382-1402. DOI: <https://doi.org/10.1002/asi.21525>.
- EVERS, M., et al. 2020. Inflation, liquidity and innovation. *European Economic Review*, 128, pp. 103506. DOI: <https://doi.org/10.1016/j.euroecorev.2020.103506>.

FAN, X., et al. 2023. Quantifying the short-and long-run impact of inflation-related price volatility on knowledge asset investment. *Journal of Business Research*, 165, pp. 114048. DOI: <https://doi.org/10.1016/j.jbusres.2023.114048>.

HENDRY, I. Y., KHOLIS, A. 2022. The Effect of Intellectual Capital, Dividend Policy, Tobin's Q, and Inflation on Stock Return with Profitability as Intervening variable on Consumer Goods Companies in Indonesia Stock Exchange. *International Journal of Research and Review*, 9(7), pp. 254 – 267. DOI: <https://doi.org/10.52403/ijrr.20220730>.

KASSOURI, Y. 2024. The labor market impact of inflation uncertainty: evidence from Sub-Saharan Africa. *International Review of Economics & Finance*, 89, pp. 1514-1528. DOI: <https://doi.org/10.1016/j.iref.2023.09.005>.

LEUNG, X. Y., et al. 2017. Bibliometrics of social media research: A co-citation and co-word analysis. *International Journal of Hospitality Management*, 66, pp. 35–45. DOI: <https://doi.org/10.1016/j.ijhm.2017.06.012>.

NADIANA, S., et al. 2024. The Effect of Leverage, Company Size, Intellectual Capital, and Business Risk On Profitability With Inflation As A Moderating Variable in Companies Conducting Merger and Acquisition Listed On The IDX 2017-2021. *Jurnal Magistra Ekonomi Bisnis*, 2(2), pp 58-71.

NARANAN, S. 1970. Bradford's Law of Bibliography of Science: An Interpretation. *Nature*, 227(5258), pp. 631-632. DOI: <https://doi.org/10.1038/227631a0>.

OKTARINA, D. 2018. Prediksi financial distress menggunakan rasio keuangan, sensitivitas makroekonomi, dan intellectual capital. *Ultima Accounting*, 10(1), pp. 16-33.

PRITCHARD, A. 1969. Statistical Bibliography or Bibliometrics?. *Journal of Documentation*, 25, pp. 348–349.

QIU, J., et al. 2017. Author Distribution of Literature Information: Lotka's Law. *Informetrics: Theory, Methods and Applications*, pp. 145–183. DOI: https://doi.org/10.1007/978-981-10-4032-0_6.

RADANLIEV, P., DE ROURE, D. 2021. Epistemological and Bibliometric Analysis of Ethics and Shared Responsibility—Health Policy and IoT Systems. *Sustainability*, 13(15). DOI: <https://doi.org/10.3390/su13158355>.

SLYVKANYČ, N., et al. 2024. Evolution of intellectual capital as an intangible asset in accounting: systematic literature review and bibliometric analysis. *Ad Alta: Journal of Interdisciplinary Research*, 14(2), pp. 108-118. DOI: <https://doi.org/10.33543/1402>.

VALDERRAMA, P., et al. 2022. Introducing a bibliometric index based on factor analysis. *Scientometrics*, 127(1), pp. 509–522. DOI: <https://doi.org/10.1007/s11192-021-04195-4>.

VASQUEZ-TORRES, M. 2018. Factorial analysis of the elements that compose the training in the small and medium enterprises of the Industrial sector. *MANAGEMENT-POLAND*, 22(2). DOI: <https://doi.org/10.2478/manment-2018-0022>.

XU, J., WANG, B. 2018. Intellectual capital, financial performance and companies' sustainable growth: Evidence from the Korean manufacturing industry. *Sustainability*, 10(12), pp. 4651. DOI: <https://doi.org/10.3390/su10124651>.

ZIESEMANN, C, 2023. *Economics of Intellectual Capital (5): Monetary Injection as Anti-Stagflation Measures Free from Inflation*. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4465904

ZUPIC, I., ČATER, T. 2015. Bibliometric Methods in Management and Organization. *Organizational Research Methods*, 18(3), pp. 429–472. DOI: <https://doi.org/10.1177/1094428114562629>.

Contact address

Ing. Natália Slyvkanyč, PhD.
ID ORCID: 0000-0003-2441-6759
Technical University of Košice
Faculty of Economics
Department of Banking and Investment
Němcovej 32, 040 01 Košice
E-mail: natalia.slyvkanych@tuke.sk

Ing. Jana Budová, PhD.
ID ORCID: 0000-0003-2983-7333
Technical University of Košice
Faculty of Economics
Department of Economics
Němcovej 32, 040 01 Košice
E-mail: jana.budova@tuke.sk

Nursing as Part of Care for the Poor in Slovak Villages in the First Half of the 20th Century

Stanislav Konečný

<https://doi.org/10.33542/VSS2025-1-5>

Abstract

Caring (opatrovatel'stvo) and nursing (ošetrovatel'stvo) have evolved in our country as two distinct types of personal services, with a historical relationship that has developed through processes of mutual separation and convergence. The aim is to demonstrate a historically validated method of integrated caring and nursing at a local level. By analyzing valid legal regulations, it is possible to map the real relationship between 1918 and 1938 in present-day Slovakia within the 1st Czechoslovak Republic. In addition to the nursing provided by the public health system nurses, municipalities were obliged to provide care for people experiencing poverty (chudobníctvo) to persons with a domicile right in their municipalities. This care included not only social care but also healthcare, and thus, according to the specific needs of the recipient, social and/or healthcare was provided. Joint nursing and caring, which has already proven its worth in the inter-war period at the municipal level in the context of care for the poor, appears to be the most appropriate approach to the proposed concept of long-term care for older people and other recipients.

Keywords: *caring, nursing, care for the poor*

Introduction

As we will demonstrate in this study, caring (in Slovak: opatrovatel'stvo) and nursing (in Slovak: ošetrovatel'stvo), as basic types of personal social services, began to develop in the second half of the 19th century in a significant interdependence. Already here, however, one can identify a content orientation of nursing towards medical acts and of caring towards assistance for people experiencing poverty. The fact that both of these areas involved the still nascent local (self)government meant that these activities often clashed in practice, most often in that it was people experiencing poverty who were most often in need of public health services as well. This character was maintained in Slovakia for a century. It was only after the Second World War that the situation could change. Still, by the centralised state not paying due attention to services in general (and social services provided individually in particular), the relationship between nursing and nursing was not addressed systemically at this time either.

The change in the organization of the central state bodies in Slovakia on July 1, 1990, created two new ministries: the Ministry of Health of the Slovak Republic and the Ministry of Labour and Social Affairs of the Slovak Republic. The two types of personal services, which these ministries had already been providing under their responsibility, were thus again separated in terms of legislation and organization, often for the same recipients, who were most often older people, especially insofar as they received these services in their own homes.

Separating these services has caused several problems and complications in practice from the outset. This was most pronounced in long-term residential service provision facilities for older people (Szüdi, Kováčová, Konečný, 2016). For more than three decades, several attempts have been made to overcome this division, while also learning from past developments. In our study, we aim to highlight one period in the development of nursing that was closely tied to caring at the time, specifically during the 1st Czechoslovak Republic, when municipalities in Slovakia performed specific tasks.

At the same time, we aim to set the record straight on some established, traditional, and somewhat inaccurate information regarding nursing and caregiving in our country during this period. These are three types of statements:

The first type is based on the statement that nursing and caring in the interwar period in Slovakia was carried out only on a charitable and voluntary basis - and the role of municipalities is not mentioned at all: „Until the 1940s and 1950s, care for elderly people dependent on the help of another person for every day and instrumental activities was provided in former Czechoslovakia on a charitable and voluntary basis, based on the traditions of Christianity proclaiming love for one's neighbor and the obligation to help each other. Within the framework of this principle, shelters and later institutions for the poor and abandoned were established“ (Bednárík, Brichtová, Repková, 2011, pp. 13-14).

The second type of statement states that nursing and caring were carried out (only) by the Red Cross: „The history of home nursing care in Slovakia begins to be written after 1919 with the establishment of the Czechoslovak Red Cross. Under its auspices, nursing and caring in families started to develop in 1920. The service was mainly provided to the elderly, the invalids, and the bedridden sick. This service provision method persisted until the 1950s“ (Tirpáková, 2022, p. 261).

The third type of claim asserts that a division between nursing and caring already existed during this period: „After the establishment of the First Republic, new facilities for the elderly began to emerge. In addition to state care, voluntary organizations and the church provided care for the elderly. Thus, care was divided into health and social care“ (Matišáková, Libová, Gerlichová, 2018, p. 59).

Our study aims to demonstrate that caring and nursing were carried out together in Slovakia during the interwar period within the framework of tasks legally obligatory for municipalities.

And although in the title of our study we have retained only the first half of the 20th century, to which the central analytical part of the study is devoted, especially in the final evaluative part, we have gone beyond this time horizon to put the results of the analysis in the context of more recent practice.

1. Material and methods

The basic material for our study was the legislation that has regulated the field of health and social affairs in different periods. The terminology used to describe the various phenomena regulated by law often changes in response to legislative updates.

It was not just legal terms. From the end of the 18th century until the early years after the Second World War, health and social policy underwent significant changes throughout Europe and, understandably, in this country. In our country, this development was complicated by the state-law system. One of the first laws of the new Czechoslovakia, Act No. 11/1918 Coll., is often referred to as the reciprocity norm. Article 2 of this law ensured the continuity of the legal order by temporarily preserving all existing laws and regulations from the Austro-Hungarian Empire, thereby avoiding legal chaos and ensuring a smooth transition to the new state structure. However, this meant that in the new Czechoslovakia, a so-called legal dualism existed, with different rules applying in Bohemia and Moravia than in Slovakia, even for the same area of law (Konečný-Halász, 2024).

Objective economic, social, and cultural differences between the two parts of the republic, which were only gradually being overcome, also hindered the unification of the legal system. Consequently, our analysis has often relied on secondary sources, interpretive literature, and largely incomplete statistical data.

Generally speaking, the analysed legislation, in force in our country from the second half of the 19th century throughout the following century, reflected the contemporary characteristics of the understanding of both public administration (the still nascent separation of local government from state administration) and the system of social protection (similarly, the still nascent separation of social issues from public health issues). The choice of relevant legislation had to correspond to this, as did the framework of the interpretative literature used.

2. Results

The 1st Czechoslovak Republic was a state with a well-developed social protection system. Among other things, Act No 2/1918 Coll. established the Ministry of Social Welfare. There was also a Ministry of Public Health and Physical Education, established by the same law, whose remit included health care: for example, the Ministry set up three state hospitals in Slovakia and also professionally managed some three dozen county, town, and other hospitals (for example, it also set fees for treatment). Its main tasks included fighting epidemics, tuberculosis, malnutrition, diseases, etc., mainly through a network of district and municipal (city) doctors (Rubisová, 2020). It also included health stations, primarily responsible for health education and health care (Kafková, 1992).

Outside of the successfully developed system of social insurance based on public law, as well as a wide range of social policy activities by the state with a well-established system of instruments to combat unemployment, housing, youth care, public healthcare, etc., there was still a significant area of care for the poor, for which the term „chudobníctvo“ (meaning care for people in misery) was coined, which was entrusted to the municipalities. However, the municipalities fell under the jurisdiction of the Ministry of the Interior, and thus, the care of the poor by the municipalities also fell under this jurisdiction. Despite the complexity of the social protection system, it was pretty functional.

Poverty was considered part of social policy. „By analogy with the treatment of disease, social policy must first deal with the treatment of the actual causes of poverty, that is, preventively, by removing the conditions which produce the plight of poverty, and only then palliatively, by treating the individual acute symptoms. From this perspective, securing a higher level of education, health, and employment opportunities, among other things, falls within the general tasks of social policy. At the same time, the cure of acute cases is the task of poverty“ (Rosenauer, 1935, pp. 4-5).

In Bohemia, Moravia, and Silesia, the legislation of the Austrian part of the monarchy was reciprocated by the Act XLIII/1863 (Zákon ze dne třináctého prosince 1863, jímž se pořádají záležitosti domovské), which comprehensively addressed the issue of home law in the second and third parts, and devoted the entire fourth part to the „obligation of the municipality to provide for people experiencing poverty.“ Subsequently, a special poor law entered into force in the Austrian part of the monarchy in 1868, making the legislation in the subject area more transparent in the Czech part of 1st Czechoslovakia than in Slovakia, where the Hungarian statutory article governed home law (No. CCXXII/1896) (Munka, 1926; Koržinský, 1932). CCXXII/1896 (Munka, 1926; Koržinský, 1932).

In Slovakia, the original Hungarian legislation remained in force for this area, reciprocated by Act No. 11/1918 Coll. z. a n. It was primarily the Hungarian statutory article

XXII/1886, which in § 21, letter g) explicitly and exhaustively listed poverty among the tasks of the municipalities. Although § 20 of Act No. 76/1919 Coll. stated that the higher-level local government (at that time, the county government) or the state administration would take over several branches of activity previously administered by the municipalities, including poor administration and charitable institutions, this did not occur until the end of the existence of the 1st Czechoslovakia.

Hungarian Statutory Article XXII/1886 did not define the concept of poverty or care for the poor. In the literature from the period of the 1st Czechoslovak Republic, even the idea of poverty was linked only to the entitlement to poor relief or care for the poor: „In general, a person is considered to be poor, entitled to public support, who is not in a position to provide for himself or his family even the most necessary (primary) means of subsistence out of labor income or other pensions, even when claiming other entitlements“ (Rosenauer, 1935. p. 5).

Poverty in the Hungarian legislative system was part of the system of so-called public support, which also included the expenses of public healthcare, as regulated by Hungarian Law Article No. XXI/1898. This scope is interpreted in today's terminology as „social and social-health care“ (Dudeková, 2013, p. 204). In § 8, under a) and b), some obligations of home municipalities in treating the sick were listed. In addition to these provisions, the Hungarian Minister of the Interior issued Statute (general binding regulation) No. 51000-1899 B.M. on the manner of providing public support by municipalities, and in it, on poverty as a duty of municipalities.

Finally, relevant information is also provided by the Statute of the Hungarian Minister of the Interior No. 1422-1889 B.M. on poor administration, which states in point 2 that „support or public provision is to be granted in that case when total indigence, permanent or temporary work and earning capacity, and the unavoidable support of public support are unconditionally proven credibly. In the case of child custody, abandonment by the parents or at least the fact that the parents are unable to care for the child shall be proved.“

O. Rosenauer (1935, pp. 30–32), by analyzing the above and some other related Hungarian sub-legislative norms, including the case law of the Hungarian and Czechoslovak Supreme Courts, arrived at the definition that „poor in the sense of care for the poor“ is

1. the able-bodied who is unable to support himself and his family without public support (which follows from § 145 of Law Art. XXII/1886),
2. those incapable of work who are (according to other regulations)
 - (a) found as well as officially declared abandoned children over the age of 7 years,
 - (b) the sick who are not in a hospital or other inpatient medical care,

system patients who are not diagnosed for treatment in a hospital or other medical institution, or who have been discharged from such institutions as incurable,

(d) those who are not dangerous to the public, the insane, the mentally defective (cretins, morons), the deaf and dumb, the blind, and the physically handicapped (cripples).

These persons were obliged by their home municipality to provide public support, as they could not claim it from anyone else.

Meanwhile, the core of our interest became § 8 of the Hungarian Law XXI/1898, which obliged the municipalities to cover the costs of nursing and related transport (but also medicines, disinfection for infectious diseases, etc.) if the insurance company 75ktiv employer was not obliged to cover them and the citizen or his relatives were not able to pay for them. However, it also obliged the municipalities to system care of the treatment of such poor in hospitals and, what is interesting from our point of view, to system care of, and in this, the treatment of the incurably ill poor, the poor after their discharge from hospitals and other medical institutions, etc.

In these cases, the competent municipality was always the so-called home municipality, as designated under Law XXII/1886, and carried out these tasks as part of its care for the poor. This meant that it was assessed whether they were indeed municipality members. If they were, the resources designated for pauper care (the so-called funds for the poor) could also be used for their treatment (Konečný, Szüdi, Szüdi, 2016, pp. 30-32).

Care for the poor was provided almost exclusively in the homes of these persons. In 1921, there were 185 villages and towns in Slovakia with poorhouses, old-age homes, and sick homes (Dudeková, 2003, pp. 21-26). However, these usually had a capacity of only a few places, and only in large towns did they reach a capacity of two or three dozen places.

In addition, immediately after 1921, so-called health stations with visiting services, staffed by trained or even diploma-trained nurses, began to operate in our country under the Ministry of Health. In addition to health education, their tasks included providing medicines. The Czechoslovak Red Cross played a significant role in its activities (Kafková, 1992). However, even their activities cannot be considered care without social aspects, as public health care always has some caring aspects (Konečný, 2004).

Conclusion

In general, we can conclude that nursing in the interwar period in Czechoslovakia, and to some extent also in Slovakia, 75ktiv75 primarily as a specialized service within the public health system. Nursing services were provided by religious and civilian nurses, primarily in

hospitals but also in the field, where their activities were supplemented by the visiting service of Red Cross nurses working in health stations.

At the same time, however, within the framework of care for people experiencing poverty that constituted public support and was based on home affiliation, municipalities provided nursing and caring to their inhabitants as an activity characterized by a holistic approach to the person to whom these services were provided. Acts that could be described as predominantly caring or predominantly nursing were not separated from each other in the performance of this care, but were provided according to the circumstances of the case and the needs of the person to whom the pauper care was provided.

In 1948, a political upheaval profoundly altered the entire public administration system. Establishing national committees as local government bodies (by Constitutional Act No 150/1948 Coll.) created the conditions for the abolition of self-government, and therefore, the abolition of the home law by Act No 174/1948 Coll. Was also introduced. As early as 15 April 1948, Act No. 99/1948 Coll. On national insurance was passed, which nationalized the pluralist social and health insurance system.

The total etatization of all spheres of life went hand in hand with strong centralization. All Czechoslovak and Slovak governments since 1945 had divided the ministries of health and social affairs. For the first time, a joint ministry of health and social affairs was created in the Slovak Republic's government on 21 April 1988. As mentioned in the introduction, this joint ministry was only in place until June 30, 1990, i.e., for only 556 days, which appears to be insufficient to reconnect the nursing and caring concepts.

Even in the last relevant pre-revolutionary Act, No. 100/1988 Coll., on social security, caring was one of the instruments. This social care service could also be provided in the home. The district national committee was the competent authority, which, following the delimitation of the nursing service to municipalities by Act No. 416/2001 Coll. On the transfer of specific competencies from state administration bodies to municipalities and higher territorial units, made the performance of caring and nursing even more remote. While the municipalities have been given nursing services within their original scope of competence, they have had little to no impact on providing nursing services. Although Act No. 448/2008 Coll. On Social Services allowed for the provision of nursing services in social service facilities (i.e., not within field services), it was not until the systemic solution of so-called long-term care that real steps towards reconnection were taken.

One of the fundamental elements of the long-term care concept is the integration of nursing and caring services with the recipient, with payment for these services made directly to the individual with long-term care needs (Stratégia, 2021). The basic idea of providing

integrated services tailored to the individual recipient's needs makes this remote, yet reminiscent of the concept from the inter-war period.

References

BEDNÁRIK, R., BRICHTOVÁ, L., REPKOVÁ, K. 2011. Národná správa o riadení a financovaní dlhodobej starostlivosti. In: Repková, K. a kol.: *Dlhodobá starostlivosť o starších ľudí na Slovensku a v Európe (3) Správa, riadenie a financovanie*. Bratislava : Inštitút pre výskum práce a rodiny, pp. 9-50. ISBN: 978-80-7138-133-4. [cit. 2025-01-22]. Available at: <https://www.ceit.sk/IVPR/images/IVPR/Interlinks/DS3.pdf>

DUDEKOVÁ, G. 2003. Od milosrdenstva k štátnej opatere. In: *História - Revue o dejinách spoločnosti* 3(4) pp. 21 - 26. ISSN 1335-8316.

DUDEKOVÁ, G. 2013. Právo alebo milosrdenstvo? Domovská príslušnosť ako základný princíp sociálnej starostlivosti v Uhorsku. In Kováč, D. a kol.: *Sondy do slovenských dejín v dlhom 19. storočí*. Bratislava : Historický ústav SAV, pp. 196 - 213. ISBN 978-80-971540-1-1 [cit. 2025-01-22]. Available at: <https://www.history.sav.sk/eknihy/Dusan-Kovac-a-kol-Sondy-do-slovenskych-dejin-v-dlhom-19-storoci.pdf>

KAFKOVÁ, V. 1992. *Z historie ošetrovatelství*. Brno : Institut pro další vzdělávání pracovníků v zdravotnictví, 185 p. ISBN 80-7013-123-3. [cit. 2025-01-22]. Available at: <https://www.digitalniknihovna.cz/mzk/view/uuid:1c0ac970-2e5c-11eb-bd18-005056827e51?page=uuid:2d467f7b-5331-43b7-b369-b11c85fdaf0e>

KONEČNÝ, S. 2004. Choroba ako sociálna udalosť - vymedzenie pojmu. In: *Vzdelávanie, výskum a prax verejného zdravotníctva v SR*. Košice : SAVEZ, 2004, pp. 186 - 188. ISBN 80.969224-1-6. [cit. 2025-01-22]. Available at: <https://zenodo.org/records/15688170>

KONEČNÝ, S., SZÜDI, J., SZÜDI, G. 2016. Sociálne služby v pôsobnosti obcí - inštitucionálny vývoj na Slovensku. Praha : Wolters Kluwer, 104 p. ISBN 978-80-7552-596-3.

KONEČNÝ, S., HALÁSZ, I. 2024. Dejiny verejnej správy. Košice: ŠafárikPress, 167 p. ISBN 978-80-574-0377-7. [cit. 2025-01-22]. Available at: <https://unibook.upjs.sk/img/cms/2024/fvs/dejiny-verejnej-spravy.pdf>

KORŽINSKÝ, K. 1932. Domovské právo dľa zákona zo dňa 5. Dec. 1896, čís.: 222 r. z. VI. nákl., Bratislava, 52 p.

MATIŠÁKOVÁ, I., LIBOVÁ, L., GERLICOVÁ, K. 2018. História vývoja geriatrickej a geriatrického ošetrovatelstva. *Zdravotnícke listy* 6(1) pp. 56 - 60. ISSN 1339-3022. [cit. 2025-01-22]. Available at: https://zl.tnuni.sk/fileadmin/Archiv/2018/2018-6.c.1/ZL_2018_6_1_09_Matisakova.pdf

MUNKA, J. 1926. Domovské právo a štátne občianstvo platné na Slovensku a v Podkarpatskej Rusi. VI. nákl., [Košice], 92 p.

ROSENAUER, O. 1935. O chudobníctve. VI. nákl., b. m., 103 p.

RUBISOVÁ, I. 2020. Riešenia epidemiologických hrozieb v podmienkach I. Československej republiky. *Policajná teória a prax* 28(4) pp. 139 - 154. ISSN 1335-1370. [cit. 2025-01-22]. Available at: <https://www.akademiapz.sk/sites/default/files/PTP/4->

2020/011%20%20RUBISOV%C3%81%20Rie%C5%A1enia%20epidemiologickej%20situ%C3%A1cie%20v%20podmienkach%20I.%20%C4%8CSR%20upr._EDITEDx.pdf

Stratégia 2021. *Stratégia dlhodobej starostlivosti v Slovenskej republike. Integrovaná sociálno-zdravotná starostlivosť*. Bratislava : Ministerstvo práce, sociálnych vecí a rodiny Slovenskej republiky - Ministerstvo zdravotníctva Slovenskej republiky, 50 p. [cit. 2025-01-22]. Available at: <https://www.employment.gov.sk/sk/rodina-socialna-pomoc/socialne-sluzby/strategia-dlhodobej-starostlivosti-sr.html>

SZÜDI, G., KOVÁČOVÁ, J., KONEČNÝ, S. 2016. Transformation of Social Care Services for the Elderly in Slovakia. *Journal of Social Service Research*. 42(2) pp. 199 - 217. ISSN 1540-7314. [cit. 2025-01-22]. Available at: https://www.researchgate.net/publication/297658606_Transformation_of_Social_Care_Services_for_the_Elderly_in_Slovakia
<https://doi.org/10.1080/01488376.2015.1129016>

TIRPÁKOVÁ, L. a kol. 2022. *Ošetrovatel'stvo v ambulantnej zdravotnej starostlivosti*. Košice: ŠafárikPress, 289 p. ISBN 978-. 80-8152-889-7. [cit. 2025-01-22]. Available at: <https://unibook.upjs.sk/img/cms/2022/lf/osetrovatelstvo-v-ambulantnej-zdravotnej-starostlivosti.pdf>

Cited legal norms

XLIII/1863 R. G. Bl, Gesetz betreffend die Erwerbung und den Verlust des Heimatrechtes (zákon o nabytí a ztrátě domovského práva) (Law on the Acquisition and Loss of the Right of Domicile)

1886. évi XXII. Törvénycikk a községekről (zákonný článok o obciach) (Statutory Article on Municipalities)

1422/1889. B.M. (Belügyi Minisztérium) számú általános rendelet a községi szegénygondozás tárgyában (všeobecné nariadenie Ministerstva vnútra o obecnej sociálnej starostlivosti) (general regulation of the Ministry of the Interior on municipal social welfare)

1896. évi CCXXII. Törvénycikk a községi illetőségről (zákonnný článok o obecnej príslušnosti (domovskom práve) (statutory article on zhe Right of Domicile)

1898. évi XXI. Törvénycikk a nyilvános betegápolás költségeinek fedezéséről (zákonný článok o úhrade nákladov na verejnú zdravotnú starostlivosť) (statutory article on the reimbursement of public health care costs)

51000/1899. B. M. (Belügyi Minisztérium) számú általános rendelet a községi szegénygondozás tárgyában (všeobecné nariadenie Ministerstva vnútra o pomoci chudobným v obciach) (general regulation of the Ministry of the Interior on the relief of the poor in municipalities)

2/1918 Sb. Zákon jímž se zřizují nejvyšší Správní úřady ve státě československém (Act establishing the highest administrative authorities in the Czechoslovak State)

11/1918 Sb. Zákon Národního výboru československého o zřízení samostatného státu československého (Act of the Czechoslovak National Committee on the Establishment of an Independent Czecho-Slovak State)

76/1919 Sb. Zákon kterým se mění a doplňují některá ustanovení dosavadních obecních zřízení a městských statútů v Česko-slovenské republice (Act amending and supplementing certain provisions of existing municipal establishments and municipal statutes in the Czecho-Slovak Republic)

99/1948 Zb. Zákon o národnom poistení (Act on National Insurance)

150/1948 Zb. Ústava Československej republiky (Constitution of the Czechoslovak Republic)
174/1948 Zb. Zákon o zrušení domovského práva (Act on the abolition of the right of Domicil)
100/1988 Zb. Zákon o sociálnom zabezpečení (Act on Social Security)
369/1989 Zb. Zákon o obecnom zriadení (Act on on the Municipal System)
195/1998 Z. z. Zákon o sociálnej pomoci (Act on Social Assistance)
416/2001 Z. z. Zákon o prechode niektorých pôsobností z orgánov štátnej správy na obce a na vyššie územné celky (Act on the Transition of Certain Competences from State Administration Bodies to Municipalities and Higher Territorial Units)
448/2008 Z. z. Zákon o sociálnych službách (Act on Social Services)

Contact address

Ass. Prof. Stanislav Konečný, PhD., MPA
ID ORCID 0000-0001-7757-6639
Pavol Jozef Šafárik University in Košice
Faculty of Public Administration
Popradská 66, 040 11 Košice
Email: stanislav.konecny@upjs.sk

REVIEW

Trends in Urban Development

Anna Vaňová

The author of the reviewed monograph is prof. Ing. Anna Vaňová, PhD., who has been active for many years at the Department of Public Economics and Regional Development at the Faculty of Economics of Matej Bel University in Banská Bystrica. Her research systematically focuses on innovative concepts of urban and regional development, as well as marketing in the public sector. In these areas, she is a recognized Slovak expert and the author or co-author of over two hundred publications. She has applied her knowledge in practice through participation in more than seventy international and national projects. Her intensive cooperation with public administration bodies and the private sector confirms not only the academic but also the practical relevance of her research, which is directly reflected in the formulation and implementation of local public policies.

Professor Vaňová enters the Slovak expert discourse on urban development with a remarkable scientific monograph that, thanks to the topicality of its themes, also appeals to professionals in public policy and urban governance. The publication is highly relevant and beneficial in the current context, in which Slovak cities are seeking concrete ways to link digital transformation with environmental resilience and social inclusion. The dynamics of climate adaptation and smart technologies position cities as key actors not only in economic growth but also in public health protection. The monograph captures these contemporary challenges in a synthetic overview of trends and offers methodological tools that urban leaders can apply in the development of strategic documents.

The structure of the publication *Trendy v rozvoji miest (Trends in Urban Development)* is exceptionally clear and systematic. Following the introduction, four interconnected chapters guide the reader from general theoretical foundations to practical implications. In the conclusion, the publication summarizes the findings, compares the presented concepts, and formulates recommendations for urban policies. Particularly valuable is the inclusion of the table of contents and a summary in English, along with a rich bibliography and appendices, which provide the reader with a strong foundation for further study.

The first chapter, titled *Cities at the beginning of the 21st century*, serves as a solid theoretical foundation for the monograph. The author begins by explaining the importance of cities in a globally changing society and highlights the urgency of finding new development concepts in the face of rapid urbanization and climate challenges. She then systematically examines the definition of a city, its historical evolution, and typological classification, with particular attention to the specific characteristics of the Slovak urban environment. A strong point of this chapter is the clear logic of its subsections and the rich argumentative base ranging

from national legislation to international urban studies. This provides the reader with a well-anchored terminological framework that facilitates orientation in the later, empirically oriented parts of the book. The first chapter thus reliably lays the groundwork for the subsequent analysis of urban development issues and trends presented in the following chapters.

The second chapter, *Problems and challenges of urban development*, systematically builds on the introductory definitions by dividing the topic into four logically progressing sections: theoretical aspects of urban development, the nature of urban growth, key challenges, and the connection between urban development and regional development theories. The author begins by summarizing the basic growth models, then identifies the factors that currently shape the dynamics of cities the most. At the end of the chapter, she illustrates how these factors are reflected in regional development theories, thereby creating a logical transition between urban and regional discourse. This chapter thus provides a comprehensive analysis of the main problems and challenges, while also laying an effective foundation for the in-depth analysis of trends in the next part of the monograph.

The chapter *Trends in urban development* forms the analytical core of the publication. Following an introductory theoretical framework in which the author explains key categories and indicators of urban development, the chapter presents eleven thematically focused subsections. These consist of theoretical foundations and ten specific concepts, including sustainable, green, solar, smart, resilient, creative, agile, charter, happy cities, and finally, the city as a living laboratory. Each trend is introduced through terminological and historical context, identification of key factors and measurable indicators, as well as illustrative practical examples. A strong feature of the chapter is its clear structure, which allows the reader to quickly compare the potential of each concept and its conditions for application. Thanks to the combination of theoretical depth and practical examples, the third chapter offers a valuable overview that can serve as a methodological guide for municipal governments when selecting suitable innovative tools.

The fourth chapter, *Summary of trends in urban development*, serves a synthetic function by connecting key insights from the previous parts of the publication and focusing on their mutual comparison. In clear diagrams, the author compares the strengths and weaknesses of the presented concepts and identifies areas of overlap where the individual models complement or intersect with one another. A valuable aspect of this chapter is its emphasis on practical implications, from leveraging synergies between digital transformation and climate adaptation to offering recommendations for measurable indicators and participatory approaches in the creation of urban strategies. Although the recommendations are primarily oriented toward the European context, the chapter provides a clear framework for

integrated and coherent urban development planning, thereby logically concluding the monograph and highlighting its relevance for both academic and policy practice.

In the conclusion, the author formulates key recommendations for urban policy makers based on a critical comparison of the presented trends and their indicators, emphasizing the need to connect digital transformation with the green agenda and participatory urban governance. She also outlines directions for further research, highlighting the importance of quantitative methods and applied studies that would track the practical impacts of these trends on municipalities and support the transformation of Slovak cities into modern, resilient, and inclusive centers of the 21st century. Thus, the final chapter contributes not only by summarizing previous findings but also by issuing a clear call for the systematic integration of theory and practice in future development strategies.

The monograph *Trendy v rozvoji miest (Trends in Urban Development)* presents a meticulously crafted and uniquely comprehensive synthesis of contemporary urban concepts. Its greatest strength lies in combining theoretical depth with a clear practical orientation, giving it the potential to appeal not only to academics but also to urban strategy designers and public policy makers. Its systematic structure, clear argumentation, and rich bibliography make it a reliable reference framework for further research and practical implementation. Although some subsections work with domestic examples more selectively and international comparisons focus primarily on the European context, the author balances this with clear recommendations that reflect current challenges of digital transformation and the European Green Deal. Overall, the publication can be regarded as a significant contribution to Slovak urban development literature and is recommended to all those seeking theoretically grounded yet practically applicable insights for the sustainable and innovative transformation of cities.

Information about the publication:

prof. Ing. Anna Vaňová, PhD.
Trends in Urban Development
Publisher: Belianum, UMB, Banská Bystrica
Year of Publication: 2021
Number of Pages: 202
ISBN: 978-80-557-1883-5

Reviewer:

Ing. Michaela Lukačínová – Internal Doctoral Student
Pavol Jozef Šafárik University in Košice
Faculty of Public Administration
Popradská 66, 040 11 Košice
E-mail: michaela.lukacinova@student.upjs.sk

Towards Sustainable and Regenerative Development and Society: Social Responsibility as a Potential Pathway

Liběna Tetřevová, Rhys Evans et al.

Socially responsible behavior of economic entities represents one of the potential pathways towards sustainable and regenerative development of society. This highly current and socially significant issue is addressed in a book by Tetřevová, Evans, and other authors. The book is the result of the international project “Towards Regenerative and Sustainable Development and Society”, and the authors comprehensively present the topic of regenerative development in the context of the sustainable development concept and the concept of corporate and municipal social responsibility. They identify possible pathways toward sustainable — or even regenerative — societal development.

The introductory part of the book acquaints the reader with the team of authors, the fundamental premises of the topic, the aim of the publication, and the methods used in its preparation.

The first two chapters provide the terminological foundation. The first chapter is dedicated to the concept of regenerative development, which requires us to act as co-evolutionary partners of nature and encourages us to recognize our potential to contribute positively to resilience-building and the regeneration of nature. The second chapter connects this concept with the concept of sustainable development and corporate social responsibility.

The concept of corporate social responsibility (CSR) is further elaborated in the next five chapters. Chapter three focuses on strategic corporate social responsibility and the creation of shared value. It describes methods of generating shared value and identifies factors that influence this process. Chapter four is oriented toward corporate social responsibility within supply chains and highlights practices that companies can implement in relation to their suppliers. Chapter five presents a key CSR tool — CSR web communication. Chapter six defines models for assessing the level of project management aimed at evaluating sustainability, along with their practical application. Chapter seven points to pathways — primarily through technological transformation — for guiding industry towards a low-carbon and sustainable economy.

The following two chapters emphasize the importance of social responsibility at the municipal level. Chapter eight describes the concept of the circular economy at the city level and presents the results of original research focused on circular activities of cities. The research enabled an assessment of the extent to which circular initiatives are presented across various sectors on the websites of selected Czech cities. It revealed gaps and, through examples of good practice, can serve as inspiration for other municipalities. Chapter nine

discusses the waste management system in the context of the principles of sustainable and regenerative development. It is enriched by original research aimed at uncovering the structure of waste management systems and the attitudes of users of these services. The findings offer valuable insights that may contribute to the improvement of waste management.

The final chapter of the publication, in contrast to the previous ones, draws attention to one example of negative practices — namely, creative accounting — within the context of corporate social responsibility.

All chapters follow a unified structure and are based on a broad spectrum of multidisciplinary domestic and international literature sources. The authors have carefully and comprehensively developed the theoretical foundations of the examined issues, conducted original research, and compared their findings and conclusions with the views of recognized experts in the field. Each chapter concludes with a clear summary of the key findings and includes the authors' own recommendations.

The publication provides valuable insights, presented in a professional and logically coherent manner, both from a theoretical and practical perspective. It thus serves as a significant source of information not only within academia but also for a broader audience. Its value is further enhanced by original research, case studies, and practical examples, which can serve as an inspiring resource for many stakeholders — including businesses, government bodies, educational institutions, non-profit organizations, municipalities, and, last but not least, individual citizens.

In conclusion, the reader is presented with a high-quality, scientifically grounded publication that offers a comprehensive view of regenerative development in the context of sustainable development and corporate social responsibility. It can therefore be highly recommended to anyone seeking new knowledge and inspiration on how to contribute to a sustainable — or even regenerative — development of society.

Information about the publication:

prof. Ing. Liběna Tetřevová, PhD., doc. dr. Rhys Evans et al.
Towards Sustainable and Regenerative Development and Society
Social Responsibility as a Potential Pathway
Publisher: University of Pardubice
Year of Publication: 2024
Number of Pages: 193
ISBN: 978-80-7560-516-0

Reviewer:

Ing. Eva Mihaliková, PhD., university assoc. prof.
ID ORCID: 0000-0002-3961-0936
Pavol Jozef Šafárik University in Košice
Faculty of Public Administration
Popradská 66, 040 11 Košice
E-mail: eva.mihalikova1@upjs.sk

Register of Authors

B	
Hanene Belahcene	6
Jana Budová	48

Č	
Anna Čepelová	24
Katarína Čulková	37

CH	
Fatma Zohra Chaib	6

K	
Stanislav Konečný	70

L	
Michaela Lukačínová	81

M	
Eva Mihaliková	84

S	
Natália Slyvkanyč	48

T	
Marcela Taušová	37

U	
Iveta Ujháziová	37

V	
Richard Vejo	24

INSTRUCTIONS FOR AUTHORS

Public Administration and Society is a scientific reviewed Journal of the Faculty of Public Administration University of Pavol Jozef Šafárik in Kosice publishing the original scholarly and science works, contributions to discussion and reviews having the content orientation on the theory and practice of Public Administration. The mission of the Journal is to publish significant results of the scholarly researches regarding the area of public policy and administration, social sciences, public legal disciplines, economics and management of the public administration.

Only the original contributions are accepted which have not been so far published or accepted for publishing by other journals, respectively by any other publications.

The author is responsible for the technical accuracy, grammatical correctness and compliance with the instructions of the text.

Based on the review, made by two reviewers, and considering the scientific contribution, quality and significance of an article, the Editorial Board will decide about acceptance/non-acceptance of the article.

STYLE SHEET

Size	A4
Margins	left, right, top, bottom – 2.5 cm
Font	Arial (normal, 11 points)
Spacing	1.5
Article sizes	Scientific articles: 10 – 20 pages Contributions to the discussions: 8 – 13 pages Reviews: 2 pages

STRUCTURE

Title

- 15 points, bold

Author's First name and Surname

- 14 points, bold
- without academic or educational degrees

Abstract

- 11 points
- in English, framed
- 10 lines max.

KeyWords

- 5 words max.
- in English
- lower – case letters

Tables, diagrams and figures

- with clear identification according to the article template provided in the original format (e.g. *.xls, *.jpg, etc.)

References

- the correctness and completeness of the bibliographical data is within an author's responsibility while ISO 690:2012 must be followed
- the list must be in alphabetical order and without a numbering

Quotations

- the method of the first datum and date

Contact Address

- the author's name and surname including his/her degrees; ID ORCID, the name and address of his/her institution and e-mail

Language

- Slovak, Czech, (British) **English**

Footnotes

- they are allowed only for more detailed specification of a term used in the text. It is not allowed to include any mathematical expressions and references to the literature into the footnotes.

The articles must comply with the Publishing Ethics and Instructions for Authors (including the template). Any failure to comply with the instructions provided in the Style Sheet may result in rejecting the article. Articles are to be submitted electronically by **31st March / 30th September**. The article and signed Authorship and Copyright Transfer Statement is to be sent to e-mail address: fvs-vss@upjs.sk