









“Marketing research in the context of trust in the public sector: A case of the digital environment”

AUTHORS	Veronika Litovtseva  Dariusz Krawczyk  Aleksandra Kuzior   Maryna Brychko  Tetiana Vasylieva  
ARTICLE INFO	Veronika Litovtseva, Dariusz Krawczyk, Aleksandra Kuzior, Maryna Brychko and Tetiana Vasylieva (2022). Marketing research in the context of trust in the public sector: A case of the digital environment. <i>Innovative Marketing</i> , 18(4), 133-147. doi: 10.21511/im.18(4).2022.12
DOI	http://dx.doi.org/10.21511/im.18(4).2022.12
RELEASED ON	Wednesday, 30 November 2022
RECEIVED ON	Friday, 09 September 2022
ACCEPTED ON	Monday, 14 November 2022
LICENSE	 This work is licensed under a Creative Commons Attribution 4.0 International License
JOURNAL	"Innovative Marketing "
ISSN PRINT	1814-2427
ISSN ONLINE	1816-6326
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

58



NUMBER OF FIGURES

7



NUMBER OF TABLES

1

© The author(s) 2023. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine
www.businessperspectives.org

Received on: 9th of September, 2022
Accepted on: 14th of November, 2022
Published on: 30th of November, 2022

© Veronika Litovtseva, Dariusz Krawczyk, Aleksandra Kuzior, Maryna Brychko, Tetiana Vasylieva, 2022

Veronika Litovtseva, Doctoral Student, Department of Financial Technologies and Entrepreneurship, Sumy State University, Ukraine.

Dariusz Krawczyk, Ph.D. in Political Science, Department of Enterprise Management and Production Organisation, Silesian University of Technology, Zabrze, Poland.

Aleksandra Kuzior, D.Sc., Prof., Faculty of Organization and Management, Silesian University of Technology, Zabrze, Poland; Oleg Balatskyi Department of Management, Sumy State University, Ukraine.

Maryna Brychko, Ph.D. in Economics, Associate Professor, Department of Industrial Economics, Blekinge Institute of Technology, Sweden; Senior Research Fellow, Department of Financial Technologies and Entrepreneurship, Sumy State University, Ukraine.

Tetiana Vasylieva, D.Sc., Prof., Sumy State University, Ukraine; The London Academy of Science and Business, UK. (Corresponding author)



This is an Open Access article, distributed under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.



Conflict of interest statement:
Author(s) reported no conflict of interest

Veronika Litovtseva (Ukraine), Dariusz Krawczyk (Poland),
Aleksandra Kuzior (Poland/Ukraine), Maryna Brychko (Sweden/Ukraine),
Tetiana Vasylieva (Ukraine/UK)

MARKETING RESEARCH IN THE CONTEXT OF TRUST IN THE PUBLIC SECTOR: A CASE OF THE DIGITAL ENVIRONMENT

Abstract

Trust in public services is a driving force of socio-economic development. It ensures effective dialogue between citizens and government and becomes especially relevant in the digitalization. The lack of trust in the public sector can make reforms ineffective and the achievement of the goals of the Ministry of Digital Transformation within the framework of the State Strategy for Regional Development of Ukraine until 2027 in question. For this reason, marketing tools in public services should be directed toward achieving greater trust in those services and the government. This paper analyzes the current research on public sector marketing and its role in building trust as a foundation for the country's digital development. Implementing multi-level bibliometric (Scopus tools), network (VOSviewer), and comparative (Google Trends) analysis, this study traces the development of marketing research on the process of public services delivery transformation from traditional to digital. 922 studies published between 1968 and 2022 were analyzed. The results show that public sector marketing is a multi-disciplinary field of scientific research that is actively developing. Cluster analysis demonstrated that its modernization and the relationship between marketing in services and consumer behavior are the smallest and newest spheres of research. Researchers consider relationship marketing the principal mechanism for building trust in the public sector. This study found little research on the impact of marketing tools on consumers' trust in public services. The comparative analysis confirmed the hypothesis of the need to change marketing tools due to the massive shift from offline to online services.

Keywords

marketing, trust, public sector, economic growth, economic development policy, digitalization

JEL Classification

G41, F63, O10, M31

INTRODUCTION

The current state of the public administration system is characterized by an increased emphasis on finding new and effective marketing strategies and tools. This reflects the rapid digitalization of society and the public sector. First, the digitalization of the public sector is convenient for citizens and a synonym for anti-corruption. Second, the digital transformation process ensures equal access for all Ukrainians to the country's information and service resources. Digitalization has become a top priority of Ukraine's State Strategy for Regional Development until 2027. The document also foresees the introduction of an electronic document reception system and the possibility of requesting public services through online services and electronic queues. In these conditions, consumers' trust in public services is the key to effective interaction between the population and public authorities. Thus, meeting the needs of consumers reflects the efficiency and appropriateness of the structure of government agencies.

According to the Rating group data, the state-in-a-smartphone program, implemented by the Ministry of Digital Transformation and other ministries and international organizations, is rated the highest by Ukrainians among the main areas of government activity; 64% of respondents trust it (Rating group, 2021). In addition, when assessing changes in the implementation of digital technologies at the state level, 49% of respondents felt an improvement in this area (Rating group, 2021). However, almost half of the sample is unsatisfied with digital government services or do not use them. The lack of public trust in public services hampers the promotion of innovative ideas and limits the potential of administrative reforms. Changing consumer behavior with state-of-the-art devices and technologies creates new challenges to building trust. The shift from offline public services to online public services, which, according to the Minister of Digital Transformation Mykhailo Fedorov, will add 10-12% to the country's GDP, requires increased digital awareness (Government Portal, 2021). The existing marketing tools of the public sector cannot fully satisfy the needs of ensuring trust in public services and hinder the digital transformation. Such circumstances require the state's implementation of new modern marketing tools and approaches to increase trust in the public sector. However, their effectiveness will depend on the availability of academic support in theoretical and methodological foundations and empirical research.

1. LITERATURE REVIEW

There is a large volume of published studies describing the role of digitalization. Different theories exist in the literature regarding the positive and negative consequences of digital transformation in society (Martins et al., 2022; Becker et al., 2022; Kuzior et al., 2022; Brodny & Tutak, 2022; Borodina & Trushkina, 2021; Kuzior et al., 2021; Kwilinski et al., 2020). Some of these studies were directed at investigating the differential impact of digitalization on banking products and services from a customer-oriented perspective (Prokopenko et al., 2022), while others discussed digital shifts in the financial industry in general (Kolodiziev et al., 2021; Volosovych et al., 2021; Kolodiziev et al., 2022). At the other end of the spectrum of academic research, there is a discussion about the link between the digital divide and the level of economic development of regions (Deineko et al., 2022; Melnyk et al., 2022) or country macroeconomic stability (Petroye et al., 2020; Tiutiunyk et al., 2021; Wang et al., 2022). Other researchers, however, who have looked at macroeconomic stability, despite a critical role in the technological evolution of Industry 4.0, have identified other determinants. They include social (Didenko et al., 2020), economic (Leonov et al., 2014; Bilan et al., 2020), behavioral (Didenko et al., 2020), and healthcare aspects (Kuznyetsova et al., 2021).

Yarovenko et al. (2021) highlighted that changes in information technology could lead not only to macroeconomic developments but also to risks.

Kobushko et al. (2021) expanded their perspective by stating that technological developments, similar to data mining, bifurcation, gravitational and intellectual data analysis, could be used to reduce the risks associated with money laundering.

A great deal has been written on public sector marketing. These studies have been devoted to the development trends of public service marketing in European democracies, transformations in strategy and tactics, and changes in marketing tools in digitalization. Public applications and limits of public marketing within this framework for the four classical marketing instruments (product development/improvement, price, promotion, and place) have been established (Kaplan & Haenlein, 2009). In-depth research has shown that public marketing (that is, the application of marketing concepts and tools to public administration) has already been a reality in various countries (Kaplan et al., 2007). Florescu et al. (2003) have mainly been interested in how marketing processes and tools can be used to meet the public interest. Others have highlighted the relevance of a custom blend of the four Ps (product (or service), place, price, and promotion) as well as other marketing techniques to transform communications with public service consumers (Serrat, 2017; Kaplan & Haenlein, 2009). Lamb (1987) and Yula et al. (2020) have attempted to draw fine differences in the marketing strategies of private firms and public organizations, as well as the solution to marketing problems that create these differences. Much of the available literature on govern-

mental marketing deals with the use of the 4C and 7P concepts in the public sector (Scheibe, 2013). However, Kollet (2019) is much more concerned with the marketing behavior of public authorities, which forms the public organization's image and allows public services to adapt to the needs of the target market.

Given the latest trends in scientific research, the use of bibliometric analysis tools (VOSViewer, Scopus and Web of Science instruments, Publish or Perish, and Google Trends) has become quite popular. It forms and provides a theoretical basis for determining the main trends in developing the studied concepts (Khomenko et al., 2020; Letunovska et al., 2021; Makarenko et al., 2021; Chumnumpan & Shi, 2019). It should be noted that a bibliometric analysis of public sector marketing was conducted earlier (Matos et al., 2020). This study focused on finding marketing mechanisms in four public sector groups: education, health care, social economy, and urban policy. However, the relationship between the development of marketing tools and trust in the conditions of global digitalization still needs to be identified.

Thus, apart from Matos et al. (2020), research related to the theoretical background of public sector marketing is underrepresented in academic circles. Moreover, previous studies do not distinguish the connection between trust in the public sector and the tools to ensure it. Therefore, studying the scientific landscape regarding these goals, their synergistic effects in light of the challenges of global digitalization, and the prospects for implementing government interventions in public services is an important task that can be solved based on bibliometric analysis tools.

This paper aims to examine the current state of research on public sector marketing and its role in building trust in the public sector as a foundation for the country's digital development.

2. METHODOLOGY

Bibliometric tools have been used extensively in the past to study patterns and features of scientific works already published in the marketing area. Rowley and Slack (2004), using deduction-based analytical methods, offered a structured method-

ology for scanning academic literature. Adopted similar approach, this study used a five-step methodology for data collection and analysis to identify and argue that trust in the public sector and digitalization are contemporary trends in marketing research.

Based on a comprehensive review of the literature, the following combination of keywords was chosen for data collection and the initial search: "marketing AND public AND sector.". In the scientific literature, the main search word "public sector" is equated in meaning with "state", "state-owned", "government", and "public administration". But, despite being synonymous, they are different. The meaning of the word "public sector" is broader and includes all organizations and industries owned or controlled by the government (Cambridge Dictionary). Moreover, the phrase "public sector marketing" is used as a permanent expression.

The initial search result in the Scopus database showed a total of 4171 articles, conference papers, books, and chapters of books in the period from 1968 through 2022. Refinement of the search results took place by selecting all open-access publications; such studies can be freely read, downloaded, copied, distributed, printed, and used in education, significantly increasing the citation and FWCI rates (Field-Weighted citation impact). Refinement of the search results and discarding irrelevant search queries resulted in 922 unique papers. It should be noted that such a shortening did not lead to a reduction in the research period. Therefore, the analysis is conducted from the first comprehensive study in the field of public sector marketing and covers the period 1968–2022.

Since this study is also designed to determine how marketing methods and strategies in the public sector have changed with the advent of digitalization, it should use a technique that allows considering consumer trends in society, e.g., Google Trends. To search for keywords, the study focused on the methods of delivering public services to citizens. There are two ways of obtaining them today: digital (via an application or an Internet platform) and traditional (in centers for providing administrative services and other state institutions). That is why "Digital public service" AND

“Traditional public service” were identified as key queries for comparative analysis. The maximum period covered by Google Trends is from 2004 to the date of the user’s request. The study deliberately shortened the analyzed period to 2017–2022, as it wanted to demonstrate how consumer attitudes changed with the advent of digital transformation in the public sector. So, until 2017, citizens only showed interest in traditional public services.

In order to evaluate the productivity of the publications in the field of public sector marketing, the number of publications was analyzed according to the year and the field through the application of integrated Scopus tools. The second method used in the study was directed to measure publication influence and involved analysis of the number of citations, i.e., country citations measurements, countries co-authorship measurements, spatiotemporal measurements. To analyze the results in greater depth, the paper utilized a graphical mapping of the bibliographic material by applying the VOS viewer software version 1.6.10. In the identification of public interest patterns and comparative analysis, Google Trends was used. A description of each methodological tools, the specifics of their use for the current study, chosen keywords, and available periods for each instrument are shown in Table 1.

Deep bibliometrics includes defining key terms and relevant research areas and finding the most influential studies, authors, journals, and new research groups. That is why it is proposed to divide the analysis into the following stages:

- selection of a key query “Marketing AND public AND sector” in the Scopus database for the initial search and clarification of the search results (publications that are All Open Access are included in the analysis);
- use of built-in Scopus tools for initial analysis of documents published between 1968 and 2022;
- importing information about publications from the Scopus database in CSV Excel format into the VosViewer program (922 academic studies);
- primary analysis of 423 keywords through VOSviewer, manual exclusion of keywords from other fields of science, irrelevant and repeated terms from the list of keywords. 35 keywords were selected for VOSviewer overlay visualization;
- processing of received information through VOSviewer for cluster analysis, country citations, countries co-authorship, and spatiotemporal measurements (unit of analysis: all keywords);
- content analysis of clusters and intercluster connections;
- selection of keywords “Digital public service” AND “Traditional public service” and time period 2017–2022 for Google Trends. Comparative analysis, and identification of trends of public interest conducting.

Table 1. Methodological tools and their features

Source: Makarenko et al. (2021).

Instrument	Description	Capabilities used in research	Searched term	Time period
In-built Scopus tools	Tools that are means of the initial analysis of publications indexed by the Scopus database	The initial analysis of documents: <ul style="list-style-type: none"> • by year; • by subject area. 	„Marketing AND public AND sector.”	1968–2022
VosViewer	Software tool for constructing and visualizing bibliometric networks. These networks may, for instance, include journals, researchers, or individual publications, and they can be constructed based on citation, bibliographic coupling, co-citation, or co-authorship relations	<ul style="list-style-type: none"> • cluster analysis; • country citations measurement; • countries co-authorship measurement; • spatio-temporal measurement. 	„Marketing AND public AND sector.”	1968–2022 (Limited to 1990–2022 in a spatio-temporal analysis)
Google Trends	Google product that analyses part of all Google Search web queries and other affiliated Google sites. The statistics are presented on a graphical basis.	<ul style="list-style-type: none"> • comparative analysis; • trends determination. 	„Digital public service” AND „Traditional public service”	2017–2022

3. RESULTS

In the largest abstract and citation database of peer-reviewed literature, Scopus, the relevant publications have been chosen according to the keywords “marketing AND public AND sector.” The combination of keywords has brought to light a total of 922 academic studies in All Open Access published between 1968 and 2022. This study covered 179 authors, 163 journals, and 92 countries.

The initial analysis of documents provides statistical information and an overview of published scientific articles, conference materials, and books in a certain field of research. This stage of the analysis includes the determination of development stages of scientific interest in public services marketing and the industry structure analysis. Figure 1 shows the dynamics of the number of scientific publications on public sector marketing. The number of published studies has grown moderately since 1990, and in 2003, the first boom of scientific interest in this field took place. However, the research did not stop there; the trend line shows the increasing dynamics of the number of publications; in 2021, their number was 97. This indicator is twice as much as in 2017 and three times as much as in 2009. Thus, scientific interest in public sector marketing development takes place at a galloping pace.

Thus, based on the amplitude of Figure 1, the following stages of research development in the area of public sector marketing can be distinguished:

- Stage I (1968–1991) – lack of scientific interest in the topic.
- Stage II (1991–2002) – the emergence of theoretical and practical interest in public sector marketing. Volatility in the number of scientific publications is characteristic of this stage. For ten years, the number of published scientific studies ranged from 0 to 10.
- Stage III (2002–2008) – the first boom period. Thus, in 2003, for the first time since 1968, more than twenty scientific articles, reports at conferences, books, and book chapters on the marketing of public services were published, after which a slight fading of scientific research was observed.
- Stage IV (2008–2017) – steadily growing academic interest. The marketing of public services has been the focus of the attention of many researchers in various fields, especially those who have studied the impact of the consequences of the global economic crisis on the public sector.

Source: Compiled by authors via Scopus in-built instruments.

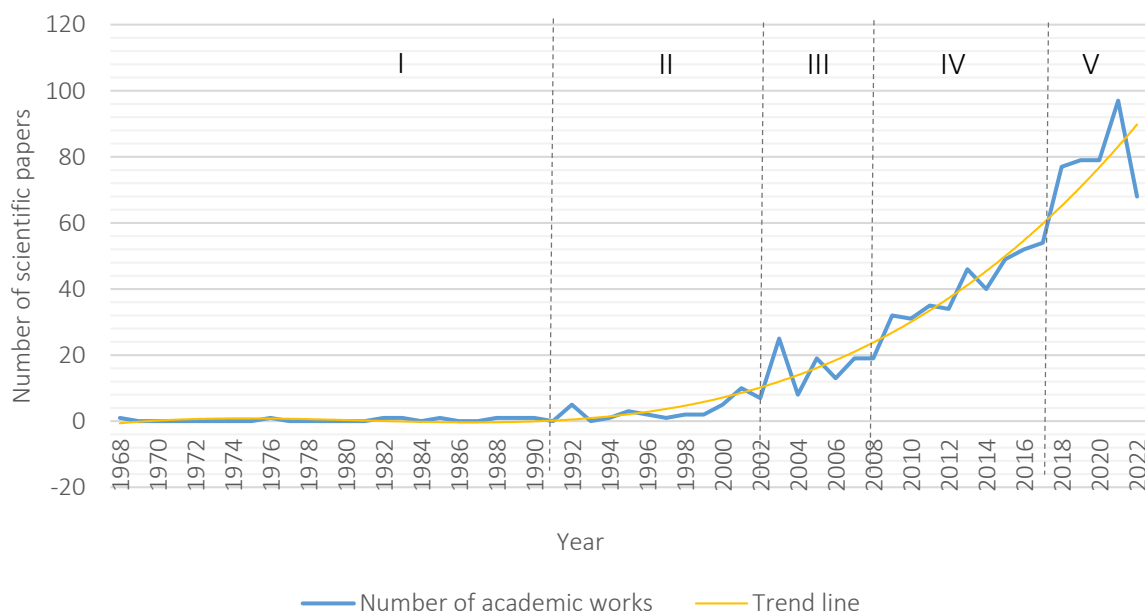


Figure 1. Publishing trends in public sector marketing

- Stage V (2017–2022) – the second scientific research boom period. The rapid development of technologies has led to new opportunities for implementing public sector marketing, and the global COVID-19 pandemic has forced the population to switch to online public services for the preservation of health (Arfeen, 2017; Sentosa et al., 2019; Pourkarim et al., 2022). That is why, in 2021, 97 scientific articles, reports at conferences, books, and book chapters on the marketing of public services were published. This trend indicates the need for world science for new research on this topic.

Public sector marketing applies to all spheres of state regulation, including the healthcare system, education, protection of citizens’ rights, business and entrepreneurship, and others. Thus, the industry structure analysis can provide important information about the level of diversification of research into the marketing of public services (Figure 2).

Figure 2 shows that nearly 25.3% of all research is conducted in medicine and health. One of the most cited studies in this field is a publication on the secondary use of health data outside healthcare. Researchers suggest using such information for marketing research and analysis of information about the quality of public healthcare services (Safran et al., 2007). The second largest share (14.4%) of research is in the field of social sciences.

Influential studies are related to the use of official mass media as an element of the state’s marketing strategy (Hays et al., 2013) and the development of marketing partnerships between the state and private sector (Buhalis, 2000). Business, management, and accounting rank third in the sectoral structure of public sector marketing research. With 8.1% of all research, such publications are related to management and marketing strategies of the public sector and related industries (Fornell et al., 1996; Leonidou et al., 2013). Natural, agricultural, and economic research obtained at most 8% for each branch in the overall structure of the number of publications. Thus, the initial analysis of public sector marketing documents by subject area demonstrates a significant diversification of research and confirms the hypothesis about the multidisciplinary nature of the studied concept.

In the Scopus database, the relevant publications have been chosen according to the keywords “marketing AND public AND sector.” The combination of keywords has brought to light 922 scientific publications in this area. Using VOSviewer software calculations, 35 keywords were broken into 6 groups (Figure 3a). The largest cluster (red) comprises eight keywords related to customer satisfaction with public services: customer satisfaction, service quality, service marketing, government services, branding, brand equity, and loyalty. The green cluster comprises public sector marketing components (relationship marketing, internal marketing) and concepts needed to develop a gov-

Source: Compiled by authors via Scopus in-built instruments.

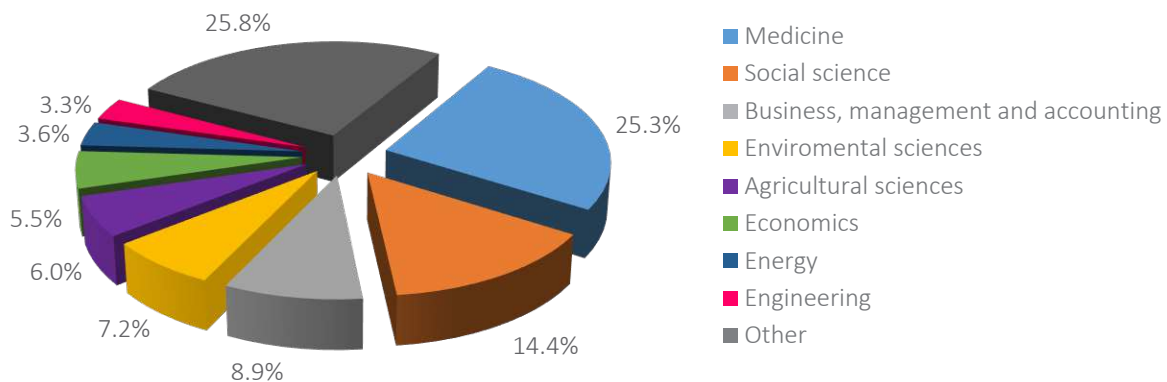


Figure 2. The initial analysis of documents by subject area

Source: Based on VOSviewer analysis.

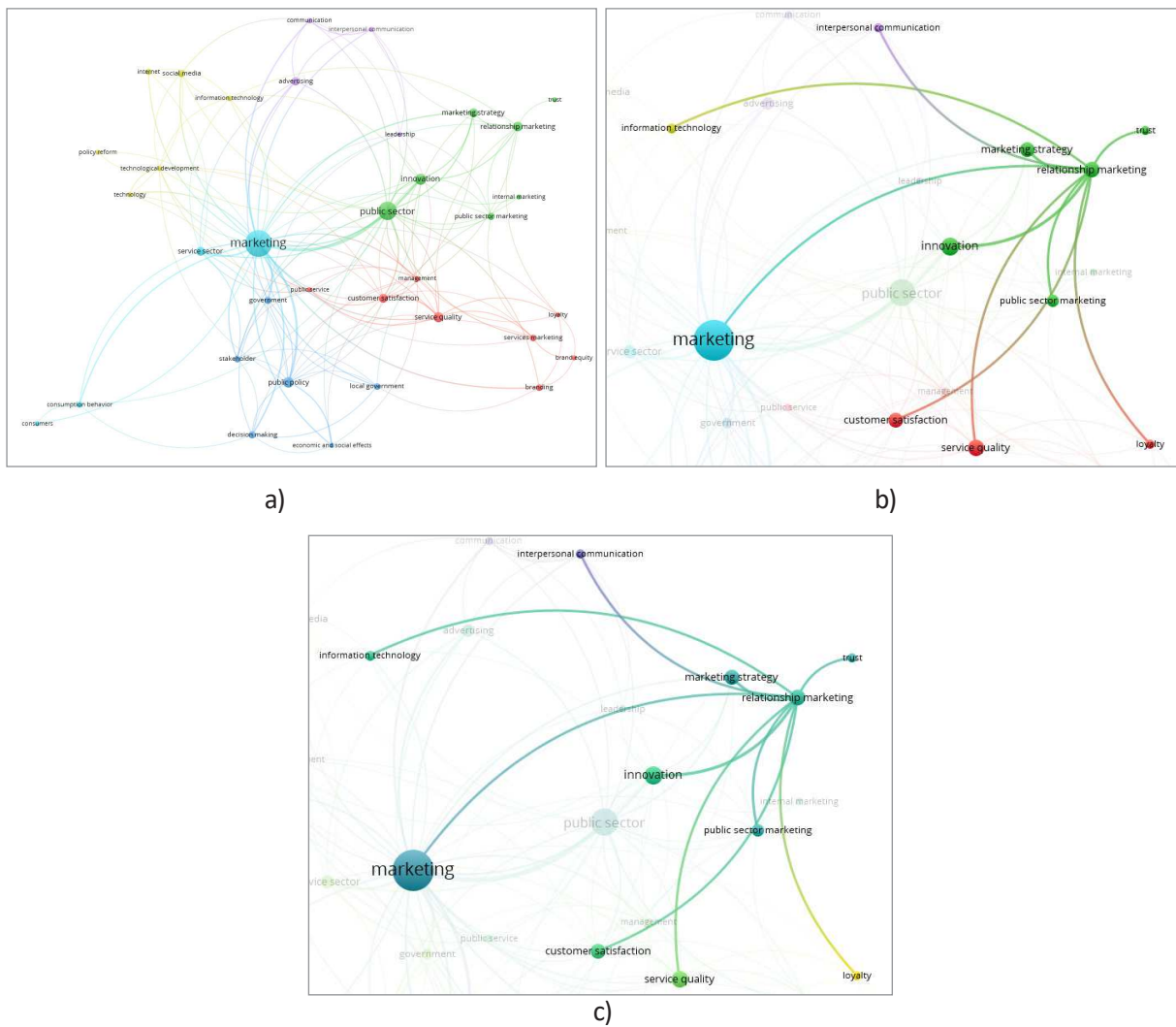


Figure 3. Graphic visualization of research on public service marketing

ernment marketing strategy (trust and innovation). The blue cluster has six keywords that describe the state’s marketing policy (local government, government, stakeholders, decision-making, and economic and social impact). The yellow cluster represents the government’s marketing policy reform related to the development of the Internet, information technology, social media, and the overall digitization of the public sector. Finally, the purple cluster explores the communication process in marketing and the blue relationship between marketing in services and consumer behavior.

As shown in Figure 3b, public sector marketing uses the concept of relationship marketing, which links consumer trust with service quality, loyalty, and satisfaction of service consum-

ers and is part of the marketing strategy in the public sector. The time perspective (change from blue to yellow, where yellow is the most recent research and blue is the earliest research) presented in Figure 3c suggests that the emerging areas of public sector marketing research are customer loyalty. According to Figure 4, investigators have recently been studying the impact of digitization on public services. Several studies suggest that the digital transformation of the public sector is an essential step toward more citizen- and user-centric service delivery (Kuhlmann & Bogumil, 2021; Aswar et al., 2022). Consequently, it allows to delay paper forms, and repeated provision of information can be eliminated (Lolich & Timonen, 2022) through different marketing tools.

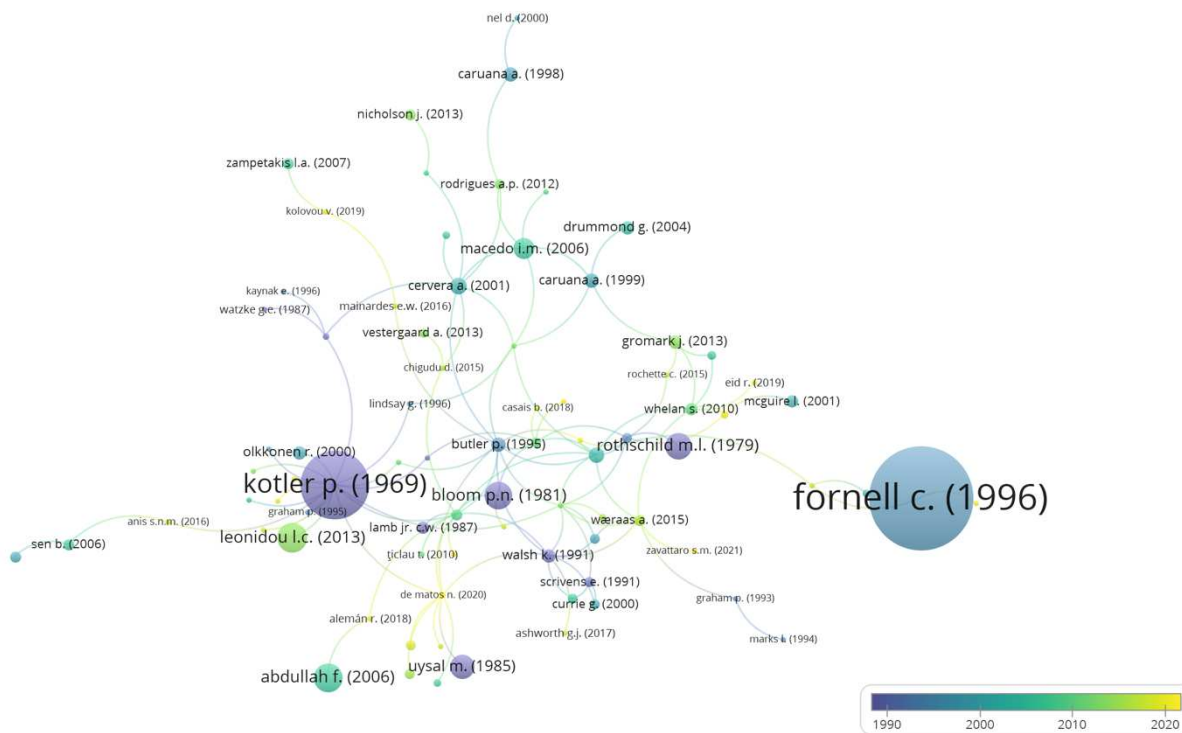


Figure 4. Overlay visualization map of spatio-temporal measurement of research on public sector marketing according to the Scopus database

For many years, a central theoretical question that dominated public services related to trust in public sector bodies. Van de Walle and Bouckaert (2003) considered public trust in government as the basis for public sector modernization. Thus, the efficiency of public administration has a particular impact on confidence in government because public distrust is often the consequence of the poor quality of public services. However, despite the importance of trust in public organizations' concept, there still needs to be more research on marketing tools for building a high level of trust in public institutions and their services. This reflects the complexity of the concept of trust (Mayer et al., 1995). This paper explores marketing tools to influence consumer trust in digital (online) and traditional (offline) public services.

A co-authorship geographic analysis (Figure 5) revealed that the centers of public sector marketing research and associated trust are the United Kingdom, the United States, Australia, and Canada. The largest cluster by co-authorship is the red cluster, which includes Canada, Denmark, China, Germany, Greece, Mexico, Norway, and

Spain. Thus, scientists from these countries often worked together to research aspects of marketing in the public sector.

Territorial-geographical analysis of citations (Figure 6a) showed that the most cited are the works of scientists from the United States, the United Kingdom, and Australia, to a lesser extent. In addition, leading positions were also taken by Spain and Canada. Thanks to the spatio-temporal analysis (Figure 6b), we can conclude that the leading countries in citation were the first in public sector marketing research; later, research on this topic began in Germany, Canada, and Greece. The study of public sector marketing remains a new topic for Brazil, Portugal, Sweden, Switzerland, and China.

Taken together, these studies support the notion that marketing research in the public sector was developed in response to contemporary trends in the socio-economic environment and technology implementation. The evidence reviewed here suggests a pertinent role of marketing tools in public services for enhancing the greater trust in those services and the government. However, these

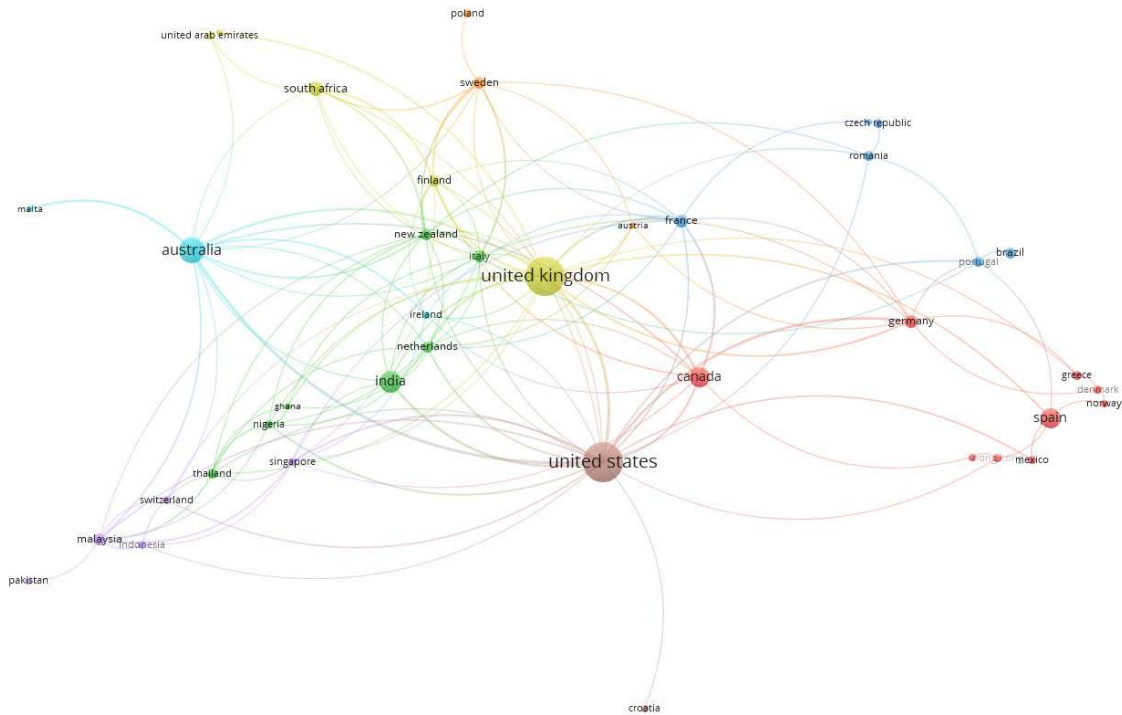
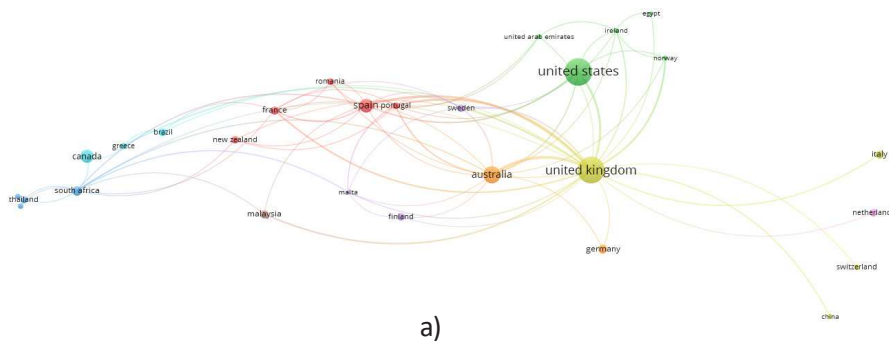
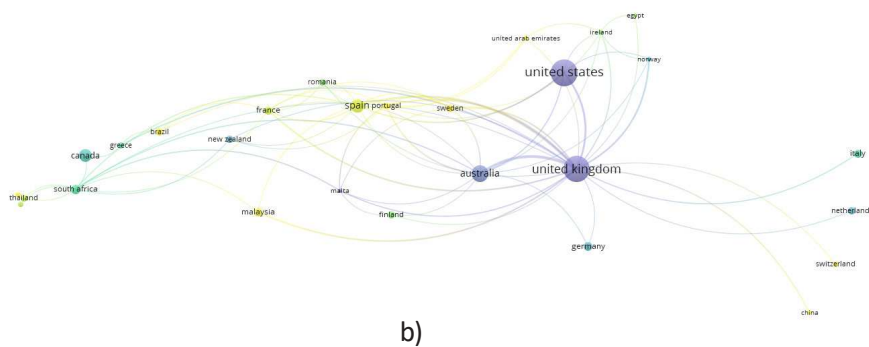


Figure 5. Overlay visualization map of countries' co-authorship measurement of research on public service marketing according to the Scopus database

Source: Constructed via VOSviewer v.1.6.10.



a)



b)

Figure 6. Overlay visualization map of country citations measurement of research on public service marketing according to the Scopus database

Source: Compiled by authors via Google Trends.

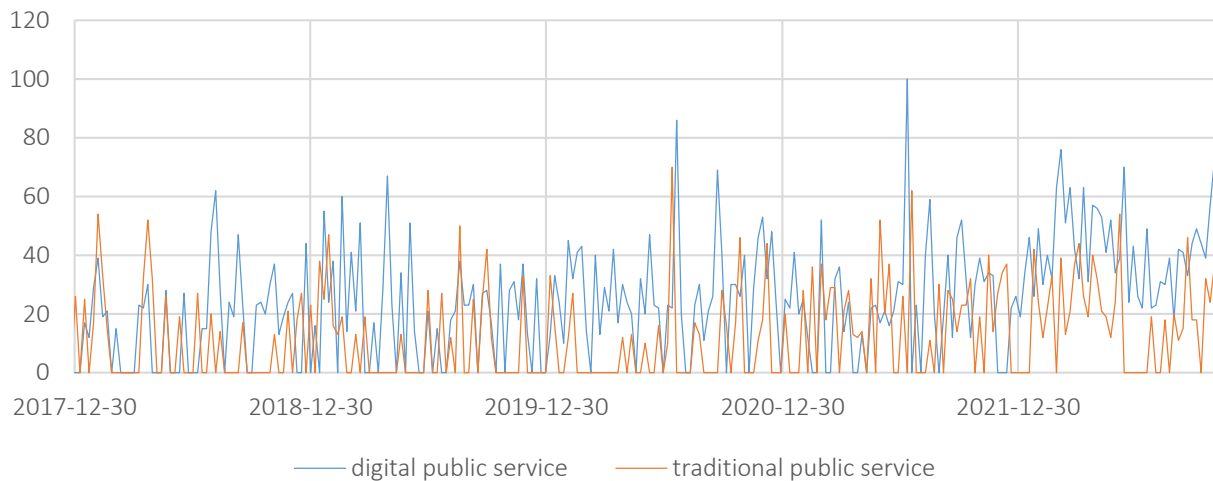


Figure 7. Comparison of Google search queries in trust “Digital public service” AND “Traditional public service” (2017–2022)

studies remain narrow to determine if there is any difference between the marketing tools used for traditional and digital public services.

As shown by the cluster and spatio-temporal analysis, the latest research in public sector marketing is focused on implementing digital technologies in public services. That is why to identify the main trends for the scientific development of public sector marketing, it is offered to consider a comparative analysis of the search queries “Digital public service” AND “Traditional public service” in Google Trends. Visualization of the dynamics of public interest in the proposed concepts is shown in Figure 7.

The comparative analysis was carried out over the last five years to demonstrate how consumer attitudes have transformed in the field of public affairs. As can be seen from the amplitude in Figure 7, until 2020, interest in traditional public services prevailed among public requests. Still, consumer preferences changed with the advent of the pandemic and general quarantine. As a result, interest in online services increased almost twice; they surpassed traditional public services in available dynamics. Thus, 2020–2021 can be called the period of digitization of the public sector. Although governments have been gradually implementing the transformation process for a long time, the turning point in the development of public services was the COVID-19 pandemic. That is why the public sector marketing trend is searching for new tools to deliver digital services effectively.

4. DISCUSSION

Prior studies highlighting the importance of marketing tools in the public sector have shown that a set of marketing processes and tools can be used to meet the public interest (Florescu et al., 2003). However, as mentioned in the literature review, most published articles on marketing at the governmental level deal with the use of the 4C and 7P concepts in the public sector (Kaplan & Haenlein, 2009).

The basis was Matos et al.’s (2020) study, which conducted a bibliometric analysis of public services marketing. However, the difference in results lies in the ultimate goal of the study. Matos et al. (2020) provided an up-to-date outline of public sector marketing (education, health care, social economy, and urban policy). In this study, the ultimate goal is to recognize the theoretical connections between the development of public sector marketing tools and trust in the public sector in the context of global digitalization. These connections have not previously been described and can be used in further scientific discussions as a road map for building trust in the public sector through traditional and digital government services.

An interesting finding of the study was that the peak of scientific activity fell from 2017 to 2022, and most of these publications relate to the medical field and the healthcare system. This finding was confirmed by subject area analysis. This situation may be associated with the general popularity of marketing tools

in the medical system and the COVID-19 pandemic. These results are in agreement with those obtained by Ding and Li (2021), Khan and Nawaz (2021), Šerić and Šerić (2021). Unlike Ukraine, most countries in the European Union and the United States have a system of tightly regulated and competing private health insurance companies with government subsidies for citizens who cannot afford coverage. These companies apply various marketing strategies and compete on the indicators of image, service quality, and customer loyalty; such competition causes the development of the theoretical basis of public sector marketing research.

In addition, the results of the cluster analysis turned out to be unexpected. However, the digitalization process has been going on for more than ten years, and the cluster describing the modernization of the sphere of public services to the population is one of the smallest. This state of research can become a problem for the development of public administration. In most countries, paper document circulation still works, services are provided offline, no government internet platforms, and

the government ignores the possibilities of technology. This study supports evidence from previous observations (e.g., Lindgren et al., 2019; Kuhlmann & Bogumil, 2021), that indicates the lack of digital reforms of marketing strategies in the public sector may be due to an insufficient theoretical basis for their implementation and required skills for citizens and public officials. In addition, governments are afraid to implement new technologies in marketing public services due to the non-availability of trust. This fear is also well-founded, based on the results of cluster analysis of network connections.

The Ukrainian government is actively trying to implement digital technologies in the public services system. The Ministry of Digital Transformation aims to ensure the provision of 100% of all public services online by 2024, create Internet coverage for 95% of all highways and social facilities, and increase the share of IT companies in Ukraine to 10% of the GDP. This study supports evidence of Ukraine's State Strategy for Regional Development until 2027 and can become a theoretical basis for implementing and updating public sector marketing strategies.

CONCLUSION

This paper analyzes the readiness of the scientific community to create prerequisites for the progressive implementation of public sector marketing, studying its role in building trust in the government as a basis for the country's digital development.

For this purpose, a bibliometric analysis of the scientific literature on public sector marketing was conducted from 1968 to 2022. The study used several special methods and tools, including built-in Scopus tools, VosViewer software, and Google Trends.

The initial analysis of studies revealed five stages of the development of scientific interest in the marketing of public services, while the most scientific literature was published from 2017 to 2022. The industry structure analysis showed a significant diversification of research and confirmed the hypothesis about the multidisciplinary nature of public sector marketing. Bibliometric analysis of marketing research in the public sector has identified 6 clusters, two of which relate to the modernization of the sphere of public services and the relationship between marketing in services and consumer behavior.

This study revealed the scientific community's unpreparedness to develop and implement marketing tools to ensure trust in the public sector in the face of digitalization. However, trends analysis showed that the transition to online public services is inevitable. Therefore, developing marketing mechanisms and strategies is necessary for public administration. The findings reported here shed new light on public sector marketing and add to the rapidly expanding field of digital public services. Furthermore, the results of this study have several practical implications. Policymakers could use the theoretical basis in marketing strategy to enhance consumer trust in public services, and for researchers, this paper is a meaningful literature review of public sector marketing.

AUTHOR CONTRIBUTIONS

Conceptualization: Veronika Litovtseva, Tetiana Vasylieva, Aleksandra Kuzior.

Data curation: Veronika Litovtseva, Aleksandra Kuzior, Dariusz Krawczyk.

Formal analysis: Veronika Litovtseva, Tetiana Vasylieva.

Investigation: Veronika Litovtseva.

Methodology: Maryna Brychko, Aleksandra Kuzior.

Project administration: Tetiana Vasylieva, Maryna Brychko.

Resources: Maryna Brychko, Veronika Litovtseva.

Software: Maryna Brychko, Veronika Litovtseva.

Validation: Veronika Litovtseva, Tetiana Vasylieva, Dariusz Krawczyk.

Visualization: Maryna Brychko, Aleksandra Kuzior.

Writing – original draft: Veronika Litovtseva, Dariusz Krawczyk.

Writing – review & editing: Veronika Litovtseva, Tetiana Vasylieva, Maryna Brychko, Aleksandra Kuzior.

ACKNOWLEDGMENT

The authors acknowledge the funding in terms of the projects “Simulation modeling of the trajectory of the impact of behavioral attractors on macroeconomic stability: the role of transparency and public trust (0121U100469)” and “Modeling mechanisms for de-shadowing and de-corrupting the economy to ensure national security: the impact of the financial behavioral patterns transformation (№ 0122U000783)”.

REFERENCES

1. Arfeen, M. I. (2017). E-marketing of e-government initiatives a case study of Pakistan. *Proceedings of the 9th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*, (pp. 108-113). Funchal, Madeira, Portugal. <https://doi.org/10.5220/0006489801080113>
2. Aswar, K., Ermawati, E., Juliyanto, W., Andreas, A., & Wiguna, M. (2022). Adoption of e-government by Indonesian state universities: An application of Technology Acceptance Model. *Problems and Perspectives in Management*, 20(1), 396-406. [https://doi.org/10.21511/ppm.20\(1\).2022.32](https://doi.org/10.21511/ppm.20(1).2022.32)
3. Barker, M., Dombrowski, S. U., Colbourn, T., Fall, C. H. D., Kriznik, N. M., Lawrence, W. T., Norris, S. A., Ngaiza, G., Patel, D., Skordis-Worrall, J., Sniehotta, F. F., Steegers-Theunissen, R., Vogel, C., Woods-Townsend, K., & Stephenson, J. (2018). Intervention strategies to improve nutrition and health behaviors before conception. *The Lancet*, 391(10132), 1853-1864. [https://doi.org/10.1016/S0140-6736\(18\)30313-1](https://doi.org/10.1016/S0140-6736(18)30313-1)
4. Becker, J., Derra, N. D., Regal, Ch., & Kühlmann, T. M. (2022). Mitigating the negative consequences of ICT use: the moderating effect of active-functional and dysfunctional coping. *Journal of Decision Systems*, 31(4), 374-406. <http://doi.org/10.1080/12460125.2021.1901337>
5. Bilan, Y., Srovnalá-Kovář, P., Stremikis, J., Lyeonov, S., Tiutiunyk, I., & Humenna, Y. (2020). From shadow economy to lower carbon intensity: Theory and evidence. *International Journal of Global Environmental Issues*, 19(1-3), 196-216. <https://dx.doi.org/10.1504/IJGENVI.2020.10037582>
6. Borodina, O., & Trushkina, N. (2021). The cluster approach to the digitalization of public governance in the regional strategy: international practice and Ukrainian realities. *Economics & Education*, 6(4), 12-22. <https://doi.org/10.30525/2500-946X/2021-4-2>
7. Brodny, J., & Tutak, M. (2022). Analyzing the level of digitalization among the enterprises of the European Union member states and their impact on economic growth. *Journal of Open Innovation: Technology, Market, and Complexity*, 8(2), 70. <http://doi.org/10.3390/joitmc8020070>
8. Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, 21(1), 97-116. [https://doi.org/10.1016/S0261-5177\(99\)00095-3](https://doi.org/10.1016/S0261-5177(99)00095-3)
9. Chumnumpan, P., & Shi, X. (2019). Understanding new products' market performance using Google Trends. *Australasian Marketing Journal*, 27(2), 91-103. <https://doi.org/10.1016/j.ausmj.2019.01.001>
10. Ding, A. W., & Li, S. (2021). National response strategies and marketing innovations during the COVID-19 pandemic. *Business Horizons*, 64(2), 295-306. <https://doi.org/10.1016/j.bushor.2020.12.005>

11. Deineko, L., Hrebelyk, O., Zharova, L., Tsyplitska, O., & Grebeniuk, N. (2022). Digital divide and sustainable development of Ukrainian regions. *Problems and Perspectives in Management*, 20(1), 353-366. [https://doi.org/10.21511/ppm.20\(1\).2022.29](https://doi.org/10.21511/ppm.20(1).2022.29)
12. Didenko, I., Paucz-Olszewska, J., Lyeonov, S., Ostrowska-Dankiewicz, A., & Ciekanowski, Z. (2020). Social safety and behavioral aspects of populations financial inclusion: A multicountry analysis. *Journal of International Studies*, 13(2), 347-359. <https://doi.org/10.14254/2071-8330.2020/13-2/23>
13. Florescu, C., Malcomete, P., & Pop, N. A. (2003) *Marketing. Dictionar explicativ*. Bucharest: Editura Economica. (In Romanian).
14. Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18. <https://doi.org/10.2307/1251898>
15. Government Portal. (2021, April 26). *Mykhailo Fedorov: U kozhnomu misti ta hromadi zivlitsia zastupnyky z tsyfrovoyi transformatsii [Mykhailo Fedorov: Digital transformation deputies will appear in every city and community]*. (In Ukrainian). Retrieved September 10, 2022, from <https://www.kmu.gov.ua/news/mihajlo-fedorov-u-kozhnomu-misti-ta-gromadi-zyavlyatsya-zastupniki-z-cifrovoyi-transformaciyi>
16. Hays, S., Page, S. J., & Buhalis, D. (2013). Social media as a destination marketing tool: Its use by national tourism organizations. *Current Issues in Tourism*, 16(3), 211-239. <https://doi.org/10.1080/13683500.2012.662215>
17. Kaplan, A. M., & Haenlein, M. (2009). The increasing importance of public marketing: Explanations, applications and limits of marketing within public administration. *European Management Journal*, 27(3), 197-212. <http://dx.doi.org/10.1016/j.emj.2008.10.003>
18. Kaplan, A. M., Schoder, D., & Haenlein, M. (2007). Factors influencing the adoption of mass customization: The impact of base category consumption frequency and need satisfaction. *Journal of Product Innovation Management*, 24(2), 101-116. <https://doi.org/10.1111/j.1540-5885.2007.00237.x>
19. Khan, R. Z., & Nawaz, H. (2021). Impact and Challenges of Digital Marketing during Covid-19 Pandemic. *Gorteria Journal*, 34(8), 31-39. <https://doi.org/10.3389/fpubh.2022.969523>
20. Khomenko, L., Saher, L., & Polcyn, J. (2020). Analysis of the marketing activities in the blood service: bibliometric analysis. *Health Economics and Management Review*, 1(1), 20-36. <https://doi.org/10.21272/hem.2020.1-02>
21. Kobushko, I., Tiutiunyk, I., Kobushko, I., Starinskyi, M., & Zavalna, Z. (2021). The triadic approach to cash management: Communication, advocacy, and legal aspects. *Estudios De Economia Aplicada*, 39(7). <https://doi.org/10.25115/eea.v39i7.5071>
22. Kollet, S. (2019, November 14). *Marketing für die (öffentliche) Verwaltung – Vertrauen zurückgewinnen und ein positives Image kreieren*. Zielbar. (In German). Retrieved from <https://www.zielbar.de/magazin/marketing-oeffentliche-verwaltung-23144/>
23. Kolodiziev, O., Krupka, M., Shulga, N., Kulchytskyi, M., & Lozynska, O. (2021). The level of digital transformation affecting the competitiveness of banks. *Banks and Bank Systems*, 16(1), 81-91. [https://doi.org/10.21511/bbs.16\(1\).2021.08](https://doi.org/10.21511/bbs.16(1).2021.08)
24. Kolodiziev, O., Shcherbak, V., Vzhytynska, K., Chernovol, O., & Lozynska, O. (2022). Clustering of banks by the level of digitalization in the context of the COVID-19 pandemic. *Banks and Bank Systems*, 17(1), 80-93. [https://doi.org/10.21511/bbs.17\(1\).2022.07](https://doi.org/10.21511/bbs.17(1).2022.07)
25. Kuhlmann, S., & Bogumil, J. (2021). The Digitalisation of Local Public Services. Evidence from the German Case. In T. Bergström, J. Franzke, S. Kuhlmann, & E. Wayenberg (Eds.), *The Future of Local Self-Government* (pp. 101-113). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-56059-1_8
26. Kuzior, A., Kettler, K., & Rąb, Ł. (2022). Digitalization of Work and Human Resources Processes as a Way to Create a Sustainable and Ethical Organization. *Energies*, 15(1), 172. <https://doi.org/10.3390/en15010172>
27. Kuzior, A., Mańka-Szulik, M., & Krawczyk, D. (2021). Changes in the management of electronic public services in the Metropolis during the COVID-19 pandemic. *Polish Journal of Management Studies*, 24(2), 261-275. <http://dx.doi.org/10.17512/pjms.2021.24.2.16>
28. Kuznyetsova, A., Sydorchenko, T., Zadorna, O., Nikonenko, U., & Khalina, O. (2021). Assessment of aspects of the COVID-19 crisis in the context of ensuring economic security. *International Journal of Safety and Security Engineering*, 11(6), 615-622. <https://doi.org/10.18280/ijss.110601>
29. Kwilinski, A., Vyshnevskiy, O., & Dzwigol, H. (2020). Digitalization of the EU Economies and People at Risk of Poverty or Social Exclusion. *Journal of Risk and Financial Management*, 13(7), 142. <https://doi.org/10.3390/jrfm13070142>
30. Lamb, Jr. C. W. (1987). Public sector marketing is different. *Business Horizons*, 30(4), 56-60. [https://doi.org/10.1016/0007-6813\(87\)90066-8](https://doi.org/10.1016/0007-6813(87)90066-8)
31. Leonidou, L. C., Leonidou, C. N., Fotiadis, T. A., & Zeriti, A. (2013). Resources and capabilities as drivers of hotel environmental marketing strategy: Implications for competitive advantage and performance. *Tourism Management*, 35, 94-110. <https://doi.org/10.1016/j.tourman.2012.06.003>
32. Leonov, S., Frolov, S., & Plastun, V. (2014). Potential of institutional investors and stock market development as an alternative to households' savings allocation in banks. *Economic Annals-XXI*, 11-12, 65-68. Retrieved from <http://ea21journal.world/index.php/ea-v146-16/>

33. Letunovska, N., Lyuolyov, O., Pimonenko, T., & Aleksandrov, V. (2021). Environmental management and social marketing: A bibliometric analysis. *E3S Web of Conferences*, 234. <https://doi.org/10.1051/e3s-conf/202123400008>
34. Lindgren, I., Madsen, C. Ø., Hofmann, S., & Melin, U. (2019). Close encounters of the digital kind: A research agenda for the digitalization of public services. *Government Information Quarterly*, 36(3), 427-436. <https://doi.org/10.1016/j.giq.2019.03.002>
35. Lobont, O.-R., Vătavu, S., Jicărean, L., & Moldovan, N.-C. (2022). A Cross-cultural Study on the Digitalisation of Public Services. In S. Grima, E. Özen, & H. Boz (Eds.), *The New Digital Era: Digitalisation, Emerging Risks and Opportunities* (pp. 69-88). Emerald Publishing Limited. <https://doi.org/10.1108/S1569-37592022000109A005>
36. Lolich, L., & Timonen, V. (2022). Digitalisation of Public Services as a Challenge to Social Justice. In M. A. Yerkes & M. Bal (Eds.), *Solidarity and Social Justice in Contemporary Societies* (pp. 191-200). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-93795-9_18
37. Makarenko, I., Plastun, A., Petrushenko, Yu., Vorontsova, A., & Alwasiak, S. (2021). SDG 4 and SDG 8 in the knowledge economy: A meta-analysis in the context of post-COVID-19 recovery. *Knowledge and Performance Management*, 5(1), 50-67. [https://doi.org/10.21511/kpm.05\(1\).2021.05](https://doi.org/10.21511/kpm.05(1).2021.05)
38. Martins, B. O., Lidén, K., & Gabrielsen Jumbert, M. (2022). Border security and the digitalisation of sovereignty: insights from EU borderwork. *European Security*, 31(3), 475-494. <https://doi.org/10.1080/09662839.2022.2101884>
39. Matos, N., Correia, M. B., Saura, J. R., Reyes-Menendez, A., & Baptista, N. (2020). Marketing in the Public Sector – Benefits and Barriers: A Bibliometric Study from 1931 to 2020. *Social Sciences*, 9(10), 168. <https://doi.org/10.3390/socsci9100168>
40. Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709-734. <https://doi.org/10.2307/258792>
41. Melnyk, L., Matsenko, O., Kubatko, O., Korneyev, M., & Tulyakov, O. (2022). Additive economy and new horizons of innovative business development. *Problems and Perspectives in Management*, 20(2), 175-185. [https://doi.org/10.21511/ppm.20\(2\).2022.15](https://doi.org/10.21511/ppm.20(2).2022.15)
42. Njegovanović, A. (2018). Artificial Intelligence: Financial Trading and Neurology of Decision. *Financial Markets, Institutions and Risks*, 2(2), 58-68. [https://doi.org/10.21272/fmir.2\(2\).58-68.2018](https://doi.org/10.21272/fmir.2(2).58-68.2018)
43. Petroye, O., Lyulyov, O., Lytvynchuk, I., Paida, Y., & Pakhomov, V. (2020). Effects of information security and innovations on Country's image: Governance aspect. *International Journal of Safety and Security Engineering*, 10(4), 459-466. <https://doi.org/10.18280/ijss.100404>
44. Pourkarim, M., Nayebzadeh, S., Alavian, S. M., & Hataminasab, S. H. (2022). Digital marketing: A unique multidisciplinary approach towards the elimination of viral hepatitis. *Pathogens*, 11(6), 626. <https://doi.org/10.3390/pathogens11060626>
45. Prokopenko, O., Zholamanova, M., Mazurenko, V., Kozlianchenko, O., & Muravskiy, O. (2022). Improving customer relations in the banking sector of Ukraine through the development of priority digital banking products and services: Evidence from Poland. *Banks and Bank Systems*, 17(3), 12-26. [https://doi.org/10.21511/bbs.17\(3\).2022.02](https://doi.org/10.21511/bbs.17(3).2022.02)
46. Rating group. (2021). *Dva roky prezidenta Zelenskoho: otsinky hromadian [Two years of President Zelenskyi: citizens' assessments]* [PowerPoint Slides]. (In Ukrainian). Retrieved August 5, 2022, from https://ratinggroup.ua/files/ratinggroup/reg_files/rg_ukraine_2y_president_052021_press.pdf
47. Rowley, J., & Slack, F. (2004). Conducting a literature review. *Management Research News*, 27(6), 31-39. <https://doi.org/10.1108/01409170410784185>
48. Safran, C., Bloomrosen, M., Hammond, W. E., Labkoff, S., Markel-Fox, S., Tang, P. C., & Detmer, D. E. (2007). Toward a national framework for the secondary use of health data: An American medical informatics association white paper. *Journal of the American Medical Informatics Association*, 14(1), 1-9. <https://doi.org/10.1197/jamia.M2273>
49. Scheibe, A. (2013). Marketing w administracji publicznej. *Studia Prawa Publicznego*, 2, 149-171. (In Polish).
50. Sentosa, I., Sinaga, O., Zainal, Z., & Djaya, A. H. M. (2019). Developing Islamic smart city management using organization public relationship (OPR) effectiveness: A structural equation modeling (SEM) partial least square approach. *Humanities and Social Sciences Reviews*, 7(1), 99-107. <https://doi.org/10.18510/hssr.2019.7112>
51. Serrat, O. (2017). Marketing in the Public Sector. In *Knowledge Solutions* (pp. 111-118). Springer, Singapore. https://doi.org/10.1007/978-981-10-0983-9_16
52. Šerić, M., & Šerić, M. (2021). Sustainability in Hospitality Marketing during the COVID-19 Pandemic. Content Analysis of Consumer Empirical Research. *Sustainability*, 13(18), 10456. <http://dx.doi.org/10.3390/su131810456>
53. Tiutiunyk, I., Drabek, J., Antoniuk, N., Navickas, V., & Rubanov, P. (2021). The impact of digital transformation on macroeconomic stability: Evidence from EU countries. *Journal of International Studies*, 14(3), 220-234. <https://doi.org/10.14254/2071-8330.2021/14-3/14>
54. Van de Walle, S., & Bouckaert, G. (2003). Public Service Performance and Trust in Government: The Problem of Causality. *International Journal of Public Administration*, 26(8-9), 891-913. <https://doi.org/10.1081/PAD-120019352>

55. Volosovych, S., Zelenitsa, I., Kondratenko, D., Szymła, W., & Mamchur, R. (2021). Transformation of insurance technologies in the context of a pandemic. *Insurance Markets and Companies*, 12(1), 1-13. [https://doi.org/10.21511/ins.12\(1\).2021.01](https://doi.org/10.21511/ins.12(1).2021.01)
56. Wang, Q., Chen, Y., Guan, H., Lyulyov, O., & Pimonenko, T. (2022). Technological innovation efficiency in china: Dynamic evaluation and driving factors. *Sustainability (Switzerland)*, 14(14), 8321. <https://doi.org/10.3390/su14148321>
57. Yarovenko, H., Bilan, Y., Lyeonov, S., & Mentel, G. (2021). Methodology for assessing the risk associated with information and knowledge loss management. *Journal of Business Economics and Management*, 22(2), 369-387. <https://doi.org/10.3846/jbem.2021.13925>
58. Yula, Y., Pushko, O., & Palienko, M. (2020). Recommendations for improving the hospital's marketing policy. *Health Economics and Management Review*, 1(2), 91-99. <https://doi.org/10.21272/hem.2020.2-10>