







“Blockchain technologies in accounting: bibliometric analysis”

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BLOCKCHAIN TECHNOLOGIES IN ACCOUNTING: BIBLIOMETRIC ANALYSIS

Abstract

The purpose of the paper is to conduct a bibliometric analysis of scientific literature on the use of blockchain technologies in accounting for the period 2013–2022 based on the use of a number of special methods and tools, including Scopus and WoS, VOSviewer, Publish or Perish, Google Trends, and Google Books Ngram Viewer.

Based on the results of the bibliometric analysis of relevant scientific publications, a map of the relationships between the concepts of «blockchain» and «accounting» with other categories was formed, which allowed identifying seven clusters. Based on the results of the analysis of the evolutionary time block of blockchain technology research, it was possible to identify several main periods during which the main accents in this area changed. It has been proven that it was in 2020–2021 that the interest of researchers was directed to considering blockchains as tools for working with financial and accounting information. An analysis of the space-time dimension of bibliometric analysis in Ukraine showed that the publication activity of research on the use of blockchain technologies in accounting has intensified since the second half of 2021. Analysis using Google Books and Google Trends confirmed the absence of analogies in the dynamics of changes in search queries «blockchain» and «accounting». The use of bibliometric analysis tools allowed identifying the most relevant works by the searched terms. Relevance was mostly determined by the significance of the scientific work and the scientific cluster. On the basis of these works, key theses are presented, which will become the basis for further empirical research on the chosen topic.

Keywords blockchain, technology, information, accounting, auditing, reporting

JEL Classification M41, D83

INTRODUCTION

The constant increase in the level of competition in the market, the development of information and communication technologies, the sharp differentiation of the needs of the population encourage the world and leading companies to look for new directions for business development. Blockchain technology can transform established business processes and radically change the work with regulators.

Blockchain technology, which is based on a decentralized database, can revolutionize the way information is stored and processed in accounting.

The study of the topic of blockchain technology in accounting is very relevant, since this technology can greatly facilitate accounting processes, increase their efficiency and reliability, and also provide protection against fraud and errors. One of the main advantages of blockchain technology is that it provides a high level of security and protection against hacks. Blockchain is a distributed ledger, which means that each block of data contains a unique code and signature, which makes it impossible to change data without prior authorization. This

allows to ensure the reliability and integrity of the information stored in the blockchain. In addition, blockchain technology can help ensure a fast and efficient exchange of information between various participants in the accounting system. For example, using a blockchain-based “smart-contract” can help automate accounting processes and reduce human errors. Blockchain technology can help bring transparency and openness. Since the data is stored in distributed ledgers, each network member can verify the correctness of the data and confirm its authenticity. This can help increase confidence in the information held in accounting systems.

In general, blockchain technology can provide many benefits in accounting, including reliability, transparency, efficiency, automation, immutability, fraud protection, decentralization, openness, simplification of auditing and international transactions.

That is why it is important to study the existing academic landscape regarding the role and nature of the translated impact of blockchain technologies in accounting, as this technology can improve the security, efficiency and reliability of accounting itself, which in turn will ensure the development of business and the improvement of economic processes as a whole. In addition, research on blockchain technology in accounting is important for the development of new methods and solutions in the field of finance, accounting and auditing, which will improve the quality and accuracy of accounting information, reduce possible errors and fraud, and also increase confidence in the financial system generally.

1. LITERATURE REVIEW

Blockchain technology was invented by two scientists, Stuart Haber and W. Scott Stornetta. In 1991, they created software for digital time-stamping. They are considered the founders of blockchain technology. In 2008, Nakamoto (2009) proposed a new transaction logging principle, Blockchain 1.0, solving the double spending problem by using a peer-to-peer distributed timestamp server to create computational proof of the chronological order of transactions.

To date, there is already a third generation of blockchain technology, which is still in the process of development, but active work is already underway on solutions that can revolutionize this area.

The Big Four international audit firms (Deloitte, 2020; KPMG, 2018; PwC, 2020; EY, 2020) have produced various reports indicating that accountants, auditors and regulators will be significantly influenced by blockchain innovations, especially in processes related to with the ways of initiating, processing, recording, reconciling, auditing and reporting transactions.

In particular, a report published by KPMG in 2018 shows that among the digital technologies currently used in finance and accounting, blockchain

technology is at an early stage, with only 1% of enterprises using it at a mature level, 25% in somewhat mature, 74% of enterprises talk about the complete immaturity of blockchain application (KPMG, 2018).

A study by Deloitte (2020) notes that blockchain technology can revolutionize entire industries with unique capabilities that can improve privacy, security, scalability, and trust. In particular, the financial sector could undergo disruptive changes.

A PwC report (2020) identified blockchain technology as having the potential to increase global GDP by USD 1.76 trillion over the next decade. PwC economists have also determined that by 2030, sectors could benefit up to USD 574 billion from blockchain efficiency.

An EY report (2020) claims that blockchains are about to change the global economy and reset the global competitive landscape due to zero marginal cost, real competition, and open access market dominance.

A Deloitte (2021) survey of global FSIs (Financial services leaders) indicated that almost 80% of respondents see digital assets, as well as their own underlying blockchain technology, as a strategic priority now and in the near future.

Also, these companies are directly engaged in the implementation of various pilot projects with blockchain technology, including in the field of accounting and auditing (automation of audits of assets, liabilities, capital and smart blockchain contracts, etc.).

The use of blockchain in accounting and auditing can reduce the cost of accounting and auditing (Xu et al., 2019; Savchuk et al., 2021; Mishchenko et al., 2021; Polinkevych et al., 2021; Afaishat et al., 2022). The use of optimized contracts in a secure environment can be acceptable for providing high-quality information. Wang (2023) shows that blockchain technology is useful for ensuring audit information security and can improve audit quality by 20%. Alkafaji et al. (2023) proved that blockchain technology is likely to have a positive impact on the quality of financial reporting. This means that companies that have invested heavily in IT applications are expected to have high-quality reports.

The global application of blockchain technology is widespread. It is used by the USA, Germany, France, Estonia, China, Ukraine, and others. The blockchain leader in this area is the USA. However, China is projected to dominate in 2021–2023 (PwC, 2018).

In 2014, the Blockchain Association of Ukraine was created in Ukraine. This is a non-profit organization that since 2014 allows the integration of blockchain technologies into the country's economy, and today deals with the creation of a single global fintech front that will help Ukraine continue its gradual growth by creating new partnerships, products and initiatives (BAU, 2022).

In 2018, the Cabinet of Ministers of Ukraine approved the Concept for the Development of the Digital Economy and Society of Ukraine, which states that blockchain is a concept that can transform public administration in areas such as registration of property rights, justice and personal identification (CMU, 2018).

At the end of January 2021, the Strategy for the Development of the Financial Sector of Ukraine until 2025 was approved. The key direction is the development of big data, blockchain and cloud technologies (NBU, 2021). The approval of the Economic Strategy of Ukraine 2030 has also become a positive moment in Ukraine for the development of block-

chain. According to forecasts, the share of the digital economy in the GDP of the world's largest countries will reach 50-60% in 2030, and in Ukraine this figure may be even higher – 65% of GDP (Ukrainian Institute of the Future, 2018).

A study conducted by the Blockchain Association of Ukraine (BAU, 2019) indicated that there are about 200 crypto and blockchain companies in Ukraine, of which 78% are focused on both Ukrainian and global markets, 16% only on foreign markets, and only one company exclusively for the Ukrainian market. At the same time, the most common directions in the blockchain industry of Ukraine, represented by the largest number of companies, are the development and creation of products and platforms, and the third place in terms of the number of companies is occupied by financial services.

A Deloitte study (2017) indicates that in the near future, blockchain technology will not replace financial reporting and auditing of financial reporting, but will improve data collection and create certain automated procedures. In 2021, Deloitte Ukraine itself announced the creation of its own blockchain protocol to improve audit processes. This protocol makes it possible to ensure the security and transparency of audit processes, in particular, by recording data in the blockchain, which ensures the inviolability and authenticity of data (Deloitte Ukraine, 2021).

A small number of publications studying blockchain technology in accounting practice has led to a lack of necessary practical experience. That is why it is important to conduct a more detailed bibliometric study on the chosen topic.

The purpose of the study is to explore the modern academic landscape of applying blockchain technologies in accounting for the period 2013–2022 based on the use of a number of special methods and tools.

2. METHODOLOGY

This paper used several special methods and tools, in particular:

- built-in Scopus tools from Elsevier and Web of Science from Clarivate Analytics – during preliminary analysis of publications in each

subject area, creation of bibliometric maps with their subsequent import into VOSviewer;

- software tool VOSviewer – when implementing cluster analysis and visualizing bibliometric maps in the mode of proximity of links and chronology;
- Publish or Perish software tool – when analyzing publications in Google Scholar within the framework of the most cited publications;
- Google Trends online analytical tools – in the study of Internet queries regarding the concepts of “blockchain”, and Ngram in Google Books – to analyze the frequency of occurrence of the terms “blockchain” and “accounting” in Google Books.

The following general scientific research methods were also used: analysis, synthesis and logical generalization to determine the theoretical aspects of the relationship between the concepts of blockchain and accounting and conduct a bibliometric analysis of the blockchain and accounting categories; comparative analysis to implement contextual, evolutionary and spatial clustering.

The methodological basis of the study is a set of scientific publications indexed in the scientometric databases Scopus, Web of Science, Google Scholar, as well as data from search queries in Google Books and Google Trends resources for the period 2013–2022.

3. RESULTS AND DISCUSSION

The study of scientific publications on the relationship between blockchain technologies and accounting is very important, as it can help in the development and improvement of accounting and optimization of business processes.

Thus, exploring the scientific landscape of the relationship between blockchain technology and accounting can help develop and improve the accounting profession, as well as help companies ensure the accuracy and reliability of financial reporting.

However, future research will focus on the synergistic relationship between blockchain technologies (blockchain) and accounting.

The scientific papers of Molotok (2020) are selected as an example in the meta-analysis. The search queries indicated in Table 1 were carried out within the framework of the academic development of the three largest scientometric databases – Google Scholar (PoP), Scopus (built-in Scopus tools), Web of Science (built-in WoS tools). Search queries were pre-filtered by research paper and period 2013–2022.

It should be noted that the earliest publications for the search query “blockchain AND accounting” in the Scopus and WoS scientometric databases have been tracked only since 2013, so 2013 was also chosen as the initial search period for the remaining searches.

Each search and query within the meta-analysis was formed using the logical AND operator.

As evidenced by the presented results, “blockchain” and “blockchain technology” are the parent categories and have the largest number of publications for the analyzed years. However, “blockchain” is a more studied concept, characterized by a greater number of articles in the WoS and Scopus databases, as well as higher citation rates.

Note that blockchain technologies are used in auditing to verify data, so most scientific publications on this topic have the term “verification” as a keyword.

An analysis of blockchain technologies in the context of their use in accounting in the academic literature shows a relatively small number of publications on relevant topics. However, the figures obtained have a logical explanation – the use of blockchain technology in accounting is only gaining momentum, as well as research on this topic. In particular, the analysis of the studies themselves in scientific papers shows that over the past six years, this topic has been actively developed in academic circles, which indicates its importance and relevance. To confirm this conclusion, Figure 1 presents the dynamics of publications based on the search query “blockchain AND accounting”

Table 1. Statistical analysis of search queries on the topic of blockchain technology in the scientific literature

Source: Based on the built-in WoS and Scopus tools and the Publish or Perish software tool.

Search query	Scopus		WoS		Publish or Perish	
	Number of scientific papers	Number of citations	Number of scientific papers	Number of citations	Number of scientific papers	Number of citations
Blockchain	43,287	103,454	26,489	94,571	107,852	219,824
blockchain technology	26,003	109,747	15,686	98,457	78,746	107,864
blockchain AND finance	1,906	21,374	808	9,930	27,458	78,452
blockchain AND accounting	586	5,306	1,376	15,991	10,256	52,458
blockchain AND audit	715	6,880	759	9,704	9,845	48,781
Smart contract AND accounting	128	1,445	410	6,752	3,487	28,945

in the Scopus and WoS scientometric databases for 2013–2022.

As can be seen from Figure 1, from 2013 to 2017, the number of scientific publications varies from 0 to 1. This indicates the lack of academic interest of scientists in the chosen topic. However, since 2017, the number of publications has grown significantly every year (in 2022, 371 articles were published in the WoS database and 133 articles in the Scopus database, which is actually ten times more than the annual figure in 2017).

Returning to the analysis of the search queries listed in Table 1, it is worth noting the importance of the topic “Smart contract AND accounting” as a separate topic in terms of the use of blockchain technologies in accounting, since this particular topic has gained particular popularity in the last few years. Smart contracts are self-executing digital contracts stored on the blockchain network.

They provide automated verification and execution of transactions based on the conditions set in the contract code. Regarding accounting, smart contracts can influence this process as they can provide automated and accurate recording of transactions. Since transaction data is stored on the blockchain, accounting can be more accurate and efficient. In particular, smart contracts can provide automated accounting for expenses, income, and automatically make payments based on certain conditions. Additionally, they can help avoid accounting errors because they operate based on set rules and conditions rather than human interpretation. In any case, the use of smart contracts for accounting requires a thorough study of the functions and capabilities of these contracts, as well as relevant expertise in the field of accounting and finance.

The next step of the bibliometric analysis is the construction and visualization of maps based on

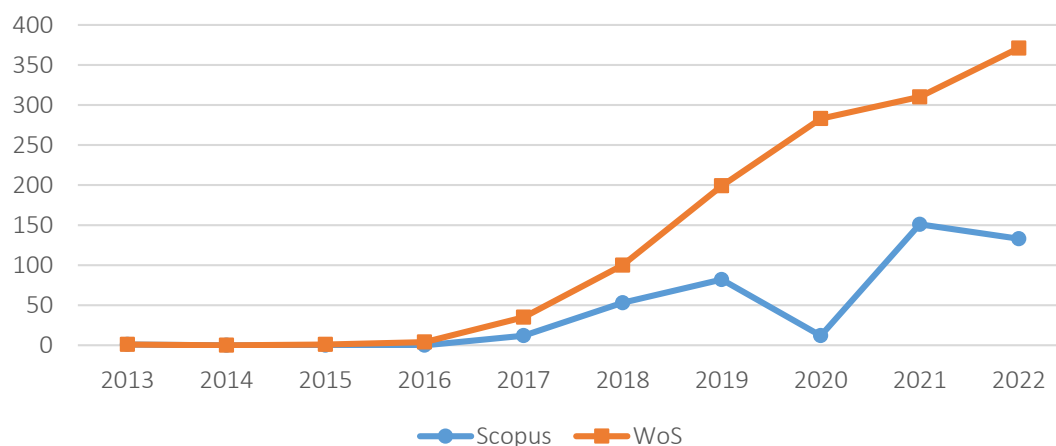


Figure 1. Dynamics of published articles on the topic “blockchain AND accounting” in the scientometric databases Scopus and WoS for 2013–2022

Source: Created by the authors using VOSviewer.

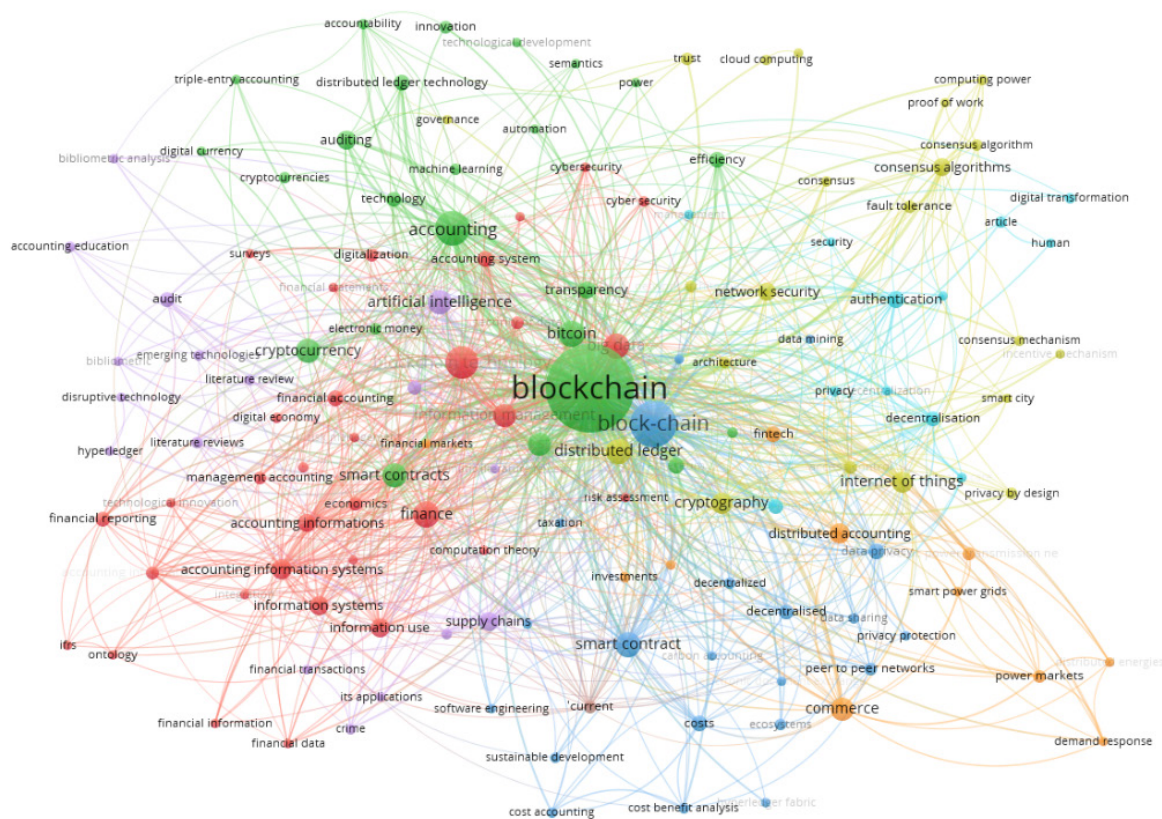


Figure 2. Identification of the interrelationship of “blockchain” AND “accounting” with other concepts

the information obtained from the Scopus databases using the VOSviewer software in order to formalize the content-context dimension of the research on “blockchain” and “blockchain AND accounting”. Relevant publications are selected based on keywords, based on the search query “blockchain AND accounting”, in order to understand the relevance of the concepts of blockchain technology and accounting, as well as their relationship with other concepts. Figure 2 presents the results of this block of bibliometric analysis.

In the context of a deeper study of the chosen topic, a “keyword co-occurrence” or keyword reuse analysis was implemented. This allows you to build semantic visualization maps based on content analysis technology. In this way, the “cognitive structure of the problem under study” and the key themes associated with it can be identified.

Thus, based on the results of a bibliometric analysis of relevant scientific publications indexed

by the Scopus scientometric database, using the VOSviewer tools, a map of the relationship between the concepts of “blockchain” AND “accounting” with other categories was formed. This allowed identifying seven clusters, marked in different colors (see Figure 3). In addition, the larger the diameter of the circle, the more often the corresponding concept is mentioned as a keyword along with others in scientific articles indexed by scientometric databases.

To build a bibliometric map, 140 units of objects (analyzed keywords) were used, which formed 2,144 links (in this type of analysis, this is the joint appearance of keywords in one scientific article).

There are intersections and relationships between the identified clusters. Also note that within the third (blue color) cluster, the topic of smart contracts in accounting is considered. Despite the fact that the studies of “blockchain” AND “accounting” cover seven different vectors of scientific research,

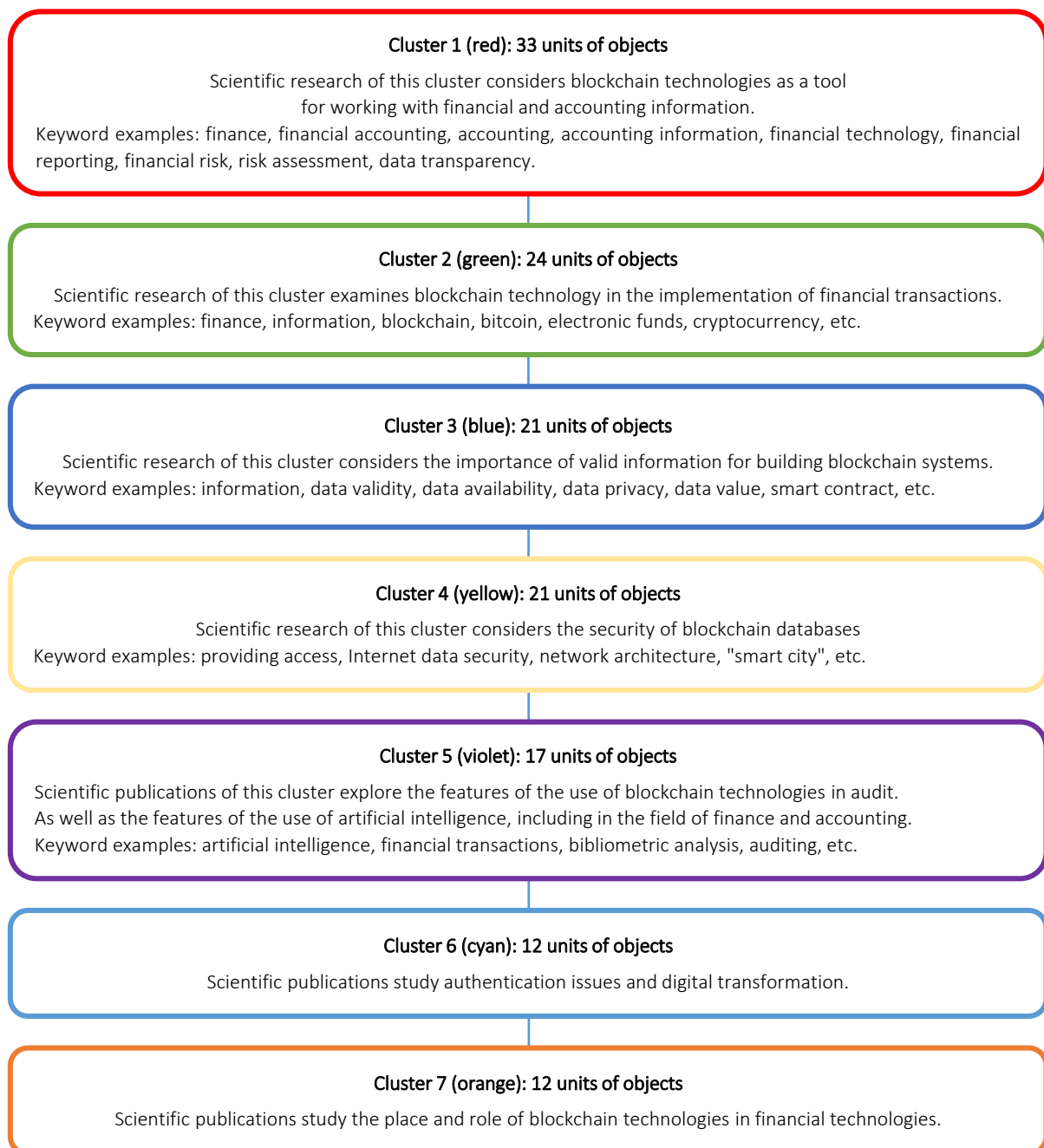


Figure 3. Characterization of bibliographic clusters based on the analysis of “keyword matches” using VOSviewer

the first cluster, which considers blockchain technology as a tool for working with financial and accounting information, is fundamental among them. The importance of this block of research is due to the fact that blockchain technologies can be useful for working with financial and accounting information, as they ensure the safety, integrity and reliability of data, as well as allow you to automate many routine operations and reduce the number of errors.

At the same time, it is academic research in this area that is the driving force on the way to the introduction of blockchain technology in accounting.

Generalization of the results of the content-contextual block of bibliometric analysis made it possible to note that the most contiguous concept is “finance” and its derivatives. Similar conclusions can be drawn from the data in Figures 4 and 5.

Source: Built by the authors using VOSviewer.

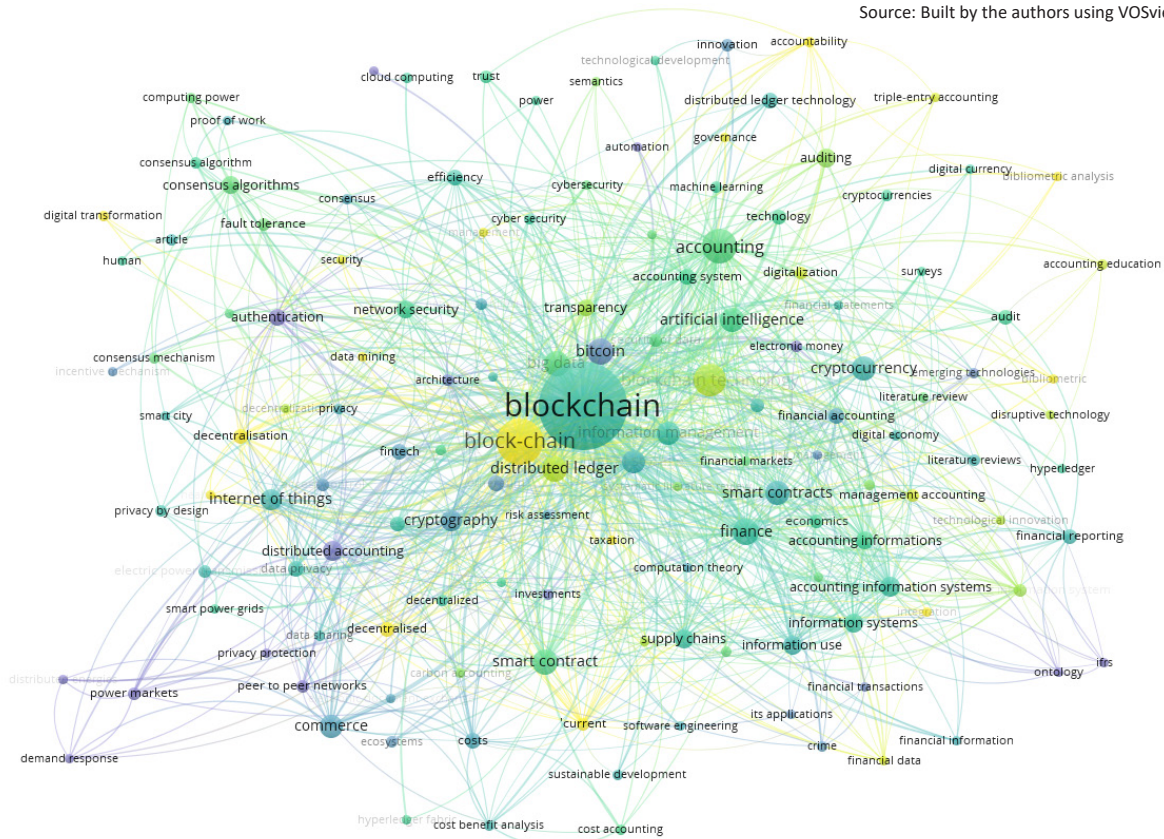


Figure 6. Visualization map of the contextual-temporal dimension of research on “blockchain” AND “accounting”, published in the editions of Scopus

Based on the analysis of the evolutionary-temporal block of studies, it was possible to identify several main periods during which the main emphasis in this area changed. In particular, in 2013–2019, with the advent of cryptocurrencies, scientists began to consider blockchain to ensure the security and privacy of transactions and currency operations; in 2020–2021, the interest of researchers was directed to determining the place and role of blockchain technologies in financial technologies, to considering blockchains as tools for working with financial and accounting information, as an auxiliary instrument for conducting audits, etc.; from 2021 to the present, research on the security and preservation of data, in particular accounting and financial reporting data using blockchain technologies, has come to the fore. The topic of using smart contracts in accounting over time is highlighted with a light green program, which confirms the novelty of the research.

In the context of continuing the temporal meta-analysis of studies on the topic “blockchain”

AND “accounting”, it is also advisable to analyze its spatial component (Figure 7).

Thus, according to the results of the spatio-temporal dimension of bibliometric analysis, it was found that the activation of research on “blockchain” and “accounting” occurs in the countries of the world within successive time ranges, each of which has its own geographical centers. In general, a pattern can be noted: earlier studies of 2013–2020 – South Africa, Canada, the USA, Germany, Brazil; 2020 – first half of 2021 – China, the UK, Australia, Spain, etc.; the second half of 2021 – Italy, France, South Korea; 2022 until now – Malaysia, Jordan.

It should be noted that although Ukraine is not shown in Figure 7, an analysis of the spatial and temporal dimension of bibliometric analysis in Ukraine showed that the publication activity of research on the use of blockchain technologies in accounting began in the second half of 2021.

At the same time, not only the spatiotemporal analysis of publication activity on “blockchain”

Source: Built by the authors using VOSviewer.

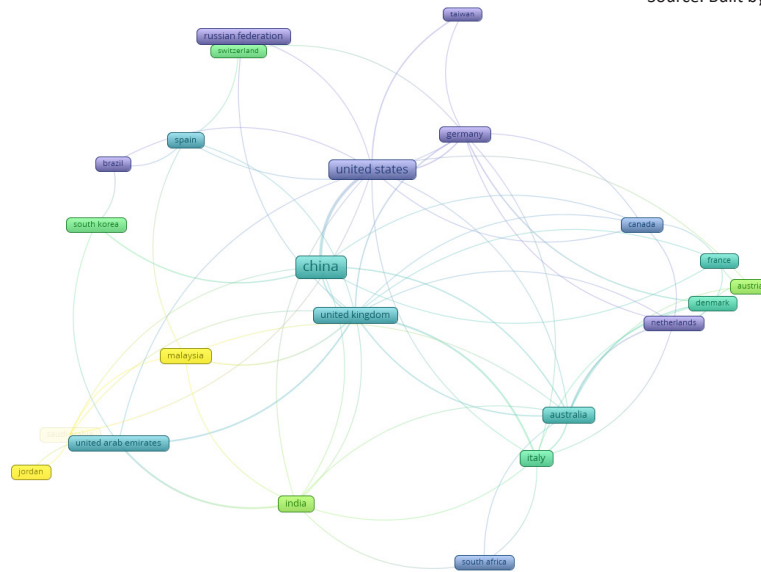


Figure 7. Spatial component of the bibliometric analysis of “blockchain” AND “accounting”

AND “accounting”, but also the study of geographic links in this area is of particular scientific interest.

Based on the results of spatial clustering, five groups of countries were identified, the researchers of which have common publications on “blockchain” AND “accounting”, namely:

- 1) the UK, Malaysia, the United Arab Emirates, India, Jordan;

- 2) Australia, Italy and South African countries;
- 3) Canada, the Netherlands, France, Austria;
- 4) Spain, Brazil, South Korea, Switzerland;
- 5) the USA, Germany, Taiwan, China.

Thus, the conducted analysis proved the existence of predominantly intercontinental links between researchers, although a certain geographical pro-

Source: Built by the authors using VOSviewer.

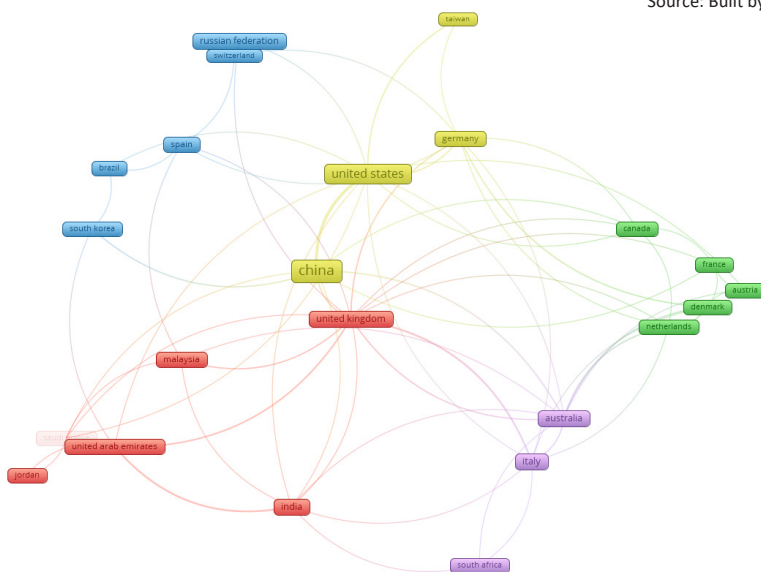


Figure 8. Visualization map of co-authorship of scientists (criterion – the country specified in the affiliation), whose general publications on blockchain AND accounting issues are indexed by the Scopus scientometric database

imity between researchers is also a key factor in writing research papers.

In this context, it should also be noted that out of the total volume of scientific publications identified by the search query “blockchain” AND “accounting”, and indexed by the scientometric databases Scopus and WoS, the largest number of works with affiliation to China was recorded (Scopus – 152 scientific articles, WoS – 403), the USA (Scopus – 90, WoS – 233), the UK (Scopus – 34, WoS – 94), India (Scopus – 33, WoS – 78), Italy (Scopus – 28, WoS – 67), Australia (Scopus – 24, WoS – 77).

Thus, the leaders of scientific research on the use of blockchain technologies in accounting by geographical dimension are China, the USA and the UK. Many studies are observed in the developed EU countries (France, Germany, Italy). The number of scientific papers in Ukraine in the Scopus database is 9, in the WoS database – 27,

which also indicates a certain interest on the part of Ukrainian scientists in considering issues of blockchain technologies in accounting.

According to the Scopus and WoS databases (see Figures 9 and 10), the National Natural Science Foundation of China, the Horizon 2020 Framework, the National Key R&D Program of China and the European Commission are sponsoring the most work, indicating the importance of the topic “blockchain” AND “accounting” for China and the EU countries.

The final stage of the bibliometric analysis is formalizing the structure of the research network on the topic of blockchain technology in accounting (see Figure 11).

Comparison of subject areas in the study of blockchain technologies in accounting shows the predominance of the areas of “computer science” and

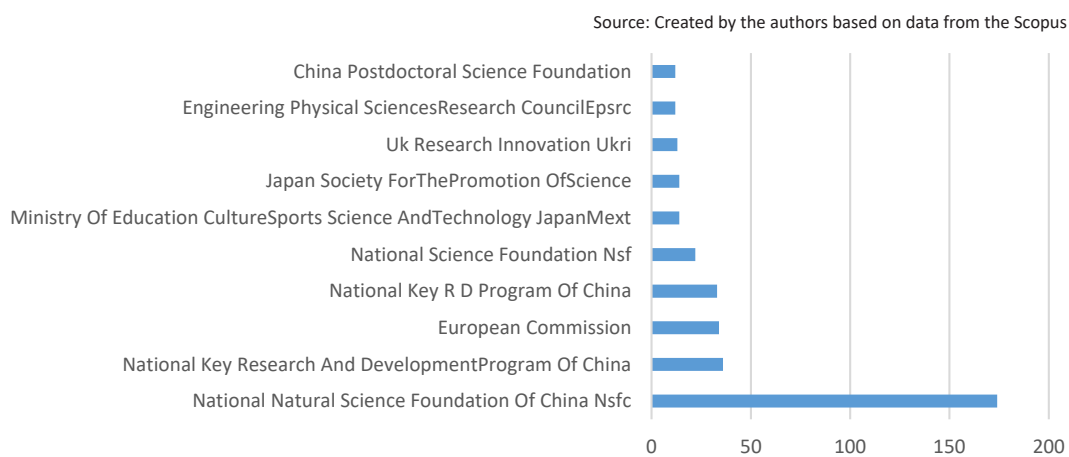


Figure 9. Organizations funding research in the Scopus database

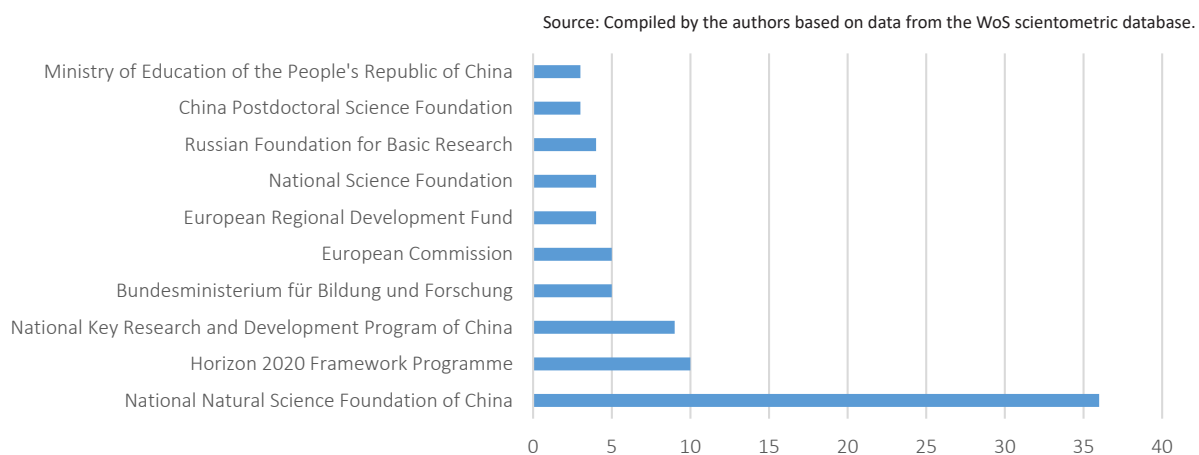


Figure 10. Organizations funding research in the WoS database

Source: Created by the authors based on data from the Scopus database.

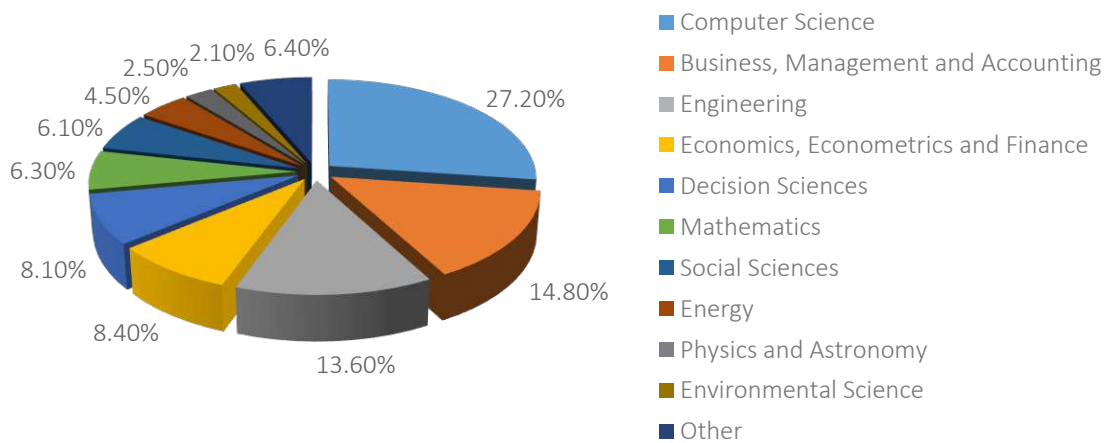


Figure 11. Structural analysis of “blockchain” AND “accounting” by subject areas

“business, management and accounting”, and also confirms the interdisciplinary nature of research. At the same time, the industry affiliation of the analyzed publications is also quite wide and versatile, although it is quite natural that most empirical studies of blockchain technologies in accounting relate to technological development and at the same time are of a financial or accounting nature.

Figure 12 analyzes the topics of publications and their grouping into thematic clusters in the context of research on using blockchain technologies in accounting.

The top 100 clusters in terms of research effectiveness (Scholarly Output) primarily include clusters in the following areas:

- ECON – Economics, Econometrics and Finance related to economic research areas;
- DECI – Decision Sciences related to research on decision making processes;
- MULT – Multidisciplinary (multidisciplinary research).

Source: Created by the authors using Elsevier SciVal tools.

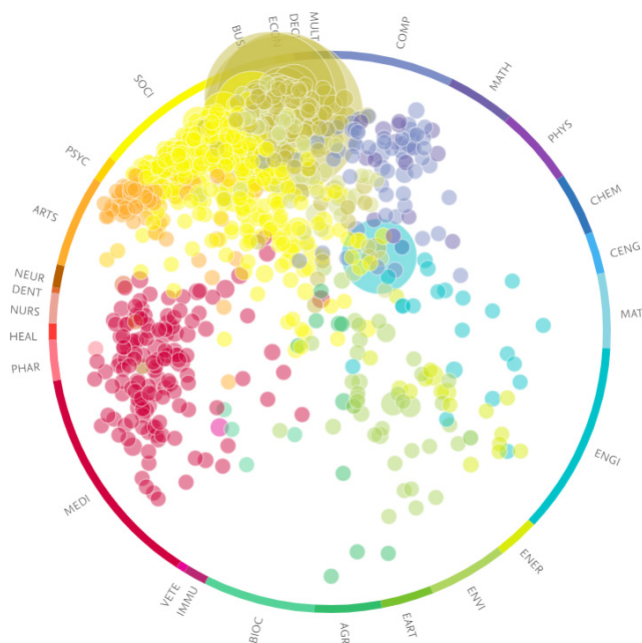


Figure 12. Top 100 topics and thematic clusters in each research area by “blockchain” AND “accounting” categories

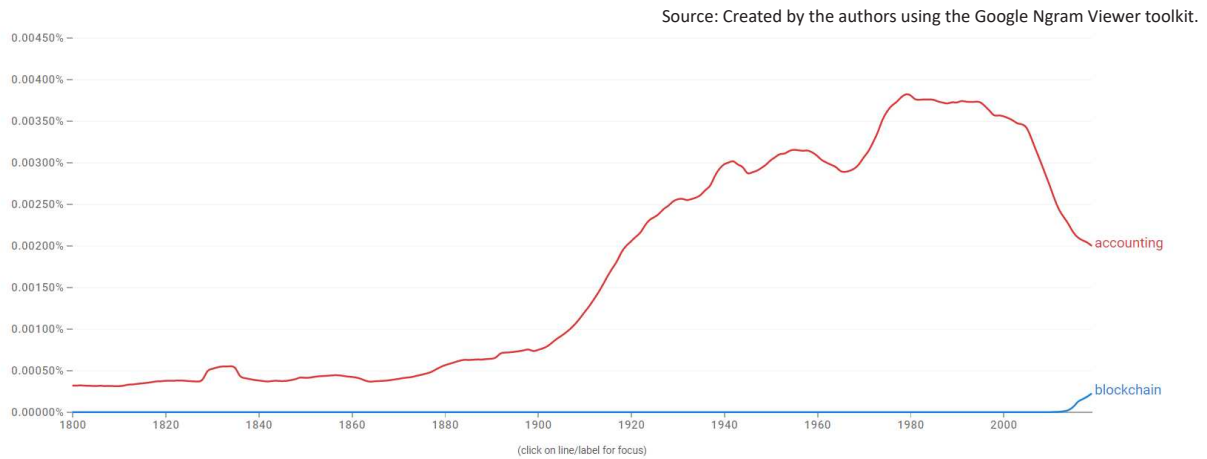


Figure 13. Mention frequency analysis of the blockchain and accounting concepts according to Google Books sources

This is confirmed by the density and size of the bubbles in the diagram.

The last block of the conducted bibliometric study is the analysis of the popularity of the searched terms among Internet users, in the resources of Google Books and Google Trends. For this, publicly available Google tools were used.

Analysis of the frequency of mentions in Google Books of the subject under study using the Google Books Ngram Viewer is shown in Figure 13.

A comparative analysis of the frequency of references to “blockchain” AND “accounting” in Google Books sources indicates a significant interest of scientists in the subject, an interesting trend of decreasing interest in accounting, and an increase in blockchain. This can perhaps be explained by the fact that accounting research already has a significant foundation given its long-

term nature. At the same time, research on the application of blockchain technologies is only at the stage of getting to know the essence.

To track the change in interest in the use of blockchain technologies in accounting, Google Trends tools were used to analyze the frequency of queries from Internet users on this topic. Thus, Figure 14 characterizes the dynamics of user requests for “blockchain” (blue line) and “accounting” (red line) in the world in 2018–2022.

Thus, data analysis in Figure 2 allows us to conclude that it is impossible to find trends, analogies in the number of search queries about “blockchain” and “accounting”. However, a certain analogy can still be traced. In particular, at the beginning of 2022, there was a decrease in interest in both categories, but already in early March, the number of search queries increased. The graph shows not only the volume, but also the scale of Internet users’ requests: the maxi-

Source: Created by the authors using the Google Trends toolkit.

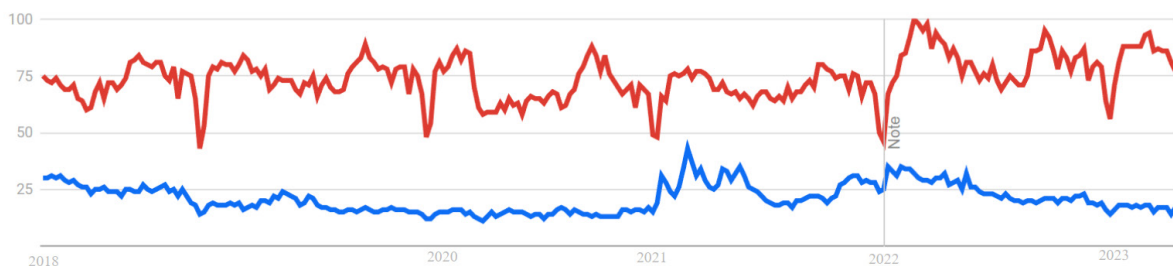


Figure 14. Google Trends results of Internet users’ queries about “blockchain” AND “accounting” in the world for 2018–2022

imum number of requests during the analysis period receives 100 points, and the points for the remaining observations are calculated relative to the maximum value. The use of bibliometric analysis tools made it possible to identify the most relevant works for the searched terms. The relevance was largely determined by the significance of scientific products and the scientific group presented in Figures 3, 6 and 7, as well as the citation of works.

On the basis of these works, their key theses can be cited, which will become the basis for further empirical research on the chosen topic.

Dai and Vasarhelyi (2017) consider blockchain as a tool for creating decentralized accounting and information verification systems that can provide greater reliability and security of financial reporting. The article explains that blockchain can help with data storage, creating audit trails, providing automatic verification and confidence in the accuracy of information. The opinion is put forward that the blockchain can become a promising tool in the field of accounting and auditing, but before that it is necessary to study all the possible consequences and challenges that arise with the use of this technology.

Garanina et al. (2022) explore the application of blockchain technology in accounting and auditing. The authors review current trends and emerging research topics related to blockchain in accounting, auditing and reporting. The article describes how blockchain can be used to ensure the security, transparency and accuracy of financial reporting, reduce the risk of fraud and error, and improve the efficien-

cy of accounting and auditing processes. The study also looks at how blockchain can be used to store and transmit financial information, improve data reliability and reduce information processing costs. In general, the article offers promising directions for research and practical use of blockchain technology in accounting and auditing.

Desplebin et al. (2021) analyze the potential benefits and challenges of using blockchain in financial reporting. They discuss how blockchain can be used to improve the accuracy and efficiency of financial auditing, ensure the credibility of financial reporting, and reduce accounting fraud. The authors also consider the problems associated with the use of blockchain, in particular the issues of confidentiality, privacy and regulation. They argue that the use of blockchain can be a key factor in improving transparency and accountability in the financial sector, but its implementation requires detailed analysis and development of the appropriate infrastructure. Overall, the paper explores the potential benefits and challenges of using blockchain in accounting and auditing, and provides perspectives for further research in this area.

Kokina et al. (2017) also look at the implications of using blockchain for accountants and auditors. In particular, they note that the use of blockchain can lead to a reduction in the role of the auditor in verifying the accuracy of accounting information, since the blockchain provides a high level of automation and control. In general, the article is devoted to identifying the possibilities of blockchain technology in accounting and its impact on the accounting profession and auditors.

CONCLUSION

The study of the topic of blockchain technology in accounting is of high relevance in the modern world. A bibliometric analysis of blockchain technologies in the context of their use in accounting has shown a relatively small number of publications on the relevant topics. Thus, based on the results of the bibliometric analysis of relevant scientific publications indexed by the Scopus scientometric database, using the VOSviewer toolkit, a map of the relationships between the concepts of “blockchain” AND “accounting” with other categories was formed, which allowed us to identify seven clusters.

Generalization of the results of the content-context block of bibliometric analysis made it possible to note that the most relevant is the concept of “finance” and its derivatives. There are intersections and relationships between the identified clusters. It should also be noted that the topic of smart contracts in accounting is considered within the third (blue) cluster.

Based on the analysis of the evolutionary time block of blockchain technology research, it was possible to identify several main periods during which the main accents in this area changed. It should be noted that in 2020–2021, the interest of researchers was directed to determining the place and role of blockchain technologies in financial technologies, to considering blockchains as tools for working with financial and accounting information, as an auxiliary tool for conducting audits.

The results of spatio-temporal dimension of bibliometric analysis show that the intensification of research on “blockchain” AND “accounting” occurs in the countries of the world within successive time ranges, each of which has its own geographical centers. At the same time, the analysis of the spatio-temporal dimension of bibliometric analysis in Ukraine showed that the publication activity of research on the use of blockchain technologies in accounting began in the second half of 2021.

According to the results of spatial clustering, five groups of countries were identified, the researchers from which have joint publications on “blockchain” AND “accounting”. The analysis carried out proved the existence of predominantly intercontinental links between researchers.

Comparison of subject areas in the study of blockchain technologies in accounting showed the predominance of the areas of “computer science” and “business, management and accounting”, and also confirmed the interdisciplinary nature of research.

The last block of the conducted bibliometric study was the analysis of the popularity of the search terms among Internet users, in Google Books and Google Trends resources. The analysis proved the absence of analogies in the dynamics of changes in the search queries “blockchain” AND “accounting”.

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