

Investigating Ethics in Government Procurement: A Bibliometric Analysis

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Abstract

Government procurement, being the largest business sector worldwide, faces significant challenges in terms of corruption, lack of transparency, and accountability. This study performs a bibliometric analysis to quantify and evaluate the scientific production on ethics in government procurement, identifying trends and associations between key terms over time. Using the Scopus database, 236 relevant documents dating from 1983 to 2024 were extracted, revealing a predominance of research articles and increasing attention to the topic, especially in the context of the COVID-19 pandemic. The findings indicate the importance of sustainable and responsible practices, as well as the potential of technological innovation, such as blockchain implementation and electronic contracting, to improve the integrity and efficiency of government procurement.

Keywords: *Government, Corruption, Ethics, Conflict of Interest*

INTRODUCTION

The government procurement market constitutes the largest business sector in the world (Hawkins et al., 2011a). The growing pressure that governments receive to meet the needs of the population has become a potential for corruption, the lack of transparency and unbalanced accountability have also led to the waste of public resources (Diadia et al., 2022); This means that the political promises that establish an ethical obligation and justice have been nullified, proof of this being the impartial results in the face of a public purchase.(Atkinson, 2020); Thus, the same government, in search of excellent management of public purchases oriented to social responsibility practices, has established regulations and directives that seek to be considered the ideal measures to mitigate corruption (Abioro, 2021; Mota & Henrique, 2021).

Although the regulations and directives referred to in the previous paragraph are an alternative to mitigate corruption, it seems that these are a “dead letter”, since the lack of application of the rules by those responsible for enforcing them undermines their effectiveness. Evidence of this is the precedent that establishes that the action of violating professional standards, the lack of ethics and equity are the factors that directly affect corruption (Bhagat & Jha, 2023); In this way, some countries have adopted certain alternatives based on the development of systems that can be considered as a fundamental tool whose purpose is to maintain ethics as a strategy to prevent and combat corruption, thus guaranteeing trust and legitimacy within public institutions (Jacob Nsiah-Sarfo et al., 2023) which also extends towards the success of economic growth, all of these being fundamental aspects that allow the consolidation of public, business, transparent and ethical management tools (Von Behr & Abrahamsson, 2022).

A transcendental situation that has marked a before and after within government actions was the financial crisis that the entire world experienced after the arrival of the pandemic, a time in which it was detected that contracting procedures were deficient, with large gaps. corruption and financial embezzlement (Kihamba, 2021); From that time on, the roles of the government were reanalyzed, all based on accountability and ethical actions within the management of public resources; the pandemic becoming a catalyst to improve reforms within the public administration, thus improving the conditions of public duties (Munteanu et al., 2020; Shava & Mazenda, 2021).

Regarding corruption loopholes, it has been identified that the bidding and offer evaluation stage is the moment in which the greatest corruption practice takes place.(Abdullahi et al., 2019); under this context, (Neu et al.,

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2015)refer that the implementation of internal control, monitoring practices and moral behaviors are alternatives that can discourage all corrupt practices; Therefore, it could be achieved that all public acquisitions become a strategic point of transparency and efficiency of public resources, thus strengthening the legitimacy of the institutions (Sarawa & Mas'ud, 2020), with the ability to transform purchasing culture and lead to more ethical conduct among parties through solid codes of ethics (Ndolo & Njagi, 2014; Tátrai, 2013a); thus, (Panadès-Estruch, 2019) they support three urgent actions: improving the advertising regime, reducing the scope of direct awards and strengthening government ethics.

Broadly speaking, corruption is an obstacle to democracy and the rule of law (Fourie, 2018), therefore it is necessary to adopt actions that focus on the implementation of integrity programs, which allow mitigating the risks that are linked to public authorities., contracts, local preferences and ethics in government ((Dos Santos & de Oriani e Paulillo, 2021; Panadès-Estruch, 2020). Due to the above, the need emerges to identify the trend of studies that address ethics in public procurement, thus identifying how these have evolved over time and the association that the terms maintain with each other.

Applied Method

This study aims to carry out a bibliometric analysis in order to quantify and evaluate scientific production regarding a particular topic, in this case, ethics in government acquisitions (Mongeon & Paul-Hus, 2016). To fulfill the objectives, the search was carried out in one of the high-impact databases, a database known as one of the titans of bibliographic information, called Scopus (Pranckuté, 2021). This in order to explore information regarding the documents found, regardless of the year, place, language, or others; that is, no document has been discarded.

The database search was carried out on February 22, 2024, considering the following search equation: "public purchases" OR "Government procurement" OR "public procurement" OR "public sector purchasing" OR "state purchasing" OR "government purchasing" AND "morality" OR "ethic*" OR "moral" OR "integrity", the results show 238 documents, which date from 1983 to 2024 and are shown in table 1.

Table 1. Research formula in the SCOPUS database

Items	Description
Time frame	No time restriction
Document type	All: Article, book chapter, session papers, reviews, book, short communications, conferences
Search criteria	Title, keywords and summary
Formula of Search	"public purchases" OR "Government procurement" OR "public procurement" OR "public sector purchasing" OR "state purchasing" OR "government purchasing" AND "morality" OR "ethic*" OR "moral" OR "integrity"
Language	English Spanish Portuguese Italian Russian Hungarian French Chinese
Number of documents found	236

In the systematic research process carried out in the Scopus database, a total of 236 relevant works was identified. The findings indicate a predominance of research articles, which constitute 70.3% of the total, followed by book chapters (11%) and conference papers (9.3%), as evidenced in table n. 02. Only 5.9% of these works are categorized as bibliographic reviews, and within this segment, no research was detected that explored the topic from the perspective of ethics applied to acquisition practices by government entities.

RESULTS

Statistical Analysis

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Table no. 02 – Types of Documents

Document type	Amount	Percentage
Article	166	70.3%
Book Chapter	26	11.0%
Conference Paper	22	9.3%
Review	14	5.9%
book	5	2.1%
Conference Review	1	0.4%
Erratum	1	0.4%
Short Survey	1	0.4%
TOTAL	236	100%

Table no. 02: Types of Documents Found in the Scopus database.

Understanding the historical development of the ethics under study is essential, as evidenced in the graphic representation (figure 01), which shows that the first document dates back to 1983 and highlights that, although corporate buyers usually exhibit solid ethics, some experts in the field they sometimes resort to unethical shortcuts (Browning & Zabriskie, 1983). The documents and articles found focused on tangential aspects related to ethics in government procurement until 2013. The first scientific article related to the research, titled "Ethical public procurement", argues that focusing exclusively on the sanction of corruption does not is sufficient and suggests the implementation of preventive measures (Tátrai, 2013b).

The visualization in the graph (figure n. 01) shows the number of documents found annually in the Scopus database. Since 1983, the volume of documents remains low until approximately 2005, with less than 10 publications per year. From there, a gradual increase is observed until 2014, with minor fluctuations from one year to the next.

After 2014, the number of documents experiences a more marked growth, reaching a peak in 2021, where the highest figure is recorded, close to 35 documents. This production has a significant increase in the quantity produced, most likely as a result of the COVID-19 pandemic. Furthermore, the COVID-19 crisis had a significant impact on public procurement, highlighting the need for joint and coordinated procurement (Racca, 2021). In the context of these considerably catastrophic circumstances, it has been observed that officials and public servants at various levels of the administration, misusing their authority, have manipulated operational and regulatory procedures for personal gain. This behavior has not only resulted in economic detriment for the State, but has also had adverse consequences for the health and lives of citizens (Pacheco et al., 2021).

It was even verified that in 2020, of the 27 scientific documents that were produced, there is a study on public purchases in Ecuador in the face of the COVID-19 pandemic situation (Macias, Jorge; Peñafiel, Alex; Arreaga, 2020). Likewise, in 2021, of the 29 scientific documents, 3 studies are focused on the pandemic, which are

(Beaton et al., 2021), which talks about the justification of bias during a pandemic in nationalism in crisis. In addition, (Moodley et al., 2021), did research on the ethical challenges facing the rollout of the COVID-19 vaccine. There is also a study that highlights the need to strengthen the public procurement process for resilient health systems during the pandemic (Adithyan & Sundararaman, 2021). However, in the following years, 2022 and 2023, there is a notable decrease, followed by a slight recovery in 2024.

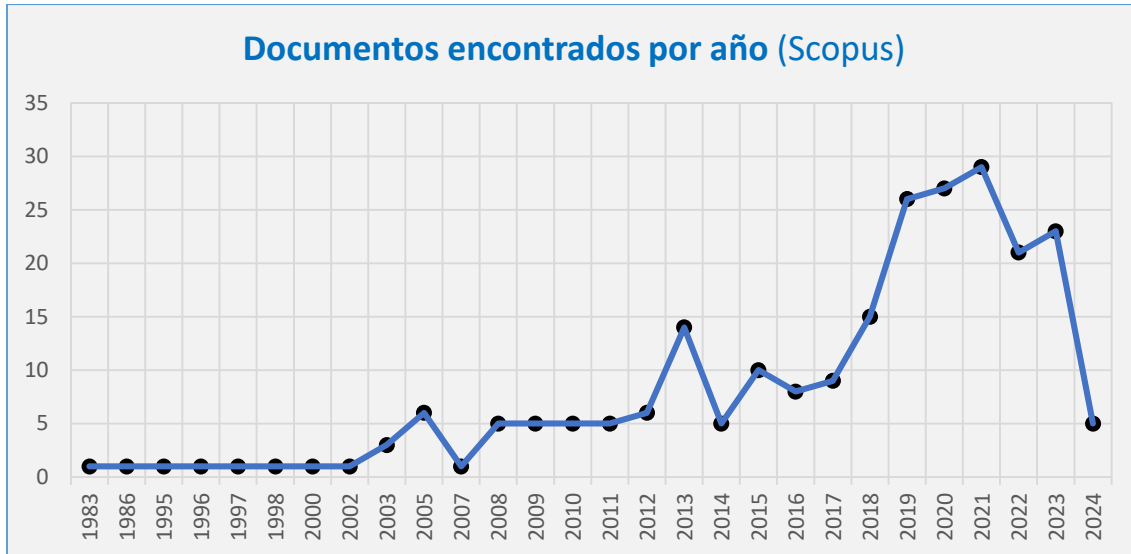


Figure no. 01: Number of documents found per year since the first document of the search.

This trend could reflect a growing interest in the topic studied through 2021, followed by a decrease that could be attributed to factors such as changes in research priorities, lack of funding, or global events that impact academic production. The small increase in 2024 could indicate a stabilization or the beginning of a new increase in the production of documents related to the topic.

Statistics concerning scientific research on ethics in government procurement point to the outstanding contribution of three countries. According to figure n.02, the United States holds first place with 34 documents, including the most recent study titled "The promise of artificial intelligence in the fight against public corruption in emerging economies" by (Adobor & Yawson, 2023), this finding suggests the potential of artificial intelligence as an effective tool in containing corruption in developing countries. Likewise, the United Kingdom is positioned as the second country with 29 documents, followed by Spain with 20.

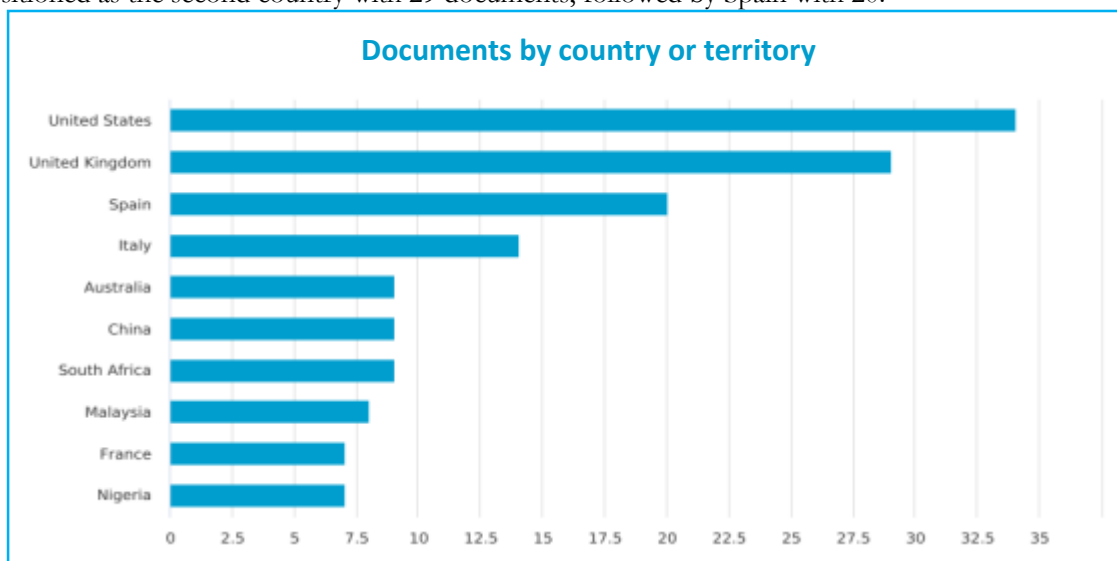


Figure no. 02: Number of documents found by country or territory that published the most since the first document found in the search.

In the context of South America, 14 relevant works were identified, highlighting the contribution of Brazil with six documents. Within this collection, there is the study of (Mendonça et al., 2021), which highlights the close relationship between ethics and the practice of sustainability, although it recognizes the complexity inherent in this topic due to its historical foundations and the associated paradigmatic changes. It is noteworthy that Brazil is positioned as the only country in the region present in the classification of scientific productivity on the subject, occupying thirteenth place in the ranking derived from the bibliometric analysis of Scopus, and leading in South America in this aspect.

On the other hand, Chile and Colombia have three documents each, followed by Ecuador and Peru with less representation. (Aponte Ríos et al., 2023), has carried out recent research in Peru in which he emphasizes, from an ethical perspective, that decisions that lead to illegal behavior are not taken superficially, and that responsible individuals must assume the moral responsibility inherent in their actions. These findings reflect, unfortunately, the scant attention given in South America to academic research concerning ethics in government procurement.

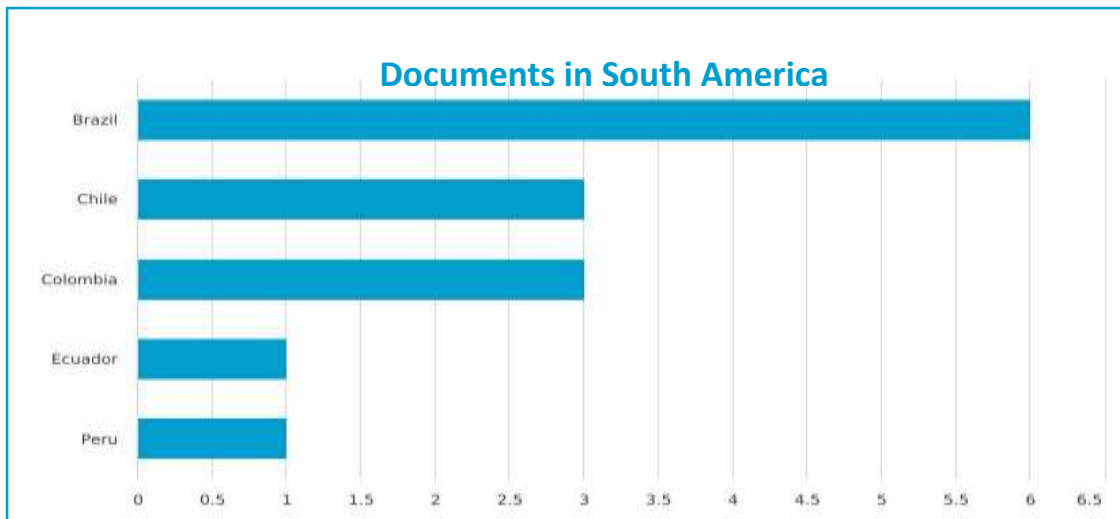


Figure no. 03: Number of documents found in South America that have been published the most since the first document found in the search.

The financing of scientific research represents a fundamental pillar in the academic field. In a search of the Scopus database, 65 documents related to this area were identified, supported by various institutions, ministries, foundations and organizations. An analysis of figure n.04 reveals that the European Commission stands out as the main source of funding, supporting four studies focused on ethics and public procurement as preventive measures against corruption in government authorities. These studies were carried out in Portugal (Bizarro & Ferreiro, 2022), Croatia (Hanák et al., 2020), Germany (Parrado et al., 2018), and the United States (Hawkins et al., 2011b). On the other hand, the Fundação para a Ciência e Tecnologia also shows a significant contribution with three documents funded in Portugal. However, other entities show less involvement in the financing of these documents.

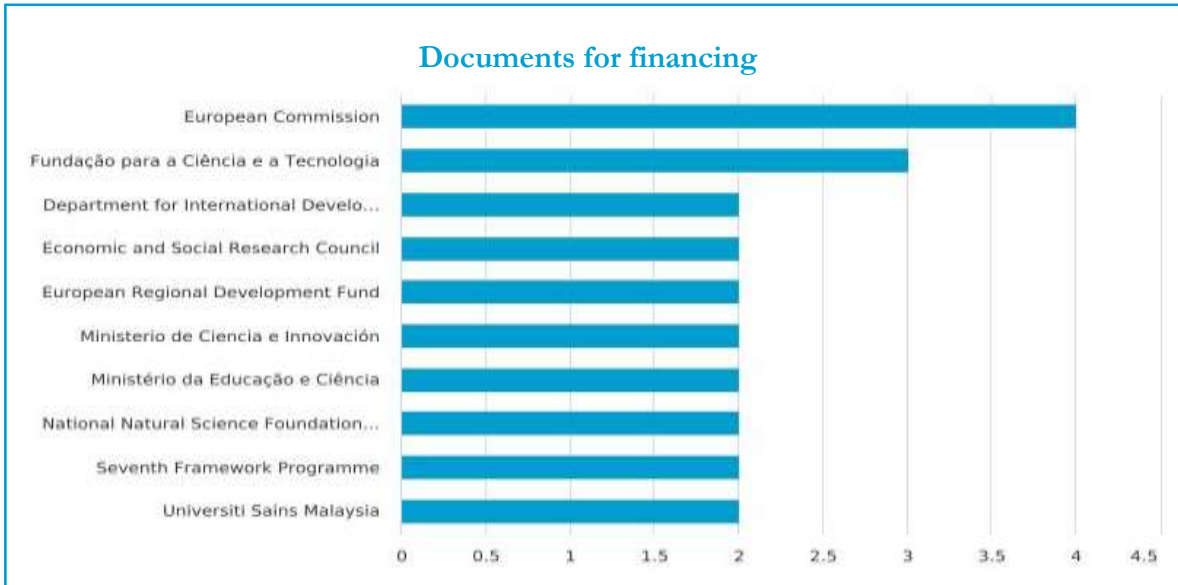


Figure no. 04: Number of documents found by funding since the first document found in the search

After obtaining results with the characteristics already mentioned, the graphic representations were extracted and then submitted the results to the Vosviewer software, considered as a tool that facilitates the construction and visualization of bibliometric maps.(Van Eck & Waltman, 2010); In the specific case of this study, the software was used to build connections with the keywords and evaluate the key concepts over time.

Bibliometric Analysis

The bibliometric analysis carried out through VOSviewer on a sample of 236 articles reveals the existence of four differentiated thematic clusters that underlie the literature on ethics in government procurement.

Table 1 reflects a summary of the bibliometric analysis from which 04 clusters emerge with the representative keywords,

Table 1. Groups of words per cluster

Cluster	Cluster	Representative Keywords
1	Red	Competition, ethics, integrity, local government, public sector, sustainable public procurement
2	Green	Blockchain, e-procurement, moral hazard, procurement, public procurement
3	Blue	Accountability, transparency
4	Yellow	Corruption, public administration

Note: Created by VOSViewer based on a sample of 236 articles.

The Red Cluster stands out for its concentration on the ethical and regulatory aspects of competition in public procurement. Terms such as "Competition", "Ethics", and "Integrity" indicate an academic reflection on the values and behaviors expected in the public procurement process. About(Zulaikha et al., 2021), mentions that the values in a community direct our actions, although sometimes they can encourage unethical behavior. The emphasis on "Local Government" and "Public Sector" points out the importance of decentralization and local scrutiny in resource management, a decentralized system of descending auctions optimizes and transparent the bidding process(Deshpande et al., 2020)While the inclusion of "Sustainable Public Procurement" highlights the orientation towards the adoption of sustainable and responsible practices from an ethical perspective, the effectiveness of these practices is more conditioned by the political orientations of citizens than by the government's competence to establish them. and ensure its continuity(Alkadry et al., 2019).

The Green Cluster focuses on the interface between technology and innovation, with a particular focus on "Blockchain" and "e-procurement", reflecting the growing interest in the digitalization and automation of public procurement, according to (Hughes, 2017) The creation of new technologies that are anticipated to have a significant impact on how we conduct exchanges with each other, this must be an issue that takes into account the general needs of the community. Many countries are incorporating electronic procurement practices using digitalization with the aim of enhancing transparency, integrity and accountability in procurement protocols. (Musa et al., 2020). However, the presence of the term "Moral Hazard" highlights ethical dilemmas and management challenges associated with new technologies in public procurement, adverse selection and moral hazard caused by information imbalance, harms collective well-being and deteriorates the quality of services. offered by the government sector (Zhang & Xu, 2021).

The Blue Cluster, which brings together "Accountability" and "Transparency", suggests a concern for accountability and transparency as foundations for public trust and the effectiveness of government management. The implementation of Social Responsibility strategies in the field government promotes social progress by integrating principles of transparency, political ethics, citizen participation and open governance (Gómez & González, 2016). This literature emphasizes the need for procurement systems that not only comply with legal and regulatory standards, but are also characterized by transparent practices and subject to evaluation and control by relevant actors, including citizens, under this context. (Masoud, 2022) It points out that the deficiency in transparency and accountability is significantly negatively correlated with the effectiveness of procurement processes.

Finally, the Yellow Cluster addresses "Corruption" in relation to "Public Administration", highlighting discussions around the prevalence of corruption and its implications for the integrity of government procurement processes, (Kohler & Dimancesco, 2020), highlights that procurement processes show a pronounced propensity for the incidence of corrupt practices, with a notable prevalence in the healthcare field. Additionally, the presence of corruption in these processes does not discriminate between different strata of public administration nor is it limited to a specific health system. In this sense, an integrated system of preventive and remedial strategies will facilitate the eradication of corrupt practices, reinforcing integrity. and transparency. Education, the cultural sphere and the media play crucial roles in the formation of a generation with a high sense of commitment, which actively positions itself against administrative corruption, encouraging people to report corrupt acts (Hindawy, 2023).

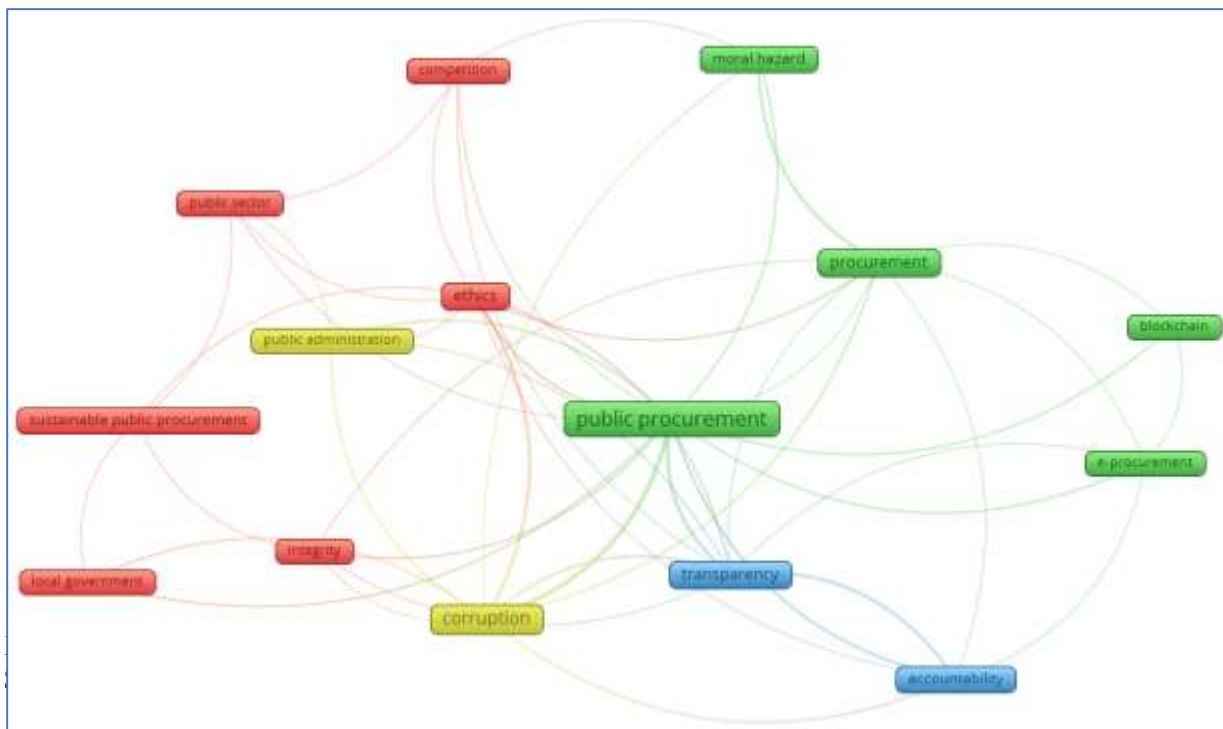


Figure 1 shows the keywords represented as nodes; For example, the blue boxes present an approach that denotes the link between accountability and transparency; about(Moldaliev, 2021)establishes that there are various mechanisms considered as catalysts that contribute to the growth and development of countries, conditioning transparent and responsible actions, specifically accountability, which is considered public scrutiny and acts as a transversal issue within the context. political; In this context, it is established that monitoring accountability can help mitigate negative effects such as corruption, thus improving the management of public resources and reducing development failures and democratic deficits.(Andreula et al., 2012; Gaventa & Mcgee, 2013). For this purpose, it is important to take transparency actions, since it has been shown that this serves as an input for making informed decisions, and to demand responsibility from those who correspond.(Wong et al., 2021).

Regarding the green nodes, these are centralized in moral risk, contracting, public contracting, electronic contracting and blockchain; However, public procurement is in charge of promoting commercial innovation whose purpose is to promote economic and social development.(Bleda & Chicot, 2020), studies have been identified that suggest that all contracting must be transparent in order to avoid any moral risk and promote efficiency in each contracting process, since an adequate contracting practice generates greater opportunity for suppliers, thus guaranteeing the suitability of the contracts. celebrated(Chackraborty et al., 2021; Tan & Yang, 2024). Being a way to guarantee good practices, technological intervention in processes, such as electronic contracting and blockchain(Liang et al., 2023), which correspond to innovative tools that allow us to accelerate the development of new technologies aimed at creating ideal conditions for the creation and promotion of new markets.(Mazzucato, 2018).

Furthermore, the yellow nodes highlight the link between public administration and corruption. According to the authors(Němec et al., 2022)Corruption in public administration generates a very destructive effect, and is stronger than the workforce; Evidence of this is the cases that represent one of the largest scandals in Latin America, the Odebrecht case, which, due to corrupt acts, has dismantled institutions and damaged the reputation of government processes, affecting in some cases tax evasion.(Pappa et al., 2015). In this way, the fight against corruption is essential to have an efficient public administration, with transparency and responsibility, capable of restoring the trust of citizens.(Androniceanu et al., 2022; Jiménez, 2023)

Meanwhile, in the red group we find ethics, integrity, local government and the public sector, under this approach it is denoted that these practices are necessary to maintain an upright government in society, a government capable of being characterized by the reputation it maintains.(Khanal et al., 2022); In this context, all codes, guidelines and procedures must be communicated in a timely manner within an organization in order for them to be effective.(Hoekstra & Kaptein, 2022), taking into account that corruption, beyond being a symbol of integrity, also includes persistent actions of honesty, reliability and normal morals (Huberts, 2014).

On the other hand, based on the report of the keywords, table 2 was prepared, which shows that the term public procurement is most frequent, followed by corruption; This means that the studies address these topics as central terms of their study. In addition, the terms contracting, transparency, ethics and moral risk have been found in lesser occurrence, but as important terms, each of them with their respective values of total link strength.

Table 2. Top 15 keywords in keyword analysis co-occurrence

Ranking	Keywords	Occurrences	Total Link Strength
1	public procurement	52	40
2	corruption	27	29
3	procurement	18	14
4	transparency	14	22
5	ethics	13	17
6	moral hazard	eleven	8
7	accountability	8	14

8	sustainable public procurement	8	4
9	integrity	7	6
10	blockchain	6	4
eleven	e-procurement	6	6
12	public administration	6	9
13	public sector	6	5
14	competition	4	5
fifteen	local government	4	5

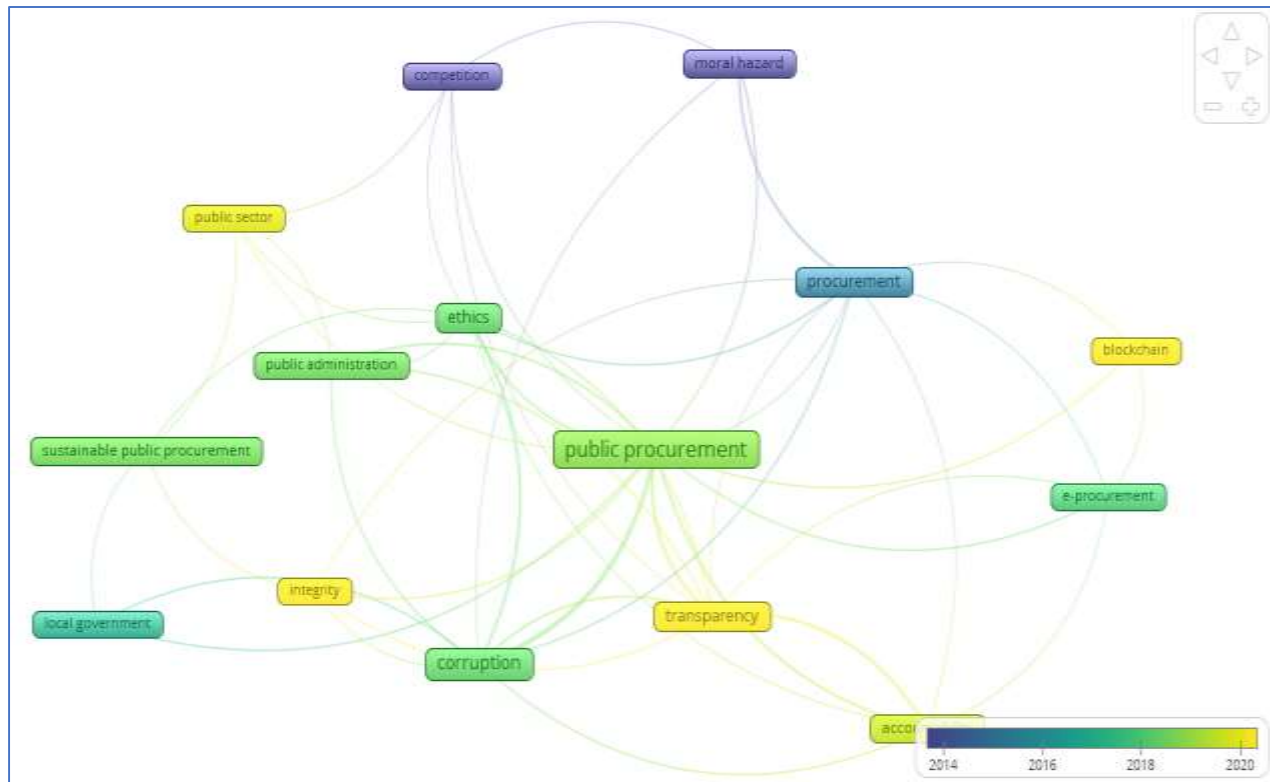


Figure 2. Evolution of key concepts over time
Source: VOSViewer

Figure 2 demonstrates the evolution of the 15 key concepts over time, we can discern their evolution and the interconnections with the business sector, highlighting a significant link between ethics in government procurement, ranging from accountability and transparency to equity and confidentiality (Atiga & Tanzubil, 2023).

The "public procurement" node is positioned as the core of the network, suggesting its central role in the interaction between related concepts. Terms such as "ethics," "transparency," and "corruption" maintain strong and consistent connections to the central node throughout the period examined, emphasizing their persistent relevance in procurement literature and practices. public, recognizing their strategic role for socioeconomic development (Ambe, 2019). The emergence and temporal prominence of the term "blockchain" reflects a spike in interest and potential integration into procurement systems, highlighting technological innovation as an area of growing interest, resulting in considerable economic savings both nationally and locally, while enhancing transparency and reinforcing integrity (Aboelazm, 2024).

Other concepts, such as "sustainable public procurement" and "e-procurement", indicate an evolution towards sustainable and digitalized procurement methodologies. In order to reform the oversight of public procurement, both national and supranational regulatory regimes have been established that monitor the incorporation of digital technologies, with the aim of cementing operational transparency and uninterrupted monitoring of developments (Meschini et al., 2024). Secondary nodes, such as "local government", involve an examination of the interaction between procurement practices and different levels of governance. Public procurement is a crucial challenge for local governments, especially in contexts of low revenues and the perception that a more compact government is more effective. In this scenario, contracting emerges as an essential strategy to provide goods and services to the population (Shick, 2015).

DISCUSSIONS AND CONCLUSIONS

Our research "Exploring Ethics in Government Procurement" highlights how the government procurement sector, being the largest globally (Hawkins et al., 2011a), faces significant challenges related to corruption, lack of transparency and accountability (Diadia et al., 2022). The findings indicate that, despite the existence of regulations intended to encourage ethical practices, the effective implementation and enforcement of these standards remain critical challenges. Bibliometric review of 236 documents revealed growing concern about ethics in government procurement, especially in the context of the COVID-19 pandemic (Kihamba, 2021). This interest is reflected in the peak of documents in 2021, suggesting increased awareness and potential reforms to procurement practices.

The inclusion of terms such as "ethics", "transparency" and "corruption" in the thematic clusters underlines an empathetic connection with the challenges faced by public institutions in maintaining ethics. On the other hand. The bibliometric analysis reveals the existence of four distinct thematic clusters in the literature on ethics in government procurement, focused on competition, technology and innovation, accountability and transparency, and corruption in relation to public administration. . The importance of sustainable and responsible practices in public procurement is highlighted, as well as technological innovation, such as the implementation of blockchain and e-procurement, is recognized as a promising avenue to improve the integrity and efficiency of government procurement. (Meafa et al., 2023). However, challenges related to moral hazard and gaps in the effective application of existing regulations were also identified, suggesting that technology alone is not a complete solution without a strong ethical and regulatory framework.

The COVID-19 pandemic acted as a catalyst for reform in procurement management (Racca, 2021), evidencing the need for more resilient and transparent procurement systems. However, research indicates significant variability in the response of different countries and regions, highlighting the importance of specific contexts in policymaking and ethical practices in government procurement.

Limitation within the field of study itself includes the acceptance that, despite advances in policies and technologies (such as blockchain and e-procurement), significant challenges remain in eradicating corruption and improving transparency. . The possible variability in the application of policies between different jurisdictions and the generalizability of the results (Kimura & Morimitsu, 2023).

Future research should explore the effectiveness of anti-corruption measures in different government contexts and evaluate the impact of ethics reforms on the quality and efficiency of public services. (Aboelazm, 2018). Furthermore, it would be beneficial to study the relationship between organizational culture and susceptibility to corruption in public procurement.

In conclusion, the research highlights the importance of the government procurement sector, the largest globally, facing challenges to implement effective ethical practices and improve transparency. The COVID-19 pandemic drove reforms towards more resilient procurement systems, evidencing the need to adapt policies to varied contexts. Despite technological advances such as blockchain and electronic contracting (Siddiqui et al., 2024), ethical and regulatory challenges persist. The urgency of strengthening accountability and fostering an ethical culture in procurement is underlined, pointing to the need for continued reforms and contextual adaptations to overcome corruption and improve transparency in the sector (Musa et al., 2020).

Implications And Future Recommendations

Ethics is immersed in the organizational culture as the main axis in government procurement (contracting methods, special contracting methods and assumptions excluded from the scope of applications subject to supervision) in national, regional or local governments; Therefore, it is recommended to become aware of Ethics in government procurement through the tool of artificial intelligence, transparency, accountability when viewing Non-governmental Organizations, civil society, like every citizen, become aware of the actions they carry out. national, regional and local governments.

Implement training and awareness programs on ethics and transparency in government procurement aimed at both public officials and suppliers and contractors. These programs may include workshops, seminars and educational materials to promote an ethical culture at all levels of public administration.

Strengthen internal and external control mechanisms to prevent and detect acts of corruption in government procurement. This could include regular audits, independent reviews and the implementation of anonymous reporting systems to facilitate the detection of irregularities.

Promote citizen participation in public procurement processes by creating spaces for consultation and participation, as well as the proactive dissemination of information about procurement processes and contracts concluded by the government. This can help increase transparency and accountability in government procurement.

Establish incentives and recognition for those public officials and suppliers who demonstrate an outstanding commitment to ethics and transparency in government procurement. These incentives could include awards, public recognition, or even financial incentives to promote ethical and responsible practices.

The fight against corruption in government procurement can benefit from international cooperation and the exchange of best practices between countries. Regional and international cooperation mechanisms must be strengthened to combat cross-border corruption and promote common ethical standards in government procurement.

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