



Knowledge Mapping of Research on Internal Control in Government: A Bibliometric Analysis

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ARTICLE INFO	ABSTRACT
<p>Keywords: Internal Control, Internal Control System, Government, Bibliometric Analysis</p>	<p><i>The interest in the concept of internal controls system has been growing consistently over the past few years to study the use and the effectivity of this system, particularly in government. Yet, a comprehensive and updated review of this field is still lacking. In this paper, we use bibliometric analysis and VOSviewer software to investigate the research related to the government internal control. Focusing on publications in journals indexed in the Scopus database, we conducted a quantitative bibliometric analysis from 1970 to 2023 and found 397 journal articles. Result shows that it has grown considerably in the last few years. We were also able to identify the authors, journals, nations or regions, and citation counts that helped to grow the body of research on this topic. Indonesia is the nation with the greatest number of published documents related to the topic, followed by China, the United States, and other countries. According to the author's keywords, accountability, control, ethics, fraud, governance, Malaysia, and performance have all received a lot of attention. In the end, we draw the conclusion that more interdisciplinary research is required to gather information and to improve the study by employing different analytical tools.</i></p>

INTRODUCTION

The government refers to the structure or people in charge of an organized community, usually a state. The government uses a lot of products and services to run its operations. Receiving and allocating inflows of resources is the business of governments. Revenues are derived from taxes and the sale of assets and rights that are shielded by the law to corporations. Proceeds from sales of goods and services are allocated to government programmes. It is not unexpected that some business actors are prepared to buy influence in order to obtain advantageous policy or procurement outcomes, since both sets of decisions have an impact on the profitability of business.

Regretfully, the government system's intricate procurement procedure creates room for fraud, which leads to the benefit of certain parties. Neu et al. (2015) stated that government procurement is a major hub for corruption due to the scope and volume of procurement activities, the uncertainty surrounding the market value of many of the goods being bought, the political discretion afforded by government, and the interdependence of political, bureaucratic, and commercial actors. One strategy to try and prevent corruption in an organisation is to activate its internal controls. If an organisation's internal control system is effective, it can guard against human weaknesses and reduce the likelihood of mistakes and rule-breaking behaviour (Tuannakotta, 2017).

It is imperative to uphold the principle of "good governance" when a nation enters an era of globalisation characterised by massive technological advancement and increasingly open information. Transparency and accountability are essential for implementing reform and establishing clear and effective governance. One of the main tenets of Sarbanes-Oxley is management accountability for internal control. According to Section 302 of the Act, chief financial and executive officers must report an overall assessment of the efficacy of internal controls and conduct a quarterly evaluation of the design and operation of internal controls. An annual audit of management's

assessment of internal controls and their efficacy is mandated by Section 404 of the Act.

The process established by management to offer a reasonable level of assurance regarding the accomplishment of efficient and successful operations, trustworthy financial reporting, and adherence to legal and regulatory requirements is commonly referred to as internal control. Internal controls are designed to give management a reasonable level of confidence that the company's goals will be met and that risk events can be identified, avoided, or remedied. An organisation or company can create an internal control system, which is a collection of plans, methods, procedures, and policies, to safeguard assets, ensure the accuracy and dependability of accounting data, achieve operational efficiency and effectiveness, and ensure compliance with laws, policies, and other regulations. Internal control refers to the methods and procedures that are coordinated to maintain organisational assets, verify the correctness and dependability of accounting data, promote efficiency, and promote adherence to management policies. It also includes organisational structure.

Obviously, the management of profit-oriented and non-profit organisations is different. The degree of risk that a non-profit organisation is not successfully carrying out its mission-related activities and fiduciary responsibilities is thus indicated by the findings of internal control audits (Petrovits et al., 2011). Various managerialist techniques and performance indicators, such as risk assessment, training, sanctions, self-reviews, and reports from internal and external auditors, are encouraged to be put into practice and enforced by government departments (Sikka & Lehman, 2015). For the purposes of this study, an internal control issue is defined as the presence of a reportable condition pertaining to financial reporting or programme compliance with regulations.

It is generally known that the purpose of non-profit organisations, including government departments or agencies, is not to maximise profit, and they do not issue shares. Non-profit managers answer to donors and grantors, who offer a significant source of funding, even though they are not answerable to shareholders. Since the resources of these funders and donors are finite, non-profit organisations must fight for funding. Donors may decide to support a different organisation where money is presumably used more efficiently if an organisation reports an issue with internal controls. Therefore, subsequent contributions may be reduced in the event that an internal control deficiency is disclosed (Petrovits et al., 2011). On the other hand, donors are less likely to keep an eye on a non-profit organisation since, unlike shareholders, they do not ultimately profit from its operations (Fama & M. Jensen., 1983). Furthermore, the lines separating the public, private, and third sectors have blurred as hybrid forms of organisation—variously referred to as partnerships, collaborations, networks, alliances, and, most prominently, public-private partnerships—are more and more prevalent in the delivery of public services (Agranoff & McGuire, 2003).

It makes sense that organisations need to prioritise developing strong internal controls. When control failures occur, they can be especially hard to find but will always have a detrimental effect on value if proper oversight and governance aren't in place. Researchers have also been concentrating on this issue since the 1970s. Therefore, this study aims to address the following queries while taking into consideration the growth of internal control research that has been conducted by numerous researchers, particularly in the public or government sector. The research questions are:

- (1) What were the internal control in government research trends from 1970 to 2023?
- (2) Which journals were the most popular for internal control in government research?
- (3) Which authors had the greatest influence, and what networks of co-authorship and collaboration did they have?
- (4) Which subjects were covered by the publications that the internal control in government contributed?

The rest of this essay is organised as follows: Initially, the meaning of internal control is explained. Second, we provide a summary of the study's methodological strategy. Thirdly, the results of the comprehensive review of the literature are showcased. The study ends by offering suggestions for additional research.

METHOD

For gathering data, the researchers chose the Scopus database. The purpose of selecting these databases was to find pertinent academic literature for this investigation. Every pertinent publication was searched for bibliometric data to be processed in bibliometric analysis. The bibliometric analysis provides a detailed examination of research trends, thereby analysing science as a productive knowledge system (Trivedi, 2019). The most prevalent themes and keywords connected to research on public service agencies and appropriate models of public service agencies were identified with the support of our bibliometric analysis. In order to facilitate visualisation, we utilise the VOSviewer software.

We looked through all relevant publications to find bibliometric information. We use ['Internal Control' AND 'Government'] to conduct a boolean search in the 'Article Title, Abstract, & Keywords' categories. The findings display 536 documents, including 397 journals, 75 conference proceedings, 37 books, 20 book series, and 7 trade journals from 1970 to 2023. Since journal articles are regarded as verified knowledge, we only included them in our analysis; books, chapters, and conference papers were not included because of availability issues and differences in peer review procedures (Podsakoff et al., 2005). In total, 397 documents need to be processed.

RESULTS AND DISCUSSION

The internal control in government research trends from 1970 to 2023

Figure 1 shows how the Scopus database's publication research on internal control in government from 1970 to 2023 is organized. It began in 1970 at a very low level and stayed steady until 2005. From 2010, it has increased gradually, and from 2020 until now, it has increased significantly. Based on 65 published documents, we can see that 2023 is the peak. This demonstrates the growing need for research on internal control in the dynamic situations of today.

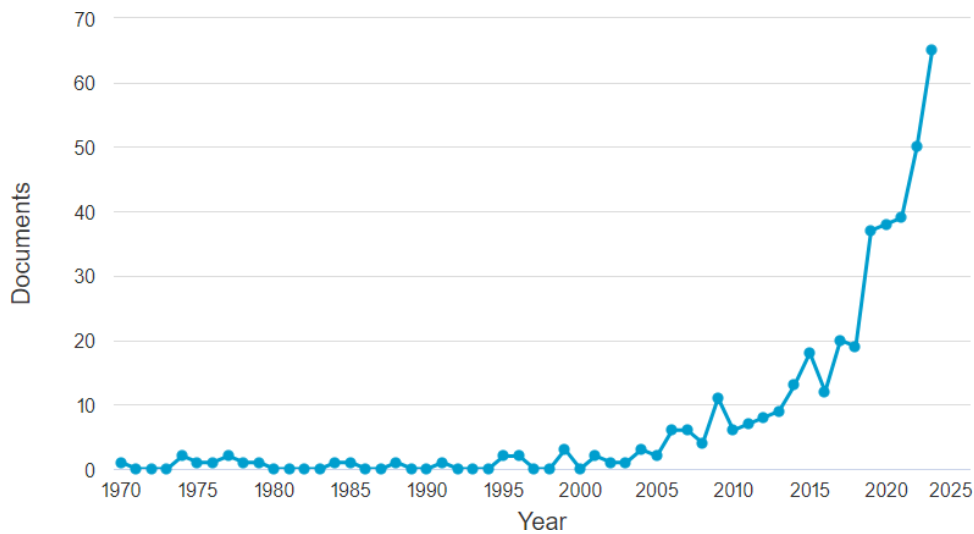


Figure 1. Documents by year.

Source: Analyse search results from the Scopus database, 2024.

By using countries as our unit of analysis, we examined co-authorship and citations. We set a minimum number of documents for a country as 5, and a minimum number of citations for a country as 50. As a result, out of 72 countries, 12 meet the thresholds. However, some of the 12 items are not connected to each other. The largest set of connected items consists of 11 items; some of them are Indonesia (as the largest), China (the second largest), the United States (the third largest), and others. We present it in Figure 2.

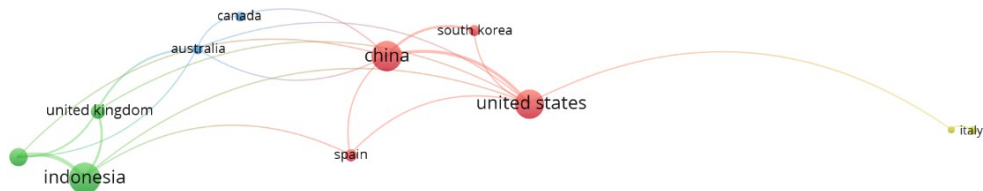


Figure 2. Co-authorship & citation by Country analysis.

Source: Processed with VOSviewer, 2024.

Figure 2 shows that the largest publication of this topic is in Indonesia, followed by China, the United States. There is still much space for research on this topic in other nations, like the United Kingdom, Australia, Canada, South Korea, Spain, and Italy. This is related to figure 3 below.

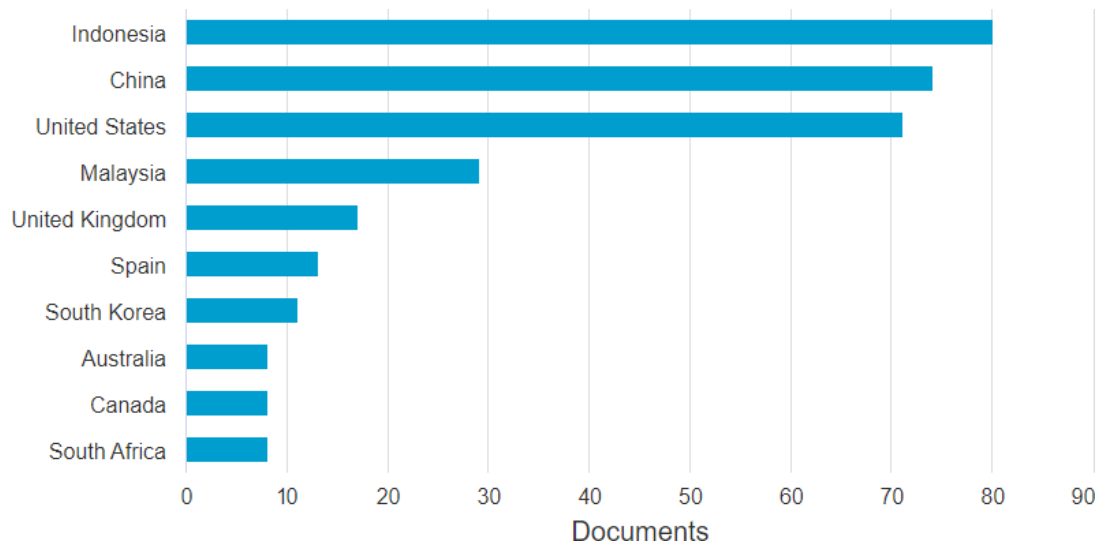


Figure 3. Documents by country or territory.

Source: Analyse search results from the Scopus database, 2024.

Figure 3 illustrates that the outcome shown in Figure 2 is in line with the data obtained from the Scopus database, which shows that Indonesia is the nation with the greatest number of published documents (80 documents in total) related to the topic. China in the second place, and the United States in the third place published more than 70 documents. Malaysia published less than 30 documents. The United Kingdom, Spain, and South Korea published more than 10 but less than 20 documents. And the others like Australia, Canada and South Africa published less than 10 documents. This indicates that there is still a lot of opportunity to conduct this kind of research in a few nations.

The most popular publications for internal control in government research

We then look for the most widely read articles about internal control in government studies. By using organisations as our unit of analysis, we examined co-authorship and citations. A minimum number of documents of an organisation is 1, and the minimum number of citations of an organisation is 50. As a result, out of 747 organisations, 26 meet the thresholds. Some of the 26 items in this network are not connected to each other. The largest set of connected items consists of 5 items. We present it in Figure 4.

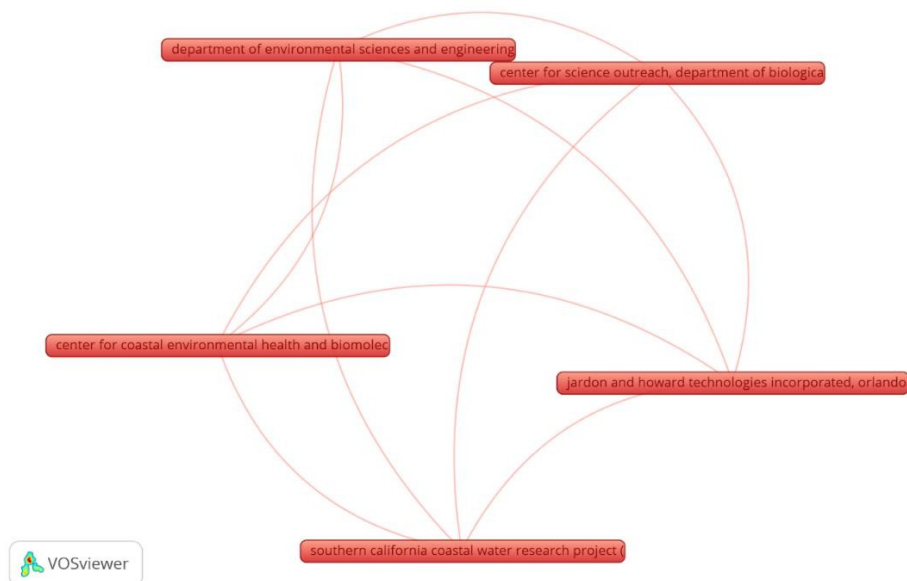


Figure 4. Co-authorship & citation by organization analysis.

Source: Processed with VOSviewer, 2024.

Five related organisations with publications in this field, originating from the United States, are depicted in Figure 4. They are: 1) Center for coastal environmental health and biomolecular research, Hollings marine laboratory, U.S. National oceanic and atmospheric administration, Charleston, SC, the United States, 2) Center for science outreach, department of biological science, Vanderbilt university, Nashville, TN, the United States 3) Department of environmental sciences and engineering, University of North Carolina, Chapel Hill, NC, the United States 4) Jardon and Howard technologies incorporated, Orlando, FL, the United States, 5) Southern California coastal water research project (SCCWRP), Costa Mesta, CA, the United States.

Furthermore, by using source as our unit of analysis, we examined citation. A minimum number of documents of a source is 2, and a minimum number of citations of a source is 50. As a result, out of 280 sources, 8 meet the thresholds. We present it in Figure 5.

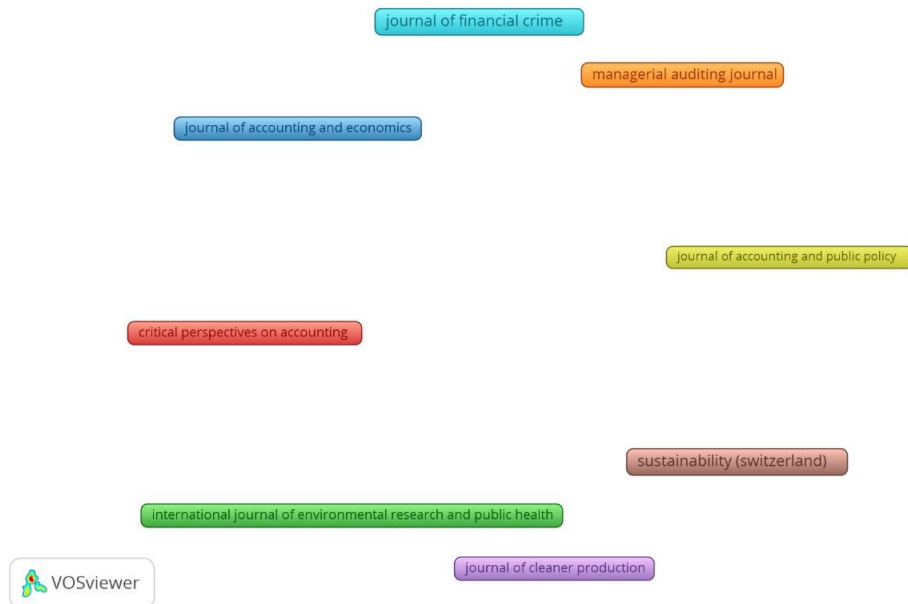


Figure 5. Citation by sources analysis.

Source: Processed with VOSviewer, 2024.

There are 8 sources in this area, as seen in Figure 5. These include the Critical perspectives on accounting, the international journal of environmental research and public health, the Journal of accounting and economics, the Journal of accounting and public policy, the Journal of cleaner production, the Journal of financial crime, the Managerial auditing journal, and the Sustainability (Switzerland).

The sources with the most citations are listed in the following Table 1, indicating the significance of the articles published in that journal for additional study.

Table 1. Source documents and citations.

No	Source	Documents	Citation
1.	Sustainability (Switzerland)	11	72
2.	Journal of financial crime	11	68
3.	Managerial auditing journal	6	78
4.	Critical perspectives on accounting	3	199
5.	Journal of accounting and economics	3	139
6.	Journal of cleaner production	3	78
7.	International journal of environmental research and public health	3	53
8.	Journal of accounting and public policy	2	130

Source: Data processed by the author, 2004.

Moreover, by using documents as our unit of analysis, we also examined citation. A minimum number of citations for a document is 50. As a result, out of 397 documents, 12 meet the thresholds. We present it in Figure 6.

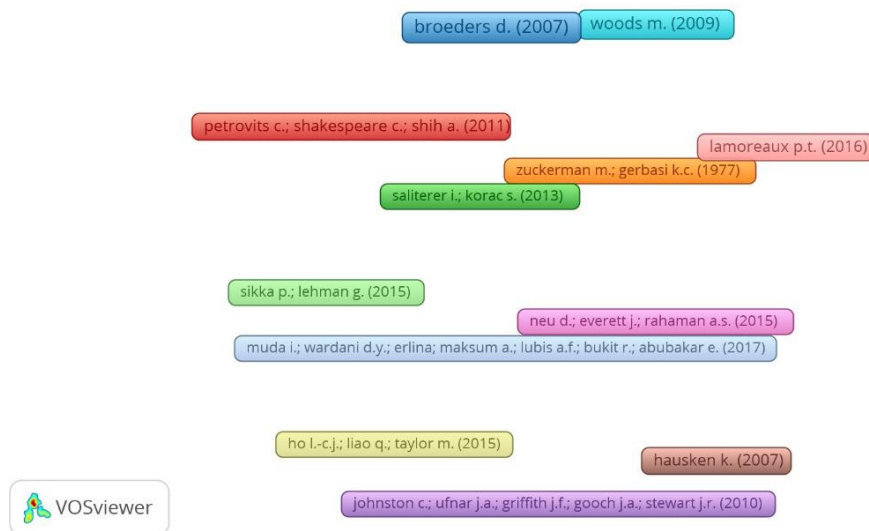


Figure 6. Citation by documents analysis.

Source: Processed with VOSviewer, 2024.

The articles with the most citations are listed in the following Table 2., which highlights their significance for more study.

Table 2. Articles and citations

No	Author(s)	Title	Journal	Citations
1.	(Broeders, 2007)	The New Digital Borders of Europe: EU Databases and the Surveillance of Irregular Migrants	International Sociology (International Sociological Association) - SAGE	222
2.	(Woods, 2009)	A contingency theory perspective on the risk management control system within Birmingham City Council	Management Accounting Research - Elsevier	148
3.	(Petrovits et al., 2011)	The Causes and Consequences of Internal Control Problems in Nonprofit Organizations	The Accounting Review (American Accounting Association)	127
4.	(Hausken, 2007)	Information sharing among firms and cyber attacks	<i>Journal of Accounting and Public Policy</i> - Elsevier	108
5.	(Lamoreaux, 2016)	Does PCAOB (Public Company Accounting Oversight Board's) inspection access improve audit quality? An examination of foreign firms listed in the United States	<i>Journal of Accounting and Economics</i> - Elsevier	105
6.	(Neu et al., 2015)	Preventing corruption within government procurement: Constructing the disciplined and ethical subject	<i>Critical Perspectives on Accounting</i> - Elsevier	87
7.	(Ho et al., 2015)	Real and Accrual-Based Earnings Management in the Pre- and Post-IFRS Periods: Evidence from China	Journal of International Financial Management & Accounting - Wiley	64
8.	(Muda et al., 2017)	The influence of human resources competency and the use of information technology on the quality of local government financial report with	Journal of theoretical and applied information technology	62

		regional accounting system as an intervening		
9.	(Saliterer & Korac, 2013)	Performance information use by politicians and public managers for internal control and external accountability purposes	Critical Perspectives on Accounting - Elsevier	57
10.	(Zuckerman & Gerbasi, 1977)	Belief in a just world and trust	Journal of Research in Personality	55
11.	(Sikka & Lehman, 2015)	The supply-side of corruption and limits to preventing corruption within government procurement and constructing ethical subjects	Critical Perspectives on Accounting	55
12.	(Leerkes et al., 2012)	Borders Behind the Border: An Exploration of State-Level Differences in Migration Control and their Effects on US Migration Patterns	Journal of Ethnic and Migration Studies - Taylor & Francis	51

Source: Data processed by the author, 2004.

Broeders (2007) examined the creation of three EU migration databases and their implications for the internal management of undocumented immigrants. Many governments use internal migration control on settled irregular migrants because borders and immigration laws by themselves are insufficient to halt irregular migration. The goal of this group's surveillance is to keep them out of important institutions of society, discourage their presence there, and eventually deport those who are caught as undocumented migrants. Identification of irregular migrants is critical to these policies. In the modern era, computerised and networked databases are used for identification and registration. The EU's member states are currently building a database network related to (illegal) immigration. Large databases, frequently containing biometric data, are used by the Schengen Information System (II), the Eurodac database, and the Visa Information System to identify and classify legal and irregular migrants. Based on digital traces of their migration history, these systems can "re-identify" segments of the population of irregular migrants. It is argued that the digital infrastructure, which is maturing beyond its early stages, is becoming an effective means of monitoring irregular migrants in Europe.

Woods (2009) believed that the government and business sectors have both placed a greater emphasis on risk management in recent years, and efforts by the private sector to enhance risk and internal control systems have been paralleled by similar calls for reform in the public sector. Nowadays, risk management is seen by both practitioners and regulators as a crucial component of corporate governance and a means of achieving strategic goals. The paper develops a contingency theory for the public sector by extending existing theory using case study material on Birmingham City Council's risk management control system. The case shows that although the control system's structure follows a general model, the operational details show that controls depend on three key factors: the size of the organisation, information and communication technology, and central government policies. For testing the theory in a larger public sector setting, all three contingent variables are appropriate.

Petrovits et al. (2011) investigate the reasons behind and effects of internal control shortcomings in the nonprofit sector between 1999 and 2007 using a sample of 27,495 public charities. First, we note that non-profit organisations that are smaller, more complex, growing, or in poor financial health are more likely to report an internal control issue. We then provide evidence that, even after adjusting for the current level of donor support and other factors influencing donations, the disclosure of lax internal controls over financial reporting is negatively correlated with the subsequent donor support received. We also report a negative correlation between government grants after internal control issues. According to our findings, government agencies and donors—who are significant sources of funding for nonprofit organisations—respond either directly or indirectly to information about internal controls.

Hausken (2007) noted that accounting becomes more important as a result of the Sarbanes-Oxley Act's strengthening of internal controls and the government's promotion of information sharing. It also lays the groundwork for evaluating costs and benefits. Information is securely represented, stored, and transferred. In an aggregate attack, information sharing and security investment for two firms form an inverse U shape. These links are formed by the firms' unit cost of security investment as well as their interdependence. Both lead to a rise in

interdependence (see the US telecom sector, for example). Social welfare is inversely U-shaped in terms of information sharing with a given security investment. Free riding is implied by individual optimisation. In simultaneous and two-period games, a social planner is introduced to control information sharing, security investment, or both. When the social planner is well respected, there are two realistic period games where the planner moves first. A social planner that regulates information sharing (security investment) for the simultaneous game imposes excessively high sharing (security investment). Businesses exploit the variable they have control over. In the two period games, the social planner sets more moderate levels. In a two-period game where the social planner moves first, controlling both security investment and information sharing is the most advantageous control scenario when the firms' defence efficiencies are high. Should these be sufficiently high, the attack is completely prevented.

Lamoreaux (2016) looks at the relationship between audit quality and the Public Company Accounting Oversight Board's (PCAOB) access to inspect auditors of foreign SEC registrants in order to obtain insight into the effects of the PCAOB auditor inspection programme. Despite the PCAOB's mandate to inspect all SEC registrants' auditors, some foreign governments forbid the PCAOB from inspecting their own domestic auditors, resulting in access to PCAOB inspections being restricted to a subset of US companies. In comparison to auditors not subject to PCAOB inspection access, I find that auditors subject to inspection access from the PCAOB produce higher quality audits, as indicated by more going concern opinions, more reported material weaknesses, and less earnings management. Before the implementation of the PCAOB inspection regime, there was no discernible distinction between the two sets of auditors. Both jurisdictions with and without a local audit regulator have seen improvements in audit quality as a result of PCAOB inspection access. The findings are consistent overall in showing a positive correlation between audit quality and PCAOB inspection access.

Neu et al. (2015) conduct a study to look at how internal controls and monitoring procedures function in unethical environments and how they affect organisational actors' morality and ethics. With a particular focus on corruption in government procurement, the paper draws on the insights of Michel Foucault and Gilles Deleuze to suggest that understanding and analysing the politics and practices of visibility is essential to developing effective anti-corruption practices. It also suggests creating "luminous arrangements" that effectively discourage corrupt practices and impact ethics within organisations. Such arrangements suggest that organisational actors are both subject to and constructed by anti-corruption practices, while also encouraging certain actions and reactions among them. However, they do not always prevent corrupt practices. As a result, these procedures are both productive and disciplinary, having a particular impact on the people involved as well as the organisations they work for.

Ho et al. (2015) investigated the prevalence of accrual- and activities-based earnings management for Chinese A-share companies in the context of the adoption of substantially IFRS-convergent accounting standards. A new set of accounting standards that have largely conformed to IFRS has been mandatory for all listed A-share firms in China since 2007. New requirements for internal control reporting and auditing standards were also brought about by the reform. Our findings indicate that Chinese companies operating in the post-IFRS era (2007–2011) are less likely to use accrual-based earnings management, based on a sample of 4,050 firm-year observations from 2002 to 2011. Following the implementation of IFRS, discretionary accruals likewise decrease in size. As a result, businesses are substituting real activity manipulation for upward earnings management. The decrease in accrual-based earnings management may result from concurrent modifications to the governance regimes brought about by the IFRS mandate, as well as from improved accounting standards linked to the adoption of IFRS. However, additional research shows that not all businesses will benefit equally from the adoption of IFRS in reducing upward accrual-based earnings manipulation. In particular, the benefit is reduced for companies under the jurisdiction of Chinese central or local governments, those based in less developed areas, and those with subpar financial performance, which makes them vulnerable to delisting. Additionally, we discover that the benefit is not as significant for manufacturing firms as it is for non-manufacturing firms.

Muda et al. (2017) attempt to determine the impact of information technology use and human resources competency on the calibre of local government financial reports, with the regional accounting system acting as an intervening variable for the regional works unit in Labuhanbatu Regency, Indonesia. In this study, saturated sampling is the sample technique used. For every employee, 108 questionnaires were distributed. With the use of the SmartPLS software 2.0 M3, the hypothesis was examined using the Structural Equation Model (SEM). Based in part on this study, Labuhanbatu Regency, Indonesia's Regional Financial Accounting System (SAKD) has a positive and significant impact from information technology use and human resources competency. The use of

information technology and human resources competency have an impact on the quality of local government financial reports in Labuhanbatu regency, but this influence is mitigated by the Regional Financial Accounting System (SAKD). This study suggests that in order to enhance human resources competency and raise the calibre of local government financial reports, a thorough training programme should be implemented. In addition, the head of the local government should encourage the implementation of internal control and the Regional Financial Accounting System to enhance the quality of the financial reports and make them more optimal.

Saliterer & Korac (2013) believed that since the introduction of changes influenced by New Public Management, governance structures have undergone significant change. These days, public service delivery, especially local, can be described as diverse and fragmented, posing challenges for politicians and public managers in terms of both external accountability and internal management. In this situation, using performance data is thought to be essential to handling both problems successfully. However, it is uncommon for empirical research to take into account various actors and contexts in a single study. By using a multi-theoretical approach and testing theories regarding the antecedents of politicians' and public managers' use of performance information for both internal and external accountability purposes in small- and medium-sized local governments in Austria, the current paper closes this gap. According to the study's findings, both groups use performance data more frequently for external accountability relationships than for internal management. The findings also demonstrate how the driving factors for both groups are similar with regard to the latter goal, but the factors influencing their use behaviour towards citizens and supervisory authorities paint a more varied picture.

Zuckerman & Gerbasi (1977) conducted three studies to look at the connection between degree of trust and belief in a just world. The findings demonstrated that participants with high levels of belief in a just world were less likely to be suspicious of deception in a social psychology experiment, less likely to be suspicious of the promise of a free gift, and less likely to be suspicious of the government's stance on a number of public issues. The relationships between authoritarianism, trust, and belief in internal versus external control were also investigated in the same studies. Occasionally, but not always. More trusting attitudes were correlated with high levels of authoritarianism and internal control beliefs. It was proposed that the concept of believing in a just world acted as a mediator in the relationship between internality (as determined by the I-E Scale) and trust.

Sikka & Lehman (2015) noted that one enduring issue in government procurement programmes is corruption.

The study by Jeff Everett, Abu Shiraz Rahaman, and Dean Neu emphasises the importance of internal controls in government agencies for reining in people and encouraging moral behaviour. In response, this paper makes the case that, despite their great desirability, effective internal controls in government agencies are unlikely to have a major impact on corrupt practices used to obtain government contracts. One of the main causes of this is the proliferation of corruption by businesses eager to get profitable contracts. They have an unquenchable thirst for money and have demonstrated a willingness to participate in dishonest behaviour in order to obtain government agencies, all in keeping with the spirit of modern capitalism. Two case studies are used to illustrate the issues. There is contention that the likelihood of preventing corruption in government procurement is significantly restricted by the supply side of corruption.

Leerkes et al. (2012) believed that governments operating at different levels of government are making a greater effort to keep undocumented immigrants out of the labour force and public services, as well as to detain and remove those who have become permanent residents of the country. This article shows how such "internal border control" policies and practices can be roughly approximated empirically. It also demonstrates how, starting in 2005, internal border control has become more common in the US, particularly in Southern states. Additionally, data supports a negative bivariate relationship between the estimated growth rate of unauthorised residence and the level of internal border control; states with the highest levels of interior control typically saw the biggest declines in the unauthorised population. They present four reasonable explanations for this bivariate relationship and offer several directions for future study. The findings are based on a secondary analysis of unauthorised population estimates and a primary analysis of three indicators of internal control: employer participation in E-Verify, restrictive state laws, and county and city involvement in the 287g Programme. The importance of having a solid understanding of this theme is highlighted by the 12 articles previously mentioned, especially in light of recent developments and the number of studies on internal control in government that are still frequently cited in scholarly writing.

The author(s) were most influential

We obtained information from the Scopus database indicating that three documents were published by Erlina, Gras-Gil, E., Jin, S., Maulidi, A., Moreno-Enguix, M.d.R., Mulyani, S., Nawawi, A., Salin, A.S.A.P., and Zakaria, M. in the Figure 7.

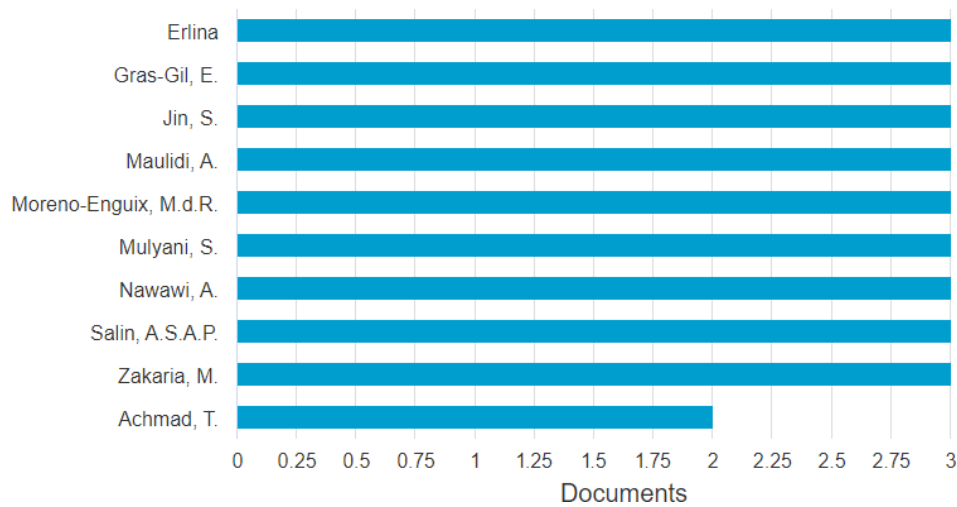


Figure 7. Documents by Author.

Source: Analyse search results from the Scopus database, 2024.

However, these authors do not have many citations. We looked at citation by using authors as our unit of analysis. There is a one-document minimum and a fifty-citation minimum for each source. Consequently, 13 writers out of 394 satisfy the requirements. It is shown in Figure 8.

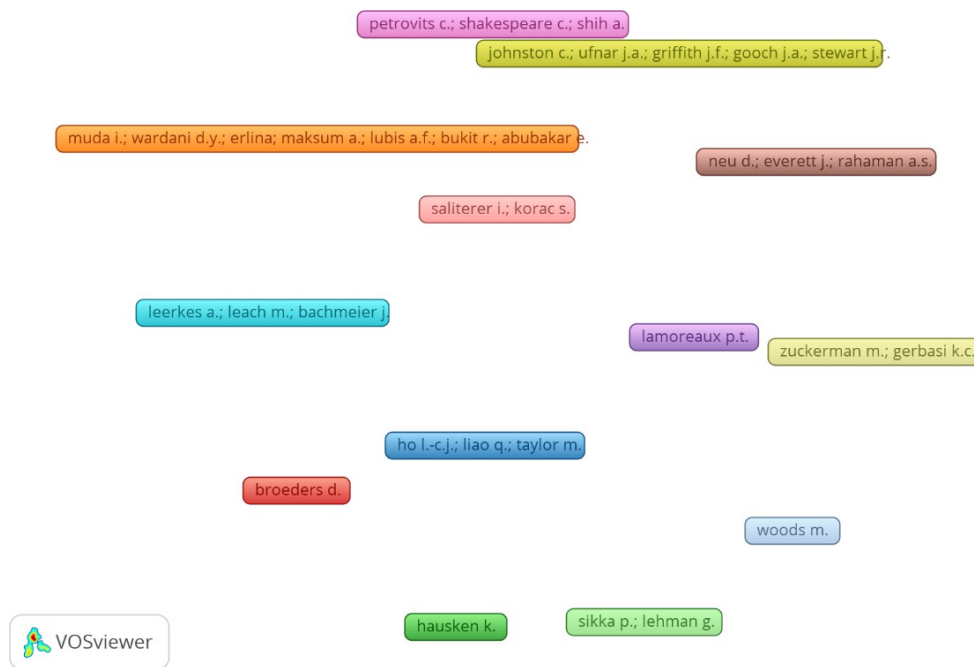


Figure 8. Citation by authors.

Source: Processed with VOSviewer, 2024.

Figure 8 also includes the 12 authors mentioned in Table 2 above. 1) Broeders, D., 2) Hausken, K., 3) Ho, I.-C. J., Liao, Q., Taylor, M., 4) Lamoreaux, P. T., 5) Leerkes, A., Leach M., Bachmeier, J., 6) Muda, I., Wardani, D. Y., Erlina, Maksum, A., Lubis, A. F., Bukit, R., Abubakar, E., 7) Neu, D., Everett, J., Rahaman, A. S., 8) Petrovits, C., Shakespeare, C., Shih, A., 9) Saliterer, I., Korac, S., 10) Sikka, P., Lehman G., 11) Woods, M., 12) Zuckerman M., Gerbasi, K. C., and one additional author, 13) Johnston, C., Ufnar. J. A., Griffith, J. F., Gooch. J. A., Steward, J. R.

The Topics That the Publications Covered

Using the author keyword as our unit of analysis, we examined co-occurrence. A minimum number of occurrences of a keyword is 5. As a result, out of 1.188 keywords, 26 meet the thresholds. We present it in Figure 9.

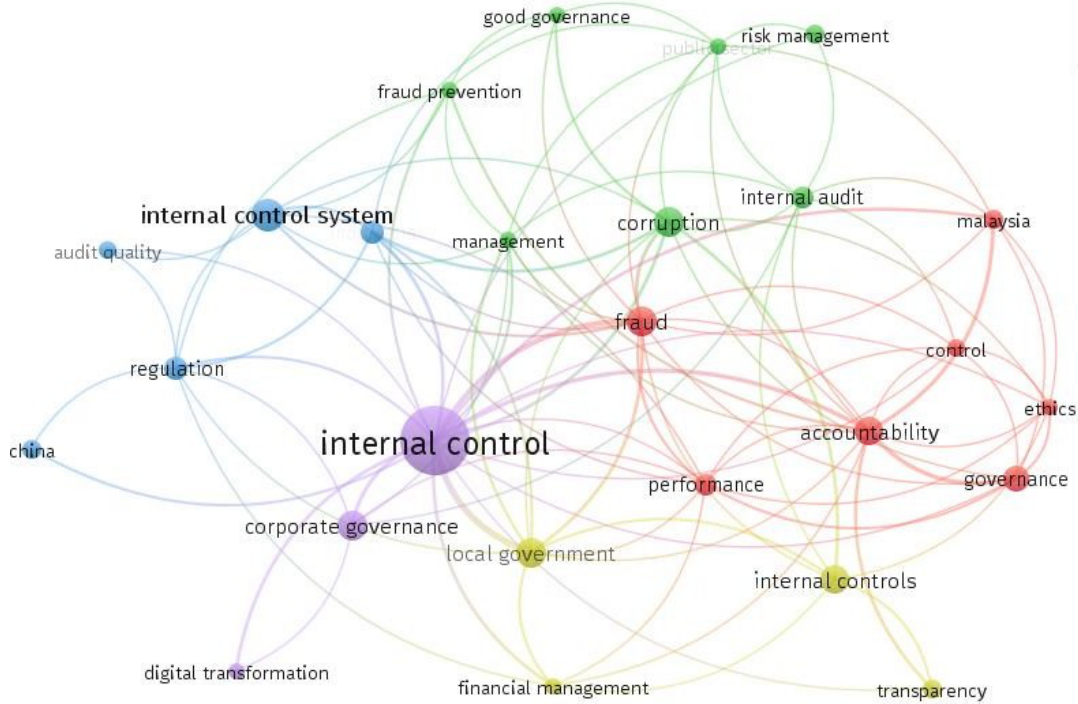


Figure 9. The co-occurrence of author keywords.

Source: Processed with VOSviewer, 2024.

According to Figure 9, the author keywords that are most commonly used in this field of study are "internal control" (86 occurrences, 20 links, 57 total link strength, related to 5 clusters), "internal control system" (19 occurrences, 8 links, 10 total link strength, related to 3 clusters), and "local government" (17 occurrences, 10 links, 26 total link strength, related to 4 cluster). Figure 9 also shows five clusters derived from the co-occurrence of author keywords. These five clusters are shown in Table 3.

Table 3. Author keyword's cluster.

No	Cluster	Colour	Items
1.	Cluster 1 (7 Items)	Red	Accountability, control, ethics, fraud, governance, Malaysia, performance
2.	Cluster 2 (7 Items)	Green	Corruption, fraud prevention, good governance, internal audit, management, public sector, risk management
3.	Cluster 3 (5 Items)	Blue	Audit quality, China, Indonesia, internal control system, regulation
4.	Cluster 4 (4 Items)	Yellow	Financial management, internal controls, local government, transparency
5.	Cluster 3 (3 Items)	Purple	Corporate governance, digital transformation, internal control

Source: Data processed by the author, 2004.

It is important to note that, as in China, the majority of research on internal control in Indonesia is related to discussions about audit quality, internal control systems, and regulations. This makes sense given the significance of internal control effectiveness, which management is in charge of ensuring before the audit process is conducted, both internally and externally. The achievement of the internal control objectives themselves will also be significantly influenced by choosing an internal control system design that is appropriate for a given kind of organisation. Aside from that, it goes without saying that this research cannot be divorced from relevant regulations, given that it centres on government internal control operations.

As the global standard-setter for auditing, the International Auditing and Assurance Standards Board (IAASB) places a strong emphasis on audit quality. Encouraging Audit Quality in the Public Interest: A Focus on Professional Scepticism, Quality Control, and Group Audits (the ITC) was thus published by the IAASB. The board's discussions on these three topics are highlighted in this ITC, which also suggests possible standard-setting initiatives that could improve audit quality. When certain requirements are met, audit quality—which is comprised of these requirements—is more likely to be carried out consistently. It is the auditors' responsibility to carry out thorough financial statement audits. But the most favourable circumstances for attaining audit quality are those in which parties involved in the financial reporting supply chain cooperate and behave properly. An engagement team is likely to have completed a quality audit if: 1) a thorough audit process and quality control procedures that complied with applicable laws, regulations, and standards were applied; 2) appropriate values, ethics, and attitudes were displayed; 3) adequate knowledge, skill, and experience were available; and 4) time was allotted to complete the audit work. Useful and timely reports were provided, and appropriate interactions with relevant stakeholders were made (IAASB, 2024).

An organisation's internal controls system should include the following components (Kenton, 2024):

- (1) Control environment: In a control environment, all staff members are taught the value of honesty and are expected to report and eradicate any irregularities, including fraud. This atmosphere is established by the management and the board of directors, who set an example. To support the objectives of internal controls, management must implement internal systems and staff.
- (2) Risk Assessment: An organisation needs to systematically evaluate and determine whether there is a chance of risk or loss. The results of these evaluations may lead to the implementation of increased levels of focus and control in order to guarantee risk containment or to monitor risk in related areas.
- (3) Monitor: To ensure the continued viability of its internal control system, an organisation must keep an eye on it. By doing this, it can make sure that internal controls continue to operate as required, whether through system updates, hiring new staff, or essential employee training.
- (4) Information/Communication: Clear communication and accurate information are crucial from two angles. First, effective internal controls can be facilitated by roles and purposes being clearly defined. Second, encouraging comprehension of and dedication to actions can help staff members perform their jobs as efficiently as possible.
- (5) Control activities are those that deal with the procedures, guidelines, and other plans of action that uphold the integrity of regulatory compliance and internal controls. They entail investigative and preventative tasks.
- (6) Law and Regulation Compliance: All applicable laws, rules, and standards must be followed in the financial operations of an organisation. This entails staying informed about modifications to financial regulations and putting policies in place to guarantee adherence.
- (7) Separation of Duties: Assigning duties to various individuals lowers the possibility of mistakes or improper behaviour. To avoid fraud and mistakes, this involves keeping the roles of authorisation, custody, and record-keeping separate.
- (8) Physical Controls: To safeguard its resources, such as money, stock, and machinery, a company must put security measures in place. This might entail surveillance systems, access controls, and secure storage facilities.

Since the 1998 reformation, the Indonesian government has made a number of significant changes to public governance. One of these is the implementation of the government internal control system (SPIP), which is used in government institutions at all levels, from the federal to the local, and is governed by PP/60/2008. The Supreme Audit Board (BPK) and the Financial and Development Supervisory Agency (BPKP) assess the implementation of the government's internal control system annually. Every year, the BPKP evaluates the maturity of the government internal control system to see how well a government institution has developed and implemented it. The maturity of the internal control system will be ascertained by this evaluation. In the meantime, as part of the financial statement audit of government institutions, the BPK audits the government's internal control system once a year. The government internal control system's shortcomings will be listed, along with suggestions for improvement, by the BPK.

Winarna et al. (2021) present empirical evidence that the performance of local government administration is influenced by the internal control system of the government and that the control environment, risk assessment, information, and communication all have a positive impact on this performance. Based on their findings, they

recommend that the BPKP maximise training and development programmes in order to implement ongoing efforts to improve the maturity of local government internal control systems. As a result, effective implementation of the internal control system by the local government can improve administration performance and ensure good accountability. Additionally, their research offers more in-depth understandings of the administration performance and internal control systems in local government for other nations that use the COSO concept to develop internal control systems in local government internationally in Asia, Europe, America, Australia, and Africa.

Documents by subject area

Having 179 papers published (23.7%), business, management, and accounting have dominated the majority of the discussion on this topic. 161 publications (21.3%) in the social science fields come in second. Economic, Econometrics, and Finance, with 144 publications (19.0%), comes in third. Figure 10. displays the remaining subject area.

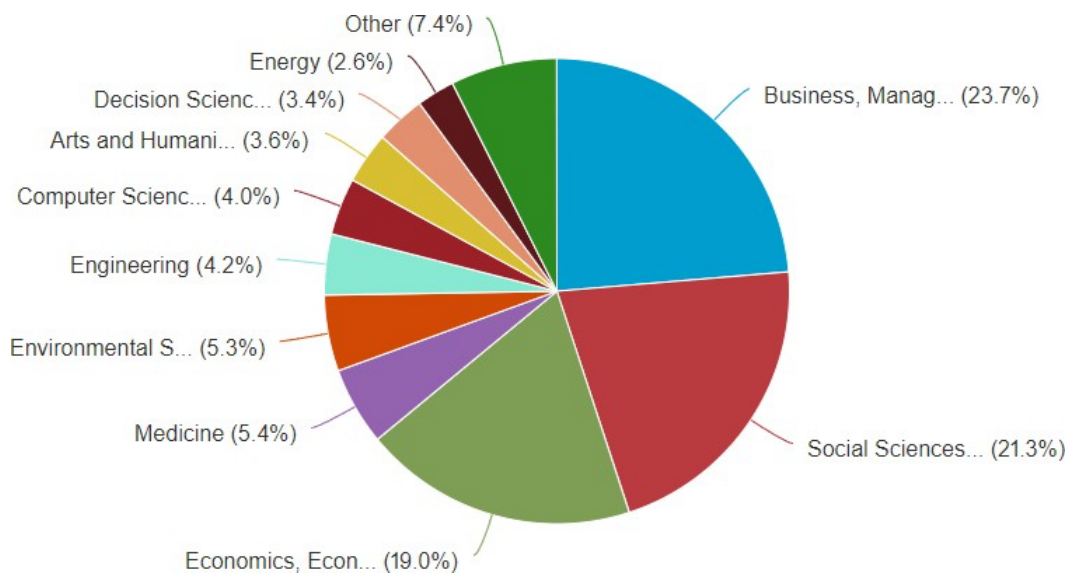


Figure 10. Documents by subject area.

Source: Analyse search results from the Scopus database, 2024.

Figure 10. also illustrates that the discussion of internal control requirements is not exclusive to the social science domain. It's interesting to note that this topic is also covered in engineering (4.2%), medicine (5.4%), energy (2.6) and other exact sciences. This demonstrates that the need for internal control extends beyond social interactions and activity within organisations to all facets of life. All tasks can be completed successfully and efficiently with the implementation of an appropriate internal control system.

CONCLUSION

This study explores the development of internal control research in the public sector, particularly in government, showing significant growth in recent years after a slow start in 1970. The highest number of studies was recorded in 2023, with Indonesia emerging as the leading contributor, followed by other countries like China and the United States. Key areas of focus include accountability, ethics, fraud, governance, and performance, with substantial contributions to fields such as business, management, and accounting. Several prominent researchers have played a significant role in advancing this field, with notable journals supporting the dissemination of related studies. The research utilizes bibliometric tools to enhance understanding of trends and contributions in the field, although some limitations, such as subjective interpretations, remain. This area of study is crucial for providing insights into organizational practices and theoretical advancements, with future research encouraged to employ diverse analytical methods to expand its scope and impact.

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