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# KEYWORD-BASED BIBLIOMETRIC INSIGHTS INTO WHISTLEBLOWING: TRENDS, THEMES AND IMPLICATIONS

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## Abstract

Whistleblowing research has evolved significantly over four decades, progressing from isolated case studies to multidisciplinary analyses examining organisational behaviour, technological systems, and cross-cultural dynamics. This bibliometric analysis examines whistleblowing literature in the Scopus database from 1978 to 2024, identifying trends through keyword co-occurrence analysis using VOSviewer. Four thematic clusters emerged: (1) organisational culture, (2) ethics, (3) healthcare, and (4) legal frameworks. Emerging terms including "ethical leadership," "psychological safety," and "digitalisation" reflect evolving priorities driven by technological advancement and shifting behavioural norms. These findings inform policy development and organisational practice. Policymakers can strengthen legal protections and develop sector-specific reporting mechanisms that prioritise psychological safety alongside compliance. The analysis also reveals underexplored research areas, particularly regarding digital whistleblowing platforms and the psychological impact on whistleblowers, providing direction for future research.

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*Keywords:* Whistleblowing, whistleblower, bibliometric, keyword analysis

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## 1. Introduction

Whistleblowing—the disclosure of unethical or illegal conduct within organisations—has been a subject of academic and practical interest since 1978. It plays a vital role in promoting transparency, accountability, and ethical governance. Over recent decades, researchers across multiple disciplines have examined whistleblowing through various lenses: corporate governance, organisational behaviour, ethics, and fraud prevention. This multidisciplinary attention reflects its importance in addressing organisational misconduct and creating environments where ethical behaviour is both encouraged and protected.

Research on whistleblowing increased substantially after 2000, driven largely by high-profile corporate scandals (such as Enron and WorldCom) and the introduction of legal protections for whistleblowers. Early studies focused on ethical decision-making frameworks, while contemporary research explores organisational justice, compliance systems, and the psychological dimensions of speaking up. The field now encompasses diverse theoretical, empirical, and policy perspectives, reflecting whistleblowing's complexity as a phenomenon shaped by organisational cultures, national contexts, and legal frameworks.

This study conducts a bibliometric analysis of whistleblowing research, examining keyword trends and their evolution over time. Bibliometric analysis offers a systematic approach to mapping the intellectual landscape of a research domain. By analysing publications in the Scopus database, we identify dominant themes, track their development, and reveal how research priorities have shifted. This approach provides insights into where the field has been, where it currently stands, and which areas warrant further investigation.

## 2. Literature Review

Whistleblowing research gained prominence in the early 1980s across the United States, United Kingdom, and European Union as scholars and policymakers grappled with questions of organizational ethics and governance. Initial studies examined how organizational misconduct could be detected and addressed, emphasizing the need to protect employees who reported wrongdoing. This academic interest coincided with legislative developments. The United States passed the Whistleblower Protection Act in 1989 to protect federal employees, while the United Kingdom enacted the Public Interest Disclosure Act in 1998, creating a statutory framework for employee protections. Following corporate scandals like Enron, the Sarbanes-Oxley Act (2002) strengthened U.S. protections, particularly in financial reporting. The Dodd-Frank Act (2010) later expanded these safeguards and introduced monetary rewards for whistleblowers. In 2019, the EU Whistleblower Protection Directive required all member states to adopt comprehensive whistleblower protection laws covering both public and private sectors.

For the development of whistleblowing protection in the ASEAN Region, Malaysia introduced the Whistleblower Protection Act (2010), while in Thailand, the Public Sector Anti-Corruption Commission Act (2018) provides legal protection to whistleblowers who report misconduct in the public and private sectors. In Singapore, various statutes, such as the Penal Code, Prevention of Corruption Act, and Corruption, Drug Trafficking, and Other Serious Crimes Act, provide some protections. In Indonesia,

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whistleblower protection is covered under the Law on Witness and Victim Protection (2006), which offers protection and incentives for whistleblowers.

However, there was a noticeable rise in publications during the 2000s, likely spurred by high-profile corporate scandals (e.g., Enron in 2001, WorldCom and Tyco International in 2002, and Parmalat in 2003). Research intensity peaks in the 2010s, coinciding with global efforts to strengthen ethical standards and governance practices across industries, because while those laws established important precedents, research consistently indicates that legal provisions alone are insufficient without supportive cultures and an effective internal reporting system (Andreadakis & Morrison, 2016; Scheetz et al., 2022).

The effectiveness of whistleblower protection laws depends on various factors, including cultural attitudes toward whistleblowing and the perceived risks of retaliation. In countries like China and India, internal reporting channels are often favoured over external ones due to fears of retaliation, which can undermine the effectiveness of existing laws (Oelrich & Erlebach, 2021). Furthermore, research indicates that while legislation is crucial, it is not sufficient on its own; a supportive organisational culture and adequate internal controls are also necessary to encourage whistleblowing (Andreadakis & Morrison, 2016; Scheetz et al., 2022).

Moreover, the legal frameworks governing whistleblowing are not uniform across jurisdictions. For example, the Public Interest Disclosure Act of 1998 in the UK provides a comprehensive framework for whistleblower protection, while in Kuwait, the Whistleblowing Act No. 24 of 2012 offers a different approach (Al-Haidar, 2018). This disparity underscores the need for a more harmonised international approach to whistleblower protection, which could facilitate more effective reporting and accountability mechanisms globally.

More recent studies have expanded the scope of inquiry beyond compliance to explore the psychological and social dynamics underpinning whistleblowing behaviour. For instance, Lee et al. (2021) applied the Theory of Planned Behaviour to understand the psychological processes behind bureaucratic whistleblowing, finding that subjective norms significantly impact the intention to report externally. While Kadir et al. (2022) found that organisational trust and social consensus are crucial factors affecting whistleblowing intentions in the Malaysian public sector. Collectively, these findings suggest that whistleblowing is not merely a legal process but also a deeply contextual and behavioural phenomenon, contingent on organisational climates and cultural norms.

Despite these advances, the literature remains fragmented across disciplines. The legal and management domains dominate the discourse, while sociological and psychological perspectives, particularly those rooted in behavioural ethics and institutional logics, are comparatively underexplored. Studies from Latin America, Africa, and non-English-speaking regions are noticeably absent, despite evidence that cultural attitudes toward authority, retaliation, and collective responsibility significantly shape reporting behaviors (Oelrich & Erlebach, 2021). Addressing this imbalance is essential to generate a more inclusive understanding of whistleblowing practices worldwide.

In terms of methodological approaches, only two bibliometric studies have directly examined whistleblowing. For instance, Supendi et al. (2023) analysed 440 documents sourced from Scopus between 1982 and 2022. Their findings demonstrated a sustained increase in publications over the years, with topics such as fraud prevention, ethics, and corporate misconduct being central themes (Supendi et al., 2023). The

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second article, by Mustapha et al. (2023), systematically reviews employee perceptions of whistleblowing in the workplace. A total of 806 publications in the Web of Science database were analysed using a bibliometric approach that entailed bibliographic coupling and co-word analysis. Both studies confirmed sustained growth in scholarly interest; however, they relied on broad thematic categorisations without fully unpacking how specific keywords evolve and intersect across disciplines. Moreover, they primarily reflected mainstream Western contexts, leaving emerging regions and alternative theoretical lenses underrepresented.

This study examines previous studies using a keyword-based bibliometric technique that spans nearly 50 years (1978-2024) (see table 1). It focuses on keyword evolution and thematic clustering to reveal how research priorities have evolved over time and in various contexts. In addition to addressing disciplinary fragmentation, this strategy draws attention to conceptual areas that have not received sufficient attention, such as digitalisation, psychological safety, and ethical leadership, which are increasingly influencing the global whistleblowing agenda.

**Table 1.** Summary of previous studies that have conducted bibliometric analysis on whistleblowing

| Author | Domain/Search Strategy | Total Document, Data Source& Coverage | Attributes Examined | Main Findings |
|---|---|---|---|---|
| Supendi et al., (2023) | KEYWORD ((“whistleblowing”)) | 440 documents from 183 journals, books and other sources using Scopus Database 1982 to 2022 Areas: economics, econometrics and finance business, and management and accounting | - Publications<br>- Distribution per year<br>- Top 10 Most Relevant Sources<br>- Most Productive Author<br>- Most Cited Documents<br>- Most Relevant Affiliations<br>- Countries<br>- World Collaboration | **Publication Trends**: A peak of articles published in 2022 indicating sustained interest in the topic.<br>**Common Themes:** Ethics and fraud, a focus on accountability and organisational integrity.<br>**Future Research Directions:** Explore under-research variables to enhance understanding of ethical behaviour and misconduct |
| Mustapha et al., (2023) | “whistleblowing*” OR “whistle-blowing*” OR “whistleblower*” OR “whistle-blower*” AND “work*place*” OR "organization*" OR "company*" OR "firm*" OR "office*" OR "enterprise*" | The study reviewed 806 publications from the Web of Science | - Publications and citations by year<br>- Trend publications<br>- Bibliographic coupling analysis on whistleblowing in organisation<br>- Co-word analysis | **Publication Trends:** Focusing on employee perceptions of whistleblowing.<br>Corporate culture in promoting whistleblowing<br>**Future Research Directions:** Consider potential negative consequences for whistleblowers such as retaliation and lack of support that deter individuals from reporting. |

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# 3. Methodology

## 3.1. Data Sources, Selection Criteria, Search Strategy

The search strategy for this study exclusively utilised the Scopus database, selected for its comprehensive coverage of peer-reviewed literature across various disciplines. As shown in Figure 1, this study deliberately employed a TITLE-only search string (TITLE('whistleblow*')) to ensure that retrieved publications had whistleblowing as a central theme rather than a peripheral mention in abstracts or keywords. While this approach reduces the risk of including tangential works, it may omit relevant studies that conceptualise whistleblowing without explicitly using the term in the title. This limitation is acknowledged, and future research could broaden the search to TITLE-ABS-KEY with synonyms such as 'ethics disclosure', 'misconduct reporting', or 'fraud alert' to enhance coverage. As indicated in Figure 1, the final dataset spanned publication years from 1978 to 2024 and comprised 1,897 identified, screened, and analysed records.

## 3.2. Tools and Software Used for Analysis

The bibliometric analysis for this study was conducted using VOSviewer, as a vital tool for understanding the structure and dynamics of scientific research across various fields. Utilizing software like VOSviewer, researchers can create visual representations of bibliometric networks, which facilitate the exploration of relationships between authors, institutions, keywords, and citations. This analysis provides insights into the productivity and impact of research while helping to identify trends, collaborations, and gaps in the literature.

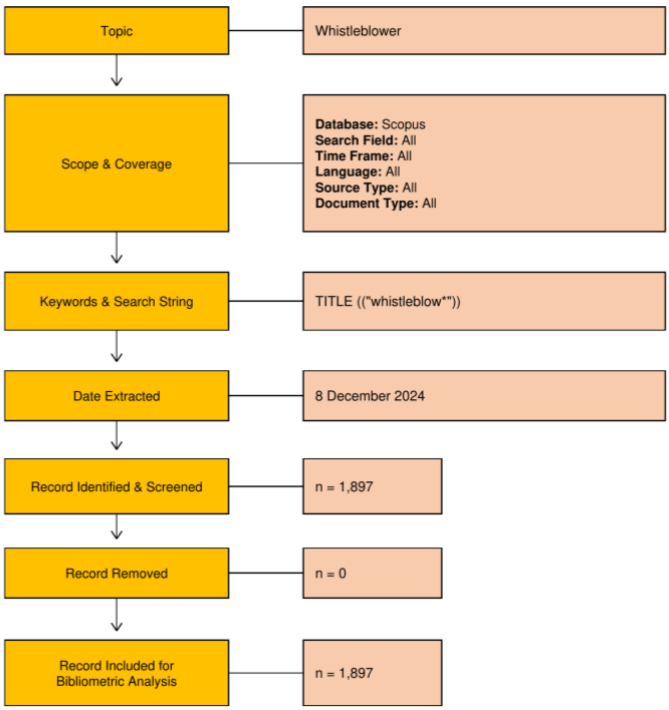


**Figure 1.** Flow diagram of the search strategy

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### 3.3. Data Analysis

This research utilised bibliometric analysis to illustrate the use of VOSviewer software. Default layout and grouping factors were employed to ensure uniformity among analyses; however, the software allows users to alter these settings for personalised visualisations. This methodical technique guarantees a transparent and replicable procedure for generating bibliometric displays, enabling an in-depth analysis of trends and correlations in whistleblowing research. From the 1,897 articles, a total of 4,135 unique keywords were found. To enhance interpretability and minimise noise from infrequently used terms, a minimum co-occurrence threshold of five was applied. The particular search criteria employed in each analysis are detailed in Table 2 below:

**Table 2.** Search parameters employed to generate VOSviewer displays in Figure 2-4

| Figure | Parameters Used in the Analysis |
|---|---|
| Fig. 2-4 | Data generated by Scopus, accessed 8 December 2024. Search for “TITLE "whistleblow*")) *VOSviewer* display of co-occurrences limited to keyword threshold 5 |

## 4. Results

The data was assessed, and this article presents the number of documents retrieved annually as of December 8, 2024, as summarised in Table 3. In Table 3, the results show that whistleblowing research has grown as a large and continuous field over a period of 47 years (1978–2024). A total of 1,897 publications were produced by 3,406 authors. A total of 1,144 citations in articles indicate that a significant portion of the research has influenced subsequent work, reflecting the extent to which the publication has had a strong impact. Furthermore, the 18,140 total citations, together with an average of 9.56 citations per paper and 15.86 citations per cited paper, suggest that whistleblowing research is not only abundant but also well-researched. Thus, implying an increasing recognition of its relevance within the wider academic community.

**Table 3.** Main information

| Main Information | Data | Explanation |
|---|---|---|
| Publication Years | 1978 - 2024 | Indicates that the study covers publications from 1978 to 2024, reflecting a 47-year timespan. |
| Total Publications | 1897 | Refers to the total number of whistleblowing-related documents analyzed in the study. This figure includes journal articles, conference papers, book chapters, and other sources. |
| Citable Year | 47 | Refers to the number of years during which publications in this domain have been consistently citable, emphasizing the longevity and continuity of research in this field. |
| Number of Contributing Authors | 3406 | Indicates the total number of unique authors who have contributed to whistleblowing research, reflecting the breadth of involvement in this academic area. |
| Number of Cited Papers | 1144 | Out of the total 1897 publications, 1144 have been cited, indicating the subset of works that influenced subsequent research. This highlights the core body of impactful research. |

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| Main Information | Data | Explanation |
|---|---|---|
| Total Citations | 18,140 | The cumulative number of citations received by all 1897 publications, showcasing the overall impact of whistleblowing research. |
| Citation per Paper | 9.56 | Average citations per publication, indicating that each paper receives about 9.56 citations on average |
| Citation per Cited Paper | 15.86 | Average citations for only those papers that have been cited (1144). Cited works have a significantly higher impact compared to uncited ones. |
| Citation per Year | 394.35 | Average number of citations per year during the 47-year timeframe, illustrating the growing influence of this research annually. |
| Citation per Author | 5.33 | Average number of citations per contributing author, reflecting the individual influence of researchers in this field. |
| Author per Paper | 1.80 | The average number of authors per publication, indicating a moderate level of collaboration among scholars in this domain. |
| Citation sums within h-Core | 14,781 | Represents the cumulative number of citations received by papers within the h-index core (papers that contribute to the h-index score), demonstrating the significant influence of highly cited works. |
| h-index | 66 | Indicates that 66 papers have received at least 66 citations each. This is a measure of both productivity and citation impact of the publications. |
| g-index | 97 | Indicates that the top 97 papers have received a total of $97^2$ (= 9,409) citations, emphasizing the influence of the most impactful works. |
| m-index | 1.404 | This is the h-index divided by the number of active years of research (47 years in this case), showing a normalized rate of influence and productivity per year. |

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

The following Table 4 Subject Area refers to a broad range of categories or fields of study according to a hierarchical system. The major fields of study are social sciences dominate with 46.39% (880 outputs), indicating this is the most prolific area. Follows by Business, Management and Accounting with 29.63% (562 outputs), showing a strong focus on applied and theoretical aspects of business disciplines. While medicine is also significant, it contributed 21.77% (413 outputs).

**Table 4.** Subject area

| Subject Area | TP | % |
|---|---|---|
| Social Sciences | 880 | 46.39% |
| Business, Management and Accounting | 562 | 29.63% |
| Medicine | 413 | 21.77% |
| Economics, Econometrics and Finance | 354 | 18.66% |
| Arts and Humanities | 266 | 14.02% |
| Nursing | 160 | 8.43% |
| Engineering | 82 | 4.32% |
| Psychology | 74 | 3.90% |
| Computer Science | 72 | 3.80% |

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| Subject Area | TP | % |
|---|---|---|
| Environmental Science | 50 | 2.64% |
| Decision Sciences | 37 | 1.95% |
| Agricultural and Biological Sciences | 25 | 1.32% |
| Multidisciplinary | 25 | 1.32% |
| Health Professions | 23 | 1.21% |
| Mathematics | 22 | 1.16% |
| Biochemistry, Genetics and Molecular Biology | 21 | 1.11% |
| Pharmacology, Toxicology and Pharmaceutics | 21 | 1.11% |
| Energy | 14 | 0.74% |
| Chemical Engineering | 10 | 0.53% |
| Earth and Planetary Sciences | 9 | 0.47% |
| Veterinary | 8 | 0.42% |
| Physics and Astronomy | 6 | 0.32% |
| Chemistry | 5 | 0.26% |
| Dentistry | 5 | 0.26% |
| Materials Science | 4 | 0.21% |
| Immunology and Microbiology | 2 | 0.11% |
| Neuroscience | 2 | 0.11% |

Notes: TP= Total publication, %= Percentage

Figure 2 illustrates the cumulative growth of publications in whistleblower studies from 1978 to 2024 in Scopus, indicating a distinct trend of escalating scholarly interest over time. During the Early Period (1978 – 1997), the increase in cumulative publications is negligible, with a limited number of research released. This probably indicates the embryonic phase of whistleblowing as an academic discipline and the restricted global cognizance or engagement with the subject. During the Moderate Growth period (1998 – 2010), cumulative publications increased consistently. The incremental rise indicates an escalating acknowledgment of whistleblowing as a significant issue, perhaps influenced by prominent corporate scandals, regulatory reforms, and burgeoning scholarly interest in organizational ethics and governance. Throughout the Accelerated Growth period (2011 – 2024), the trend has a pronounced upward direction, signifying an exponential rise of publications. This time presumably aligns with growing global awareness of whistleblowing, prompted by prominent examples such as Edward Snowden and the Panama Papers, alongside a heightened regulatory emphasis on transparency and accountability. The quadratic equation $y=1.5039x^2-27.735x+131.13$ (with $R^2=0.9823$) indicates a robust match, suggesting that the increase in publications is nonlinear and accelerates over time. The elevated $R^2$ value indicates that the model effectively captures the observed data.

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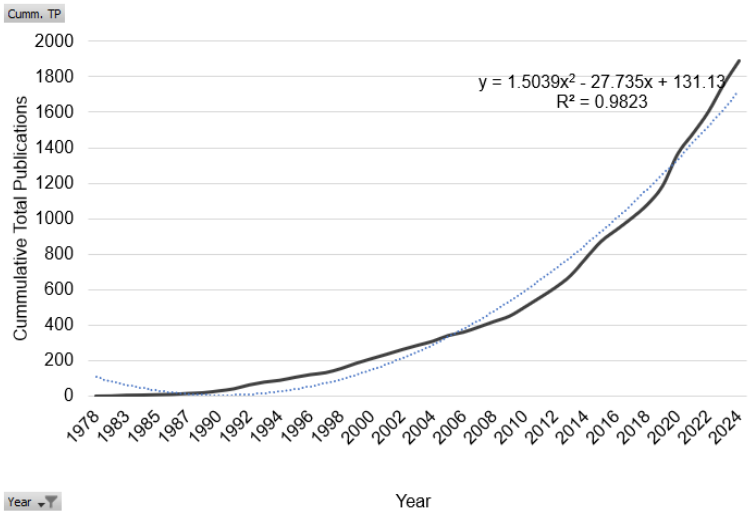


Source: Generated by the author(s) using biblioMagika (Ahmi, 2024)

**Figure 2.** Cumulative Growth of Publications Over Time (1997-2023)

Based on Table 5, top 10 highly cited documents in whistleblowing research serve as foundational works that have significantly shaped our understanding of the field. Documents by Mesmer-Magnus and Viswesvaran (2005) and Kaptein (2011) show high citation rates per year (26.90 and 15.64, respectively), indicating their continued relevance and impact on the field. Mesmer-Magnus and Viswesvaran (2005) focuses on factors influencing whistleblowing behavior. While, other research themes include external versus internal whistleblowing (Dworkin & Baucus, 1998), organizational culture's influence on whistleblowing (Kaptein, 2011), and predictors of whistleblowing intentions and retaliation (Chiu, 2003; Rehg et al., 2008). This metric highlights documents that not only are influential historically but also maintain ongoing scholarly interest.

**Table 5.** Top 10 highly cited documents in the field of whistleblowing

| No. | Author(s) | Title | Source Title | TC | C/Y |
|---|---|---|---|---|---|
| 1 | (Mesmer-Magnus & Viswesvaran, 2005) | Whistleblowing in organizations: An examination of correlates of whistleblowing intentions, actions, and retaliation | Journal of Business Ethics | 538 | 26.90 |
| 2 | (Cross & Tiller, 1997) | Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals | Yale Law Journal | 294 | 10.89 |
| 3 | (Jubb, 1999) | Whistleblowing: A restrictive definition and interpretation | Journal of Business Ethics | 267 | 10.27 |
| 4 | (Alford, 2017) | Whistleblowers: Broken lives and organizational power | Whistleblowers: Broken Lives and Organizational Power | 264 | 11.00 |
| 5 | (Kaptein, 2011) | From Inaction to External Whistleblowing: The Influence of the Ethical Culture of Organizations on Employee Responses to Observed Wrongdoing | Journal of Business Ethics | 219 | 15.64 |
| 6 | (Chiu, 2003) | Ethical Judgment and Whistleblowing Intention: Examining the Moderating Role of Locus of Control | Journal of Business Ethics | 215 | 9.77 |

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| | | | | | |
|---|---|---|---|---|---|
| 7 | (Rehg et al., 2008) | Antecedents and outcomes of retaliation against whistleblowers: Gender differences and power relationships | Organization Science | 214 | 12.59 |
| 8 | (Dworkin & Baucus, 1998) | Internal vs. external whistleblowers: A comparison of whistleblowering processes | Journal of Business Ethics | 212 | 7.85 |
| 9 | (Sims & Keenan, 1998) | Predictors of external whistleblowing: Organizational and intrapersonal variables | Journal of Business Ethics | 187 | 6.93 |
| 10 | (Park & Blenkinsopp, 2009) | Whistleblowing as planned behavior - A survey of south korean police officers | Journal of Business Ethics | 173 | 10.81 |

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

### 4.1. Keywords Co-occurrence Analysis for Whistleblowing

#### 4.1.1. Networking Visualisation for Whistleblowing

The visualization generated using VOSviewer in Figure 3 represents the multidisciplinary nature of whistleblowing research. It maps keywords and their co-occurrence in whistleblowing studies, with different clusters representing interconnected fields. The larger the label and the circle size show the item's weight. The closer the journals are located, the stronger their relatedness. As shown in Figure 3, the largest and central cluster, marked in red, centers on “whistleblowing”. The interconnection between keywords is strong. This red cluster is the foundation of the entire network, linking various aspects of whistleblowing research. It also connects to topics like “whistleblower”, “whistleblower protection”, “retaliation”, and “whistleblowing intention”. The focus on terms such as “protection” and “intention” highlights the research’s emphasis on individual decision-making and organisational safeguards.

Another group of study is the yellow circle, which covers key topics, particularly in the healthcare sector, such as “organisational culture”, “ethics”, “medical ethics”, and “nursing”. This indicates that a strong focus has been studied on ethical dilemmas in medical and organisational settings. The blue circle group studies key topics mostly on “legal aspects”, “fraud”, “public hospitals”, and “economics”. These studies research the regulatory frameworks governing whistleblowing, economic implications and organisational responsibilities within public institutions, such as hospitals.

The orange circles of studies key topics highlighted the advocacy and public awareness through are “United Kingdom”, “public sector”, “television”, “public hospitals” which explores how public institutions such as hospitals and medium like television contribute to awareness and advocacy for whistleblowing. The inclusion of “nursing students” highlights efforts to instill ethical principles in professional development. The purple circles focusing more on female, “ethical decision making”, “behaviour” and “human experiment” which delves into psychological and behavioural aspects of whistleblowing, including gender-specific studies and the cognitive processes behind ethical decision making. It reflects the importance of understanding individual motivations and barriers to whistleblowing. The green circles focus on advocacy and professional attitudes in promoting whistleblowing. It includes themes like professional responsibility, moral courage, and the ethical role of healthcare professionals.

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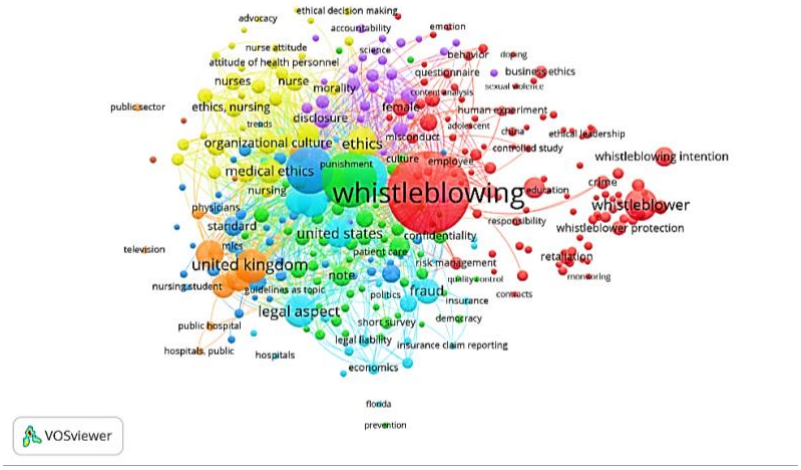


**Figure 3.** Network visualization for whistleblowing

As shown in Table 6, several themes have been grouped into 8 distinct thematic clusters. Each cluster represents unique but interconnected dimensions of whistleblowing, spanning various professional, legal, and societal contexts:

**Table 6.** Key cluster and themes in whistleblowing research

| Cluster | Themes |
|---|---|
| 1 | accident prevention, adolescent, adult, aged, anonymity, attention, behaviour, behavioural research. Blockchain, bribery, business ethics, China, compensation, compliance, conflict of interest, content analysis, contracts, controlled study, corporate culture, corporate governance, corruption, crime, cross-sectional study, decision making, delivery of health care, developing countries, documentation, doping, education, effectiveness, emotion, employee, engineers, ethical dilemma, ethical leadership, fear, female, finance, fraud prevention, game theory, gender, Ghana, health care, health care delivery, higher education, human experiment, human resource management, incentives, Indonesia, integrity, intention, internal whistleblowing, Ireland, laws and legislation, leadership, legal protection, locus of control, machine learning, major clinical study, male management, manager, misconduct, monitoring, motivation, narrative, Norway, occupational safety, organisational commitment, perception, personnel, pharmaceutical preparations, professional aspects, psychological safety, public interest, public policy, qualitative research, questionnaire, religiosity, reporting channels, responsibility, retaliation, reward, rewards, risk assessment, risk management, sexual harassment, sexual violence, social aspects, social media, social networking (online), societies and institutions speech, structural equation modelling, students, surveys and questionnaires, systematic review, Thailand, theoretical study, theory of planned behavior, trade union, unethical behavior, victim, whistleblower, whistleblower protection, whistleblowing, whistleblowing intention, whistleblowing system, workplace, wrongdoing |
| 2 | Australia, bullying, cardiovascular disease, case report, clinical practice, confidentiality, consultation, contract, culture, democracy, drug industry, drug safety, editorial, employer, food and drug administration, general practice, guidelines as topic, health care personnel, health care policy, health care system, health service, human, India, informed consent, journalism, law, law suit, letter, malpractice, medical education, medical error, medical literature, medical practice, medical profession, medical society, medical staff, hospital, mental health, moral courage, note, patient care, patient safety, pharmacy, physician, physician attitude, practice guideline, prescription, prevention, priority journal, professional standard, professionalism, protection, public health, publishing, quality control, review, short survey, trust, work environment |
| 3 | Canada, clinical competence, employment ethics, medical Europe, European Union, false claims act, France, Germany, health care quality, health personnel, health policy,history, humans, |

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| Cluster | Themes |
|---|---|
| | interview, law enforcement, legislation, legislation and jurisprudence, mandatory reporting, Michigan, mlcs, mlown, moral obligations, nursing care, nursing organization, nursing student, physicians, political system,quality assurance, health care, quality of health care, safety, safety management, social behavior, social responsibility, societies, nursing, standard, students, nursing, trends |
| 4 | Advocacy, attitude of health personnel, bioethics and professional ethics, conflict, conflict (psychology), employee discipline, ethical decision making, Ethics, institutional, ethic nursing, health personnel attitude, institutional ethics, interprofessional relations, interviews, Japan, medical ethics, middle aged, morality, morals, nurse, nurse attitude, nurse's role, nurses, nursing, nursing staff, organization, organizational culture, patient advocacy, peer group, personnel loyalty, personnel management, professional competence, professional misconduct, professional role, psychological aspect, public relations, social support. |
| 5 | Accountability, administrative personnel, attitude, biomedical research, child, civil rights, disclosure, empirical research, federal government, government regulation, health care organization, human rights, jurisprudence, medical research, methodology, organizational policy, peer review, policy, psychology, public health service, punishment, regulation, research, research ethics, research personnel, science, scientific misconduct, social control, statistics, university |
| 6 | Animal, article, economics, employee grievances, financial management, Florida, forgery, fraud, government agencies, health care cost, health insurance, hospital, insurance, insurance claim reporting, interpersonal communication, legal aspect, legal liability, liability, legal, mass medium, Medicaid, medicare, politics, social psychology, Texas, truth disclosure, United States |
| 7 | England, Great Britain, public hospitals, national health service, organization and management, public sector, state medicine, television, United Kingdom |
| 8 | ethics, professional, health care and public health, legal approach |

**Cluster 1: Behavioural and Organisational Dynamics**

This cluster delves into behavioral research, organizational culture, ethical dilemmas, workplace misconduct, and internal whistleblowing systems. It highlights the role of leadership, employee motivation, psychological safety, and reporting channels in managing ethical concerns within organizations.

**Cluster 2: Healthcare Systems and Professional Standards**

Focused on the healthcare sector, this cluster addresses issues such as medical errors, patient safety, confidentiality, malpractice, and professional standards. It emphasizes the importance of trust, moral courage, and a culture of accountability in ensuring quality care and whistleblower protection.

**Cluster 3: Global Legislation and Professional Practices:**

This cluster explores whistleblowing within the context of international healthcare systems and legal frameworks. It touches on mandatory reporting, legislation, quality assurance, and political systems in regions such as Canada and Europe, underscoring the role of standards and social responsibility.

**Cluster 4: Ethics in Nursing and Healthcare Professions:**

With a focus on nursing and healthcare ethics, this cluster investigates the attitudes of health personnel, interprofessional relations, patient advocacy, and the role of organizational culture in fostering ethical behavior and professional competence.

**Cluster 5: Policy, Governance, and Research Ethics**

This cluster examines the intersection of governance, regulatory frameworks, research ethics, and accountability. It sheds light on the role of government, public health services, and institutions in promoting empirical research and addressing scientific misconduct.

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**Cluster 6: Financial and Legal Implications**

Highlighting the economic and legal aspects, this cluster examines fraud, legal liability, financial management, insurance claims, and government agencies. It provides insights into whistleblowing related to cost management and truth disclosure, especially within the United States.

**Cluster 7: Public Sector and National Frameworks**

Focused on the United Kingdom, this cluster discusses whistleblowing in public hospitals, the National Health Service (NHS), and state-run healthcare systems. It also highlights the role of media and public sector management in addressing misconduct. Governance and Ethics in the UK's Healthcare System

**Cluster 8: Ethics and Legal Perspectives**

This cluster integrates professional and public health ethics with legal approaches to whistleblowing. It discusses the intersection of ethical principles and legal standards in fostering transparency and accountability.

### 4.2. Overlay Visualisation for Whistleblowing Research (1978–2024)

Figure 4 below presents an overlay visualisation of whistleblowing research from 1978 to 2024. The colours in the visualisation represent the evolution of research themes over time, as indicated by the gradient at the bottom, ranging from blue for earlier years to yellow for more recent studies. In the early period (Blue Region), research concentrated on foundational legal and institutional frameworks, with topics like “legal aspects”, “fraud” and “public hospitals”. This emphasis reflects the positioning of whistleblowing primarily as a compliance and regulatory issue, where the primary concern was safeguarding public institutions and mitigating financial misconduct. Terms like “nursing”, “public hospital”, and “medical ethics” illustrate the particular salience of healthcare as an ethically vulnerable sector. Moreover, during the period, the dominance of studies from the United Kingdom and the United States highlights a Western-centric orientation built upon strong legal precedents.

Over time, the thematic focus shifted (green region) toward organisational and ethical considerations, with keywords such as “organisational culture”, “ethics”, and “morality” appearing more frequently, reflecting the growing emphasis on how organisational environments influence whistleblowing. Ethics and professional responsibility become the focus of studies based on keywords such as “ethics nursing” and “nurse attitude”, indicating a shift toward examining professional attitudes and ethical considerations in decision making. Besides that, the inclusion of terms like “disclosure” and “confidentiality” suggests a broader interest in understanding how organisations manage information and safeguard whistleblowers. This transition signifies a growing recognition that formal legislation alone is insufficient without supportive environments that enable employees to disclose misconduct.

More recently (yellow region), the appearance of terms like “ethical leadership” and “ethical decision making” signifies the growing recognition of leadership’s role in fostering ethical behaviour and encouraging whistleblowing. This evolution demonstrates a paradigmatic shift from viewing whistleblowing as primarily a matter of law and institutional control toward understanding it as a socially embedded and psychologically contingent process. Subsequently, more global studies have been done based on the appearance of “China” and “business ethics”, indicating an expansion of research to global contexts and private sector applications. Even though Western contributions remain dominant, it is crucial

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to expand inquiry into underrepresented regions such as Asia, Africa, and Latin America, where cultural and institutional contexts may influence whistleblowing in unique ways.

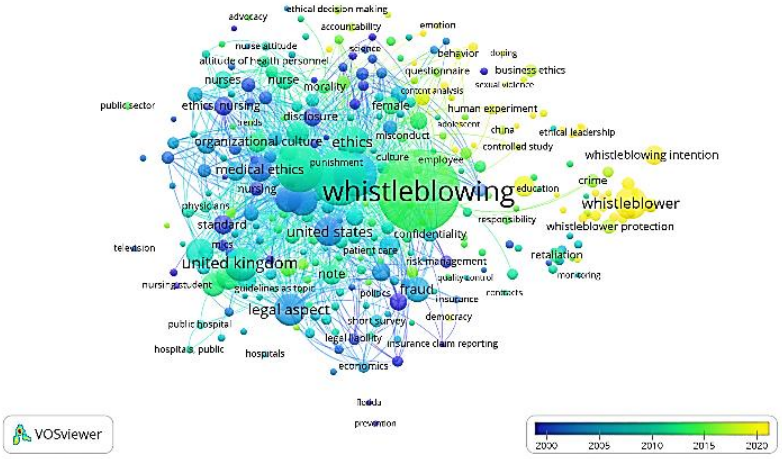


**Figure 4.** Overlay Visualization for Whistleblowing Research

### 4.3. Density Visualization for Whistleblowing Research

The density map (see Figure 5) generated by VOSviewer illustrates the dominance of traditional research, which is highlighted in larger and brighter regions through the frequently studied topics such as "whistleblowing," "whistleblower protection," and "ethics". This reflects the consolidation of whistleblowing as a field rooted in compliance and ethical governance. However, it also reveals a potential overemphasis on regulatory concerns at the expense of psychological and cultural dimensions.

Emerging or niche areas, represented by smaller and dimmer regions, might include specific aspects such as "ethical decision making," "organizational culture," or "legal liability." The geographical focus indicated by terms like "United States" and "United Kingdom" suggests a strong research concentration in these regions, reflecting legal and cultural differences in whistleblowing practices.

The map also highlights the interdisciplinary nature of whistleblowing research, incorporating elements from ethics, law, health care (e.g., "nurses," "medical ethics"), and management studies (e.g., "organizational culture," "fraud"). Emerging areas such as "whistleblowing intention" and "retaliation" may point to evolving topics, possibly influenced by recent global events or policy changes.

Emerging but less prominent areas such as “psychological safety,” “retaliation,” and “whistleblowing intention” point toward a behavioral turn in the literature, yet their limited visibility suggests that such perspectives remain peripheral rather than mainstream. The prominence of terms tied to the United States and United Kingdom further underscores a Western-centric orientation, shaped by strong legal frameworks, but potentially neglecting insights from regions where institutional protections are weaker and cultural norms shape disclosure differently. Although the map highlights an interdisciplinary field spanning law, healthcare, management, and ethics, the clustering also signals fragmentation, with limited integration across domains. This imbalance suggests that future scholarship should seek to bridge legal, psychological, and organizational approaches, while extending inquiry to underrepresented geographic and cultural contexts to capture a more holistic view of whistleblowing.

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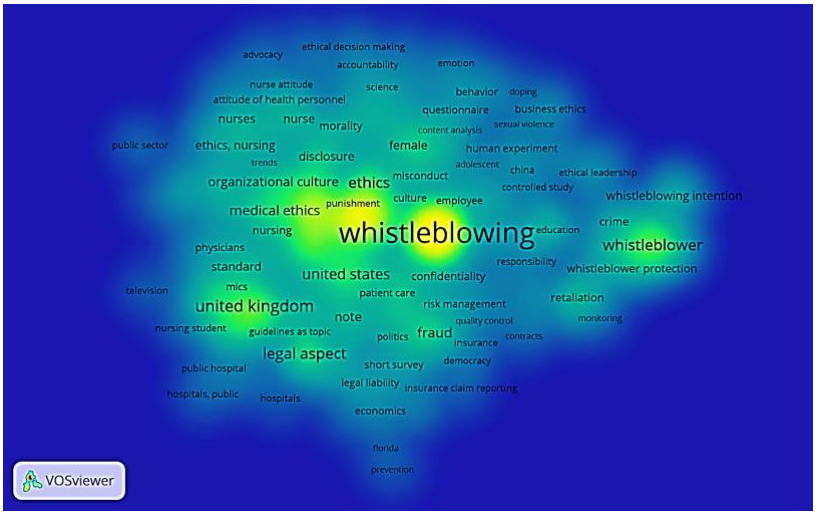


**Figure 5.** Density visualization for whistleblowing research

## 5. Conclusion

This study offers a comprehensive bibliometric examination of whistleblower research, highlighting its progression, emerging themes, and scholarly contributions over a span of 47 years. The analysis reveals the complex interactions of organizational, legal, and psychological elements affecting whistleblowing behavior through the mapping of term co-occurrences and thematic clusters. The identification of eight primary clusters highlights the complexity and multidisciplinary aspects of whistleblowing research, emphasizing key themes such as ethics, healthcare, organizational culture, and governance.

The examination of 1,897 documents reveals three distinct stages of research development. While the steady increase between 1998 and 2010 coincides with high-profile corporate scandals like Enron and WorldCom, which sparked interest in fraud prevention and governance, the slight increase between 1978 and 1997 reflects whistleblowing's marginal status in academic discourse. Whistleblowing has become a mainstream governance issue, as evidenced by the exponential increase that began in 2011 and has coincided with global transparency movements, such as the Edward Snowden disclosures and the Panama Papers. This trend is further supported by subject area analysis, which shows that the social sciences account for nearly half of the publications, with a focus on governance and ethics, while the medical field accounts for more than 20%, reflecting sector-specific concerns about patient safety and professional accountability. Given the fundamentally behavioural and cultural aspects of whistleblowing, the relatively small presence of psychology and sociology points to a crucial gap. These trends imply that although whistleblowing is a well-established legal and organisational concept, its psychological and sociological foundations are still lacking, providing a rich area for further research.

The study indicates that commonly utilized keywords like "whistleblower protection," "ethics," "organizational culture," and "compliance" embody enduring themes crucial to whistleblowing research. Recently emerging terms such as "ethical leadership," "psychological safety," "behavioral intentions," and "digitalization" reflect an increasing emphasis on modern concerns, including the role of leadership in promoting whistleblowing and the application of technology in compliance systems. Policymakers can utilize these insights to enhance legal frameworks for whistleblower protection, promote ethical workplace cultures, and provide secure reporting channels through contemporary technologies. Customizing rules for

distinct industries, such as healthcare or banking, might tackle specific difficulties, while public awareness initiatives can mainstream whistleblowing and mitigate fears of retaliation. Moreover, fostering interdisciplinary research and global collaboration helps align practices and rectify deficiencies in geographic and thematic coverage. Assessing and appraising the efficacy of whistleblowing policies will guarantee enduring influence and accountability.

This study, notwithstanding its dependence on the Scopus database, establishes a core framework for the advancement of research and policy to improve whistleblowing systems. Policymakers and organizations can utilize these findings to establish conducive conditions that foster ethical conduct and accountability across various industries.

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## Author Contributions

Nurisyal Muhamad and Syatila Che Saruji contributed to the conceptualization of the study. Nurisyal Muhamad and Syatila Che Saruji developed the methodology and performed data curation. Nurisyal Muhamad, Syatila Che Saruji, and Nisrin Ishak conducted the formal analysis using bibliometric software. Norhaninah A. Gani provided domain expertise and validated the findings. Nurisyal Muhamad and Syatila Che Saruji prepared the original draft of the manuscript. Norhaninah A. Gani and Moktar Mahamod critically reviewed and edited the manuscript. Nurisyal Muhamad and Nisrin Ishak created the visualizations. Nurisyal Muhamad managed the project administration. All authors have read and agreed to the published version of the manuscript.

## Conflict of Interest Statement

There is no conflict of interest.

## Data Availability Statement

Not available to the public.

## Ethical Statement

This research did not require Institutional Review Board approval because it is a bibliometric analysis that did not require ethical approval since it was conducted using data from the Scopus database, which contains publicly accessible data.

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