Wave after wave: unboxing 40 years of auditing ethics research

Zeena Mardawi
Universitat Politècnica de València, Valencia, Spain and An-Najah National University, Nablus, Palestinian, and Elies Seguí-Mas and Guillermina Tormo-Carbó
CEGEA, Centre of Business Management Research, Universitat Politècnica de València, Valencia, Spain

Abstract
Purpose – To the best of the authors’ knowledge, this is the first study that aims to present a comprehensive view of the auditing ethics literature by unboxing 40 years of efforts in the field.

Design/methodology/approach – This study combined bibliometric, social network and content analysis by analyzing 114 articles published in accounting and top business ethics journals on the Web of Science database from 1980 to 2021.

Findings – The results show a rising interest in this topic and reveal auditors’ ethical decision-making and moral reasoning as the most discussed topics in the literature. The work also clusters the literature according to keywords and scopes, identifying literature gaps and suggesting new avenues for future research.

Practical implications – The research results assist provide an overarching image of the auditing ethics field. In addition, these results draw possible future avenues to bridge the void in the current auditing ethics literature by presenting indispensable directions for potential research. For example, future research could pay more attention to whistleblowing, fraud, personal auditor characteristics, auditor ethical sensitivity, auditor ethical conflict, ethical climate and underreporting of time. Moreover, the rapidly changing business environment necessitates the auditing ethics research to move to more practical implications to mitigate previous mistakes and avoid any future risks.

Originality/value – All crises are an ideal breeding ground to motivate fraud and audit failures. In fact, auditing ethics research has been subordinated to the different economic crises. However, despite increasing awareness of the topic’s relevance, no comprehensive study focuses on auditing ethics literature. Now, the devastating effects of the COVID-19 crisis are producing a new wave of financial distresses and avoiding former mistakes is timelier than ever. With this novel and integrated approach, this work goes one step forward, developing a comprehensive picture of the auditing ethics literature.

Keywords Auditing, Ethics, Bibliometric analysis, Auditor ethical judgment, Auditor moral reasoning, Content analysis

Paper type Literature review

1. Introduction
Following the waves of high-profile financial scandals that surfaced from the 2002 and 2008 global crises, many cases of audit failures were shown worldwide (Soltani, 2014). Such scandals damaged the accounting profession’s reputation and public trust (AICPA, 2014; IFAC, 2014), highlighting the importance of the profession’s ethical principles (Duska, 2005). Among other factors, a greater orientation toward the commercial goals of professional accountants has been considered one of the main causes of the financial scandals (Espinosa-Pike and Barrainkua, 2019). The new COVID-19 pandemic presents a new economic crisis that the world is grappling with (Albitar et al., 2020), and their turbulences can affect firms’
financial performance and consequently lead to financial distresses (KPMG, 2020). At the
time of crisis, auditors are admired and presented as ethical leaders, as they uphold the
public interest because they have a wide-ranging role in society. Therefore, their skills and
morals could bring constructive change through their work. Once again, inside another new
global crisis, it seems reasonable to consider the lessons learned during the past decades to
minimize economic damages and rapidly recover the auditing environment activity.

On the other hand, auditors are often involved with financial integrity situations;
therefore, their ethical judgments are constantly challenged (Martin, 2007; Fiolleau and
Kaplan, 2017). In the auditing ethics field, it is not easy to solve ethical violations in the
business environment. Both ethical responsibilities between the auditors and the public and
contractual responsibility between clients and auditors should meet when making an ethical
judgment (Tarr and Mack, 2013). The Ethical Code is considered the primary professional
guidance, which comprises detailed guidelines that address the critical requirement for
ethical behavior in the accounting profession. These ethical guidelines protect stakeholders’
interests and assure the services’ quality. This, in turn, helps to protect the profession’s
reputation (Brown et al., 2007). However, such codes were criticized for not being sufficient
for individuals to act ethically. Moreover, financial crises affect ethical judgment and lead to
an even more complicated process. The poor economic conditions, high level of uncertainty
and broad dynamic changes in the business environment create a perfect condition for the
opportunity, pressure and rationalization to facilitate fraud (IFAC, 2020; ICAEW, 2021).

While auditors argue against giving an unbiased opinion, they are subject to deal with
various issues on behalf of their clients, which often include some confidential and sensitive
information. Therefore, it is essential that auditors perform their job not only with expertise
but also with a mix of integrity, honesty and objectivity (Clayton and van Staden, 2015;
Shafer and Simmons, 2011; Gendron et al., 2006).

Moreover, the firm ethical climate is considered the fundamental shared perception of
organizational regular procedures and practices with a moral matter (Victor and Cullen,
1988). Therefore, it is argued that an organization’s ethical climate could be an essential
source of information for personnel to access what procedures are “right” or moral in the
work environment (Martinov-Bennie and Pilugrath, 2009). Therefore, ethical climate derives
a considerable potential influence on employees’ ethical decision processes (Shafer and
Simmons, 2011).

Another critical factor affecting professional auditor decision-making is the auditor’s
ability to make fair and ethical judgments. Growing evidence suggests that moral reasoning
affects both sensitivity to ethical issues and auditor decisions and judgments concerning
work-related dilemmas (Tsui and Windsor, 2001). On the other hand, auditors’ ethical
reasoning of a particular dilemma is not only based on their opinion and judgment but also
other considerations, including peers’ support, managers and organizational authority (Tsui
and Gul, 1996). In addition, employees’ perception and attitudes affect their perception of
ethical dilemmas that influence ethical decision (Zheng and Li, 2010).

Many prior bibliometric and literature reviews have studied the accounting ethics field.
Nevertheless, so far, the majority of research efforts have been devoted to exploring the
accounting ethics field in general (Bernardi, 2005; Bernardi and Bean, 2007; Üysal, 2010;
Bampton and Cowton, 2013). Beyond that, comparatively few prior literature review studies
have explored the specific field of accounting ethics. For instance, recently, Mardawi et al. (2022)
conducted a bibliometric and content analysis of accounting ethics education literature. However, to our knowledge, no study focused on auditing ethics.

The field of auditing ethics is not new; our search criteria of literature reveal that this
field’s studies began in the 1980s. Consequently, each wave of financial crises highlights the
importance of the sustainability of auditing ethics research to help the business recover. However, according to the discussion mentioned above, so far, there is an absence of extensive research efforts about the state of the arts of auditing ethics literature. Consequently, it is worth exploring what was ignored by ancestors and unboxing 40 years of efforts in auditing ethics and helping direct the new avenues in the field. Therefore, this study aims to map the knowledge of auditing ethics literature by combining bibliometric, Social Network and content analysis techniques of 104 research papers published on the Web of Science (WoS) database for the period 1980 to 2021.

The contribution to the knowledge of this review paper provides fruitful insights into the auditing ethics literature by offering several novel insights and presenting deep-rooted discussions for future research. First, to the best of our knowledge, this is the first literature review study to map the knowledge and explore the auditing ethics literature. Indubitably, exploring the auditing ethics field was predominantly neglected by the earlier studies and has not yet been investigated by other researchers. In addition to the interest of researchers, the ethics in auditing also attract great attention from legislators and regulators globally. Second, similar to the first contribution point, this study combined three methods (bibliometric, Social Network and content analysis) to deeply review and understand the state of the arts of auditing ethics literature. Third, our study is expected to be useful and valuable not only for academicians but also for legislators, policymakers, auditors and other accounting professionals. For example, concerning ethical climate, our results could be beneficial for auditing firms to promote a culture that encourages conduct and commitment to comply with ethical codes. In addition, our findings could assist legislators and policymakers in forming and amending the regulations and guidelines regarding ethics in the auditing profession. It also offers new directions and novelties for future investigations by dividing the previous auditing ethics literature into main scopes and providing summarized empirical work results. It also presents the most influential articles, scholars, journals, countries, theories, data sources and statistical methods in the field.

Keeping this in mind, this paper’s primary goal is to answer some key questions such as:

**RQ1.** What is the trend, volume and evolution and patterns of the literature in the field?

**RQ2.** Which auditing ethics literature has been the impact?

**RQ3.** What are the main constructs that have been studied?

**RQ4.** What are the main research theories, methodologies and scopes used by the researchers?

**RQ5.** What are the possible future research avenues?

This study is structured as follows: Section 1 presents an Introduction and the study objectives. Section 2 covers the Theoretical framework. Section 3 details the study’s methodology and data collection method. The results of the analysis of bibliometrics, social networks, and content analysis are presented in Section 4. Section 5 provides a Summary of results and recommendations for future research. Finally, in Section 6, the Conclusions and limitations of the study are discussed.

### 2. Theoretical framework

The professionally acknowledged standards of individual and business behavior, general beliefs and guidelines, which include organizational standards and personal values, are called professional ethics (Douglas et al., 2001). The way that professionals use their expertise and knowledge to serve the public interest is considered a moral issue (Garcia-
Marza, 2005). The common objectives of the auditors are to maintain their responsibilities and obligations and achieve the highest degrees of performance, comply with professional ethical codes to serve the public interest and preserve the auditing profession’s reputation (Bayou et al., 2011). On the other hand, auditors’ work involves acting in public interests and, therefore, the need to legitimate the general community’s interests, including clients, investors, financial foundations, employees, government and all other stakeholders (Dellaportas and Davenport, 2008). Thus, the auditing profession’s reliability and objectivity advocate the business’s discipline and logical functioning.

The massive financial scandals of Worldcom, Enron, Adelphia and the 2002 market collapse have led to strong reactions worldwide. The passing of the SOX by the US congress is one of the most significant reactions. The foundation of SOX aims to rebuild investor confidence by enhancing corporate governance, the quality of audits and the strength of internal controls by limiting the performance of certain consulting services for audit clients and creating the Public Company Accounting Oversight Board to serve as a government regulator (Miller and Pashkoff, 2002). At the same time, the Securities Exchange Committee modified its independence rules to meet the changing relationships between auditors and management and the possibility that independence could be compromised. In addition, SOX forced serious and detailed reforms that affect corporate governance and requested changes in Section 8 of the US Federal Sentencing Guidelines regarding the requirements for the mitigation of penalties provisions (Gordon and Nazari, 2018). Such reforms led to the development of codes of ethics for financial officers and employees, complemented with training in those codes.

An ethical code of conduct can be considered an agreement between the accountants and the public. It is formed to influence the various users of financial information, including investors, management and government lenders (Payne and Landry, 2005). On the other hand, the ethical code of conduct is a way for the accounting profession to standardize its own participants; hence, it is seen as a way of self-protection for the accountants (Green and Weber, 1997). The professional accounting bodies have established various ethical codes of conduct that set the guidelines for professional accountants’ behavior which involve more than basically adhering to the law (Jenkins et al., 2018). These codes are equal to a mandatory organizational moral law. Subsequently, these codes reveal what is ethically obliged of professional accountants.

The IFAC and the AICPA are the two main codes that most countries adopt to help their participants deal with financial information morally and ethically (Bernardi and LaCross, 2010). While the AICPA is a member of the IFAC, yet it has its own code that is developed particularly for the USA. On the other hand, the ethical code of the IFAC is developed to serve the various practices of ethical codes of conduct in different countries (IFAC, 2014). However, the two codes are more similar than different, although some differences are considered crucial (Allen and Ng, 2001).

Beside the professional code of ethics, organizations need to build their own ethical code of conduct (Payne and Landry, 2005). A shared code of ethics helps characterize the rules and standards governing members’ behaviors. For example, Rezaee et al. (2001) describe how ethical codes of conduct would assess managers to achieve five purposes:

1. enhance the firm moral values;
2. communicate and supervise the moral prospects to employees;
3. characterize their requirement to moral values;
4. offer legality for their activities; and
5. assess everyone in the firm to determinate ethical difficulties.
3. Methodology
3.1 Methods
This study adopts a structured literature review applying a hybrid method that combines bibliometric and content analysis techniques (Paul and Criado, 2020; Mustikarini and Adhariani, 2021). The content analysis is a research methodology used to make conclusions from raw data to present knowledge, novel insights, interpretation of facts and a partial guide to action (Mayring, 2000). Content analysis is a systematic and rule-guided method that can be quantitative or qualitative; it is used to study recorded data to make logic (Duriau et al., 2007). Evaluating scientific research is critical to examining the efficiency of the publications. Bibliometric analysis is a useful research tool to describe the growth of literature in different science subjects using quantitative data where scalar techniques are commonly used. These techniques depend on direct counts (occurrences) of particular bibliographic objects (Acedo et al., 2006) and present the essential features of several representatives (certain scholars, nations, fields, etc.) and research performance as well as its development and evolution over time (Garfield, 1979; Culnan et al., 1990; Uysal, 2010). It is deemed a new methodological lexicon for evaluating the literature in auditing and accounting fields (O’Leary, 2008; McKee, 2010; Uysal, 2010). A critical advantage of bibliometric analysis is its efficient and powerful quantitative method in assessing an ample number of studies. It directs the scholars to the most prominent studies, maps the research field with less subjective bias (Uysal, 2010) and offers more reliable and objective analyses. Given the exponential increase of scholarly articles, bibliometric analysis has substantially enhanced the quality of literature review studies. While it is considered a satisfying approach for scientific objectives, it only indicates a partial contribution to knowledge.

Furthermore, this study used social network analysis (SNA). This method recognizes the social structure as a network connecting interrelated points of keywords, scholars or research institutions to evaluate relationships and collaborations (Scott, 1991). Using SNA, scholars recognize the associations (co-occurrences) of particular objects, including counting the occasions where citations (co-citation), keywords (co-word) and authors (co-authorship) are stated jointly in publications in a specific research field (Lazega et al., 1995). This approach helps examine the existing framework of the networks among articles (Acedo et al., 2006).

The association between the investigations and other scholars’ work is shown in citations. Hence, citation analysis analyzes the connections between citations (Yue and Wilson, 2004). When two or more articles, scholars or journals are cited in other documents instantaneously, it is referred to as co-citation (Acedo et al., 2006). The number of times co-citation reflects its strength.

Moreover, Kessler (1963) was the first to introduce bibliographic coupling (clustering method). It occurs when two documents use a reference as a pairing unity between them. The strength of bibliographic coupling varies based on the number of references the two documents have in common (Egghe and Rousseau, 1990). To identify research areas developed in the field of auditing ethics, we use bibliographic coupling. This technique’s advantage is decreasing subjectivity because qualitative data is analyzed quantitatively. Path science mapping will be used to show the structure of field scopes and their development (Zupic and Cater, 2015).

Consequently, integrating bibliometric, SNA and content analysis techniques provided the best way to answer our research questions.

3.2 Data collection
Consistent with bibliometric and social networks analysis research (Gordon and Nazari, 2018; Hota et al., 2020; Dwekat et al., 2020a; 2021; Alberti et al., 2020; Mardawi et al., 2022),
we based our search on the WoS database, which consists of various citation indicators in it is core collection. The first article in this search appeared in 1980. Therefore, we used all indicators from 1980 to 2021. WoS is the world's foremost scientific citation search and systematic knowledge database used in numerous academic articles throughout the previous eras (Garcia-Lillo et al., 2017). Over the previous five decades, WoS has encompassed all the publications and related records from about 34,000 specialized journals, representing the essence of the global scientific sequential information for many research areas (Clarivate, 2021). Therefore, the journals incorporated in the WoS platform are identified as “top journals” (Garcia-Lillo et al., 2017; Omran et al., 2021; Dwekat et al., 2020b, 2022; Carmona et al., 2022).

With regards to many bibliometric and content analysis research (see, for example, Gordon and Nazari, 2018), we limit our search to only the top (SSCI) auditing, accounting and business ethics journals (see Table 1).

To ensure we include all the linked articles in the field of (Ethics and Auditing), we used a keyword consisting of Ethics and audit. The search criteria involved the combined presence of the words (Ethics AND Audit*) in one area or together in the title, abstract and keywords. After that, we used some “exclusion criteria” to adjust the results to the study’s objective. Because the journal articles are considered the only confirmed knowledge as it has more restricted availability and variability in the peer review (Podsakoff et al., 2005), we, therefore, excluded items such as chapters, books, conference papers and non-English articles. The outcome of this search provided 1,064 articles. Second, as we mentioned earlier, consistent with previous accounting and auditing reviews (Gordon and Nazari, 2018), we limit our search to the SSCI auditing, accounting and top three business ethics journals. The results of this search generate 195 articles. Third, this process was followed by a screening process in which the researchers carefully read the titles and abstracts to check that all the documents matched our analysis goal. When the titles and abstracts provide unclear information for this evaluation, the complete text was analyzed. After this review, we found that 114 articles coincided with the introduced search criterion: the connection between auditing and ethics. The exclusion criteria were five as follows:

<table>
<thead>
<tr>
<th>Source titles</th>
<th>Records</th>
<th>% of 104</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal of Business Ethics</td>
<td>72</td>
<td>63.158</td>
</tr>
<tr>
<td>Accounting Organizations and Society</td>
<td>7</td>
<td>6.140</td>
</tr>
<tr>
<td>Auditing a Journal of Practice Theory</td>
<td>6</td>
<td>5.263</td>
</tr>
<tr>
<td>Accounting Auditing Accountability Journal</td>
<td>5</td>
<td>4.386</td>
</tr>
<tr>
<td>Accounting Review</td>
<td>4</td>
<td>3.509</td>
</tr>
<tr>
<td>Business Ethics Quarterly</td>
<td>4</td>
<td>3.509</td>
</tr>
<tr>
<td>Contemporary Accounting Research</td>
<td>4</td>
<td>3.509</td>
</tr>
<tr>
<td>Managerial Auditing Journal</td>
<td>2</td>
<td>1.754</td>
</tr>
<tr>
<td>Accounting and Finance</td>
<td>2</td>
<td>1.754</td>
</tr>
<tr>
<td>Journal of Accounting and Public Policy</td>
<td>2</td>
<td>1.754</td>
</tr>
<tr>
<td>Revista De Contabilidad Spanish Accounting Review</td>
<td>2</td>
<td>1.754</td>
</tr>
<tr>
<td>Accounting and Business Research</td>
<td>1</td>
<td>0.877</td>
</tr>
<tr>
<td>Australian Accounting Review</td>
<td>1</td>
<td>0.877</td>
</tr>
<tr>
<td>British Accounting Review</td>
<td>1</td>
<td>0.877</td>
</tr>
<tr>
<td>Business Ethics a European Review</td>
<td>1</td>
<td>0.877</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 1. Journals
We exclude the articles focused only on the business ethics topics such as moral reasoning and ethical decision of corporate managers (27 articles).

We also exclude the articles that focus on the corporate governance structure and the audit committee of the non-auditing firm (15 articles).

The articles are focused on internal auditing (12 articles).

We exclude research papers examine the taxpayers perspective and tax laws (6 articles).

We eliminate the articles examine the corporate ethics performance and the corporate culture and climate (21 articles).

We then applied Bibexcel software to make a bibliometric analysis and VOS-viewer to examine the social networks and our research’s visualization instrument.

4. Results
4.1 Production: volume and evolution
To review the structure of the literature in the field of auditing ethics, we develop a descriptive analysis by counting the years of publication and contributing scholars, nations and journals.

4.1.1 Distribution pattern of the literature. We here provide the evolution of the publications from 1980 to 2021.

The period in this field is relatively wide (1980–2021); generally, there is no clear trend for the publications, and there is a fluctuation during the period. However, we could tie the information flow to some financial events; for example, the Enron case happened in 2001; thus, we could notice that the number of articles started in that period. Also, with the fall of capital markets that happened in 2008, a few years later, the flow of research increased (five articles in 2009 and eight in 2010). On the other hand, only 19% (22 of 114) of articles were published in the first 20 years (1980 and 2000); the most important research phase can be considered after 2000. Figure 1 can also be divided into two periods: the preliminary period from 1980 to 2000, and the second is the growth period from 2001 to 2021. This reflects that the interest in the link between ethics and auditing increases with an increasing number of published research.

4.1.2 Countries. Nearly 88% of the scholarly in the field of Auditing ethics are studied in developed nations. Most of the articles are concentrated mainly in the USA, followed by Canada and Australia (see Table 2), which indicates the significance and impact of this
On the other hand, research in underdeveloped countries is still low (12% of our sampled articles). Moreover, we can also notice the primary role of common law countries (e.g. the USA, the UK, Australia and Canada), mainly the USA, in this field; this result is consistent with previous accounting and business ethics research (McLeod et al., 2016; Bampton and Cowton, 2013), this could be explained by the Enron-Arthur Anderson and World Com scandals which happened in the USA, that put the reputation of the profession into question, leading the American Congress to form the Sarbanes Oxley 2002, that called for serious actions regarding the Code of professional conduct, such as taking into consideration teaching the ethics of accounting and calls for the research in the field of auditing ethics and accounting ethics to mitigate further scandals in the future.

It is worth mentioning that few studies in our sampled articles (7 of 114) have introduced a comparison between different groups according to their cultures, region and country. For instance, Clayton and van Staden (2015) use a sample of Australian and New Zealand professional accountants to investigate the impact of social influence pressure on ethical decision-making. Other scholars focus on the USA and Ireland auditors to link perceived ethical intensity and audit quality (Sweeney et al., 2013) and to examine the impact of the company’s perceived ethical culture and demographic variables on auditors’ ethical evaluation and intention to take decisions (Sweeney et al., 2010). In developing countries, Karacaer et al. (2009) conducted a comparison study to examine the impact of auditors’ individual values on their ethical decisions using Turkish and Pakistani professional auditors’ sample. Fleming et al. (2010) explore the moral reasoning differences between Chinese and the US auditing students and auditors. Similarly, Thorne et al. (2003) compare the moral reasoning of the US and Canadian auditors. Finally, Tsui and Windsor (2001) applied cognitive moral development (CMD) theory and Hofstede’s culture theory to analyze the impact of cultural differences linked with variations in ethical reasoning.

4.2 Impact

Table 3 grades the top-cited articles. “The effect of organizational culture and ethical orientation on accountants’ ethical judgments” by Douglas et al. (2001), which is published in the Journal of Business Ethics (JBE), is the top-cited article (175 times). Its average number of citations per year is 7.95. The overwhelming majority of our sampled articles (112 of 114) are cited at least once, as well as almost 73% (83 of 114) articles are cited more than ten times. It is worth noting that the majority of cited articles are from the JBE, The Accounting Review (TAR), Journal of Accounting and Public Policy (JAPP) and Auditing-A Journal of Practice and Theory (AJPT).

4.3 Topics

4.3.1 Co-citation. Figure 2 identifies four major groups of cited articles in the literature. Most of the clusters are focused on CMD theory. First, the green cluster is developed by five critical articles that are cited repeatedly together in our sample (Kohlberg, 1969; Rest, 1979; Ponemon,
<table>
<thead>
<tr>
<th>Rank</th>
<th>Title</th>
<th>Authors</th>
<th>Journal</th>
<th>Publication year</th>
<th>Total citations</th>
<th>Average per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“The effect of organizational culture and ethical orientation on accountants' ethical judgments”</td>
<td>Douglas, Davidson and Schwartz</td>
<td>JBE</td>
<td>2001</td>
<td>175</td>
<td>7.95</td>
</tr>
<tr>
<td>2</td>
<td>“Auditor Independence in a Private Firm and Low Litigation Risk Setting”</td>
<td>Hope, Ole-Kristian and John Christian</td>
<td>TAR</td>
<td>2010</td>
<td>111</td>
<td>8.54</td>
</tr>
<tr>
<td>3</td>
<td>“The Impact of Perceived Ethical Culture of the Firm and Demographic Variables on Auditors' Ethical Evaluation and Intention to Act Decisions”</td>
<td>Sweeney Arnold and Pierce</td>
<td>JBE</td>
<td>2010</td>
<td>107</td>
<td>8.23</td>
</tr>
<tr>
<td>5</td>
<td>“Some cross-cultural evidence on ethical reasoning”</td>
<td>Tsui and Windsor</td>
<td>JBE</td>
<td>2001</td>
<td>95</td>
<td>4.32</td>
</tr>
<tr>
<td>6</td>
<td>“An Examination of the Layers of Workplace Influences in Ethical Judgments: Whistleblowing Likelihood and Perseverance in Public Accounting”</td>
<td>Taylor and Curtis</td>
<td>JBE</td>
<td>2010</td>
<td>87</td>
<td>6.69</td>
</tr>
<tr>
<td>7</td>
<td>“A Synthesis of Fraud-Related Research”</td>
<td>Trompeter, Carpenter, Tina, Naman, Keith and Richard</td>
<td>AJPT</td>
<td>2013</td>
<td>81</td>
<td>8.1</td>
</tr>
<tr>
<td>8</td>
<td>“A Model of Auditors Ethical Decision-Process”</td>
<td>Lampe and Finn</td>
<td>AJPT</td>
<td>1992</td>
<td>78</td>
<td>2.52</td>
</tr>
<tr>
<td>9</td>
<td>“An examination of auditors’ reporting intentions when another auditor is offered client employment”</td>
<td>Kaplan and Whitecotton</td>
<td>AJPT</td>
<td>2001</td>
<td>77</td>
<td>3.5</td>
</tr>
<tr>
<td>10</td>
<td>“Influencing ethical development: Exposing students to the AICPA Code of Conduct”</td>
<td>Green and Weber</td>
<td>JBE</td>
<td>1997</td>
<td>70</td>
<td>2.69</td>
</tr>
</tbody>
</table>

Total for 114 publications: 3,234 citations with an average of 1.84 per year.
1992; Windsor and Ashkanasy, 1995). These works focused on CMD theory and the development of defining issue test (DIT) to examine auditors’ moral reasoning. Second, the red group is made up of six articles on ethical decision-making in organizations, usually cited jointly (Trevino, 1986; Rest, 1986; Jones, 1991; Ponemon and Gabhart, 1990; and Shaub et al., 1993). Third, the blue group includes four scholarly articles on auditors’ ethical reasoning and commitment (Ponemon, 1992; Preston et al., 1995; Jones et al., 2003). Finally, the yellow cluster is focused on the moral reasoning of auditing students and auditors (Ponemon, 1992; Shaub, 1994).

4.3.2 Bibliographic coupling. We examined the network of articles referenced to better understand the academic background of the 114 articles in our sample. We explored the network of articles referenced, and it showed that the greatest set of related papers contained 42 articles (i.e. 36.84% of the sampled articles). Figure 3(a) represents the articles with the top link strength of bibliographic coupling.

Figure 3(a) indicates that the four investigations with the highest bibliographic coupling indices are as follows:


To understand the complete view of the Bibliographic coupling analysis of articles, Figure 3(b) represents a cluster analysis and network visualization. The figure reveals three main clusters of articles frequently cited jointly:

(1) auditor moral reasoning;
The green cluster (auditor ethical judgment) includes 15 articles [see Figure 3(b)] most of these articles are focused on the factors (individual) and determinants of auditor ethical judgment. For instance, as shown in Figure 3(a), *Sweeney et al. (2010)*
have the biggest link, examining the impact of ethical culture and demographic variables on auditor ethical judgment. Sweeney et al. (2013) is another study on the green cluster. They investigate the mediating impact of perceived ethical intensity in the association between audit firm ethical climate and the auditors’ ethical judgment.

The red cluster (auditor moral reasoning) is the biggest, consisting of 23 articles. Most publications on this cluster link auditor moral reasoning with auditor decision-making, education and cultural differences. For example, Cohen and Bennie (2006) and Thorne et al. (2003) lead this cluster and examine Jones contingent factors model and the auditor’s moral reasoning in an institutional context.

Finally, the blue cluster (firm ethical climate) is the smallest, including only three articles. Shafer and Simmons (2011) lead this cluster, and they analyze the effect of firm ethical culture on the ethical decisions of Chinese tax practitioners. Shafer (2008) study the ethical climate of Chinese auditing firms. In comparison, Douglas et al. (2001) link a firm ethical environment with the auditor’s ethical judgment.

Overall, the cluster analysis indicates that most academics in this field examined the auditors’ moral reasoning and ethical decision-making.

We examined the network of articles referenced to better understand the academic background of the 114 articles in our sample. Figure 3 shows a network visualization and reveals the three main clusters of frequently cited articles jointly.

4.3.3 Keywords analysis. Table 4 shows the most repeated keywords with four times or more on auditing and ethics. Moral reasoning is the most studied keyword in the field, with ten times and whistleblowing, auditor independence and organizational ethical culture nine times. We highlighted the keywords related to our keywords search (Auditing with 19 times, ethics with 16 and Auditors/Public accountant with 13 times). These keywords also reflect the main areas studied and discussed by scholars.

Figure 4 shows keyword co-occurrence; each ball symbolizes a keyword, where the volume of each ball is related to the co-occurrence frequencies of keywords. The figure indicates a strong co-occurrence, which means that they are the essence keywords in the audit and ethics literature.

<table>
<thead>
<tr>
<th>Keywords frequency</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
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<td>Auditing</td>
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<tr>
<td>Ethics</td>
<td>16</td>
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<td>Auditors/Public accountant</td>
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<td>Whistleblowing</td>
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<td>Fraud</td>
<td>4</td>
</tr>
<tr>
<td>Cognitive moral development theory</td>
<td>4</td>
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</tbody>
</table>
4.4 Content analysis

4.4.1 Major theoretical lenses. Many theories have been contributed to the literature on the link between auditing and ethics. Table 5 shows the most used theories in the field. Among our sample (75 of 114), articles have used theories as a base for discussion, while 39 articles did not use any. Accounting and auditing ethics are considered emerging field. Therefore, most of the studies in this area are either survey or exploratory. As shown in Table 5, the most used theory is the CMD theory developed by Kohlberg (1969), which has been used in 30 articles. This could be related to the topics in this field of business ethics. The keywords’ analysis provides an exclusive result that researchers in this field focused mainly on auditors’ ethical decision and moral development; therefore, this theory is the most suitable. Moreover, for all aspects of accounting, when there is a decision or a judgment to take, it is always surrounded by rules and regulations. Therefore, Kohlberg’s approach to ethics concerning CMD could be the most probable. This result is similar to (Uysal, 2010), who replied that most studies in business ethics literature used Kohlberg’s CMD.

Among the used theories, stakeholder theory is used by six articles (Bernardi and LaCross, 2010; Rodgers et al., 2009; McNamee and Fleming, 2007; Satava et al., 2006; Garcia-Marza, 2005; Dillard and Yuthas, 2002), noting that all these articles are non-empirical. The use of such theory is not strange in the field of auditing ethics as it represents the core

<table>
<thead>
<tr>
<th>Theory</th>
<th>Articles</th>
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<tbody>
<tr>
<td>Cognitive moral development theory</td>
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<td>Stakeholder theory</td>
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<tr>
<td>Virtue ethics theory</td>
<td>4</td>
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<tr>
<td>Theory of planned behavior</td>
<td>4</td>
</tr>
<tr>
<td>Organizational support theory</td>
<td>3</td>
</tr>
<tr>
<td>Agency theory</td>
<td>3</td>
</tr>
<tr>
<td>Social exchange theory</td>
<td>3</td>
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<tr>
<td>Social norm theory</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 5. Top theories used
argument for the common objectives of auditing to maintain their responsibilities and obligations and to achieve the highest degrees of performance, complying with professional ethical codes to serve to stakeholders’ interest and to preserve the reputation of the auditing profession (Bayou et al., 2011). However, other theories were little used, including stakeholder theory, virtue ethics theory and theory of planned behavior.

4.4.2 Data sources. Table 6 shows the data sources used by our sampled articles. In the empirical accounting ethics research, most researchers used a questionnaire as a data collection method, while a few researchers used personal interviews (Bampton and Cowton, 2013). Consistent with previous studies, the overwhelming majority (71 of 83) of empirical studies used surveys in our study. On the other hand, other scholars combine surveys and interviews (i.e. Schultz and Hooks, 1998; Hussey and Lan, 2001; Buchheit et al., 2003; Arfaoui et al., 2016; Dermarkar and Hazgui, 2022). The logical explanation for using such data collection methods is that surveys are quite inexpensive, fast and easy to administer. Furthermore, analyzing the data could be considered relatively simple compared to examining data gathered from a personal interview. Besides, most surveys depend on close-ended queries, which is similar to the business ethics literature and certainly is a traditional method in surveys created for self-completion (Bryman and Bell, 2003). This method is suitable for specific kinds of theory testing because various possible responses are well-defined, such as in the case of CMD theory. However, it is less suitable for exploratory because of the complexity, relative immaturity and sensitivity of some of the topics engaged (Bampton and Cowton, 2013).

4.4.3 Study type and statistical methods. Table 7 shows that the topic research life cycle seems to be on a moderate level because almost all works are empirical (74%). Table 8 shows the frequency of the most statistical methods used in the sampled articles in the field of audit and ethics. Most of the sampled articles used analysis of variance (ANOVA) and analysis of covariance (ANCOVA) with a frequency of 31, while 26 articles used multiple
regression analysis, and ten articles used logistic regression (Blay et al., 2019; Espinosa-Pike and Barrainkua, 2016; Bernardi and LaCross, 2010; Hope and Langli, 2010; Citron and Taffler, 2001) and factor analysis. However, few scholarly articles used SEM (Prajogo et al., 2021; Dalton et al., 2014; Sweeney et al., 2013; DeZoort et al., 2012; Patterson, 2001) and PLS-PM (Latan et al., 2019b; McManus and Subramaniam, 2014; Guiral et al., 2010).

4.4.4 Scope analysis. The purpose of our study is to investigate this research field and to map the literature knowledge. To meet this purpose, we divided the sampled articles into empirical and non-empirical studies. Then we classified the empirical studies into main scopes taking into consideration the results of the bibliographic coupling. Table 9 below shows the main categories in the field of auditing ethics regarding the empirical articles in our sampled articles (84).

As shown in Table 9, auditor ethical decision-making and auditor moral reasoning are the topmost studied topic in auditing ethics, with 44 and 11 articles, respectively. This result is consistent with the analysis of bibliographic coupling and keywords results. In the following section, we will discuss each scope in more detail. It is worth noting that these two scopes provide a significant part of the field’s empirical work and form almost 65% of the sampled empirical articles (55 of 84):

- **Auditor’s ethical decision-making.**

The nature of the auditing profession depends on the choice to make a decision that significantly impacts other related parties related to a particular ethical issue (Sweeney et al., 2010; Waldron and Fisher, 2017). As a result, auditors usually face the pressure of conflict of interest and must maintain their independence while performing their job (Gendron et al., 2006). This will continue, particularly because of the fees received from the client, and especially when the auditor’s opinion does not meet the client’s expectations (Schatzberg et al., 2005).

To classify the auditor’s ethical decision-making studies, we follow the review by Lehnert et al. (2015). We depend on Rest’s (1986) ethical decision-making model as a comprehensive guiding structure for this review because it captures the four-key phase of ethical decision-making. Rest (1986) proposed that a primary framework for ethical decision-making classifies ethical decision-making as a process according to four steps:

1. ethical awareness;
2. ethical judgment;
3. ethical intention; and
4. ethical behavior.

<table>
<thead>
<tr>
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<th>Topic</th>
<th>No. of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Auditor ethical decision-making</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>Auditor moral reasoning</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Auditor independence</td>
<td>7</td>
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<tr>
<td>4</td>
<td>Fraud</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Auditing firm ethical environment</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Audit quality</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Code of professional conduct</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Underreporting of time</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Other</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>84</td>
</tr>
</tbody>
</table>

Table 9. Auditing ethics topics
Ethical awareness is identifying an ethical action in a situation, while ethical judgment judges whether the decision or action is moral; the ethical intention is making a purpose of ethical action, and ethical behavior is engaging in ethical actions. Table 10 shows the classification of auditor ethical decision-making studies based on Rest model. It is worth mentioning that most of the studies on this topic focus on auditor ethical judgment (24 of 44), while, relatively, few studies concentrate on the other three phases of Rest model (i.e. awareness, seven articles; intention, seven articles; and behavior, five articles).

Auditor's ethical decision-making is a part of the psychological issue called behavior decision, which mainly focuses on small groups and individual's judgments and decisions to understand how judgments are made, how to improve and what are the reasons behind these judgments (Douglas et al., 2001). It is suggested that many factors could affect auditor ethical decision-making. Previous research has covered the ethical decision processes of professional auditors in practice. The general findings of these studies confirmed that an auditor's ethical decision-making is a complex process that is affected by several external and internal factors. Our study divided the factors that affect auditor ethical decision-making into three groups:

1. Individual factors;
2. Organization factors; and

According to Table 10, most studies (26 of 44) examine the impact of individual factors (CMD, age, gender, education, experience, etc.) on auditor ethical decision-making. In comparison, 13 articles examine the influence of organizational factors (i.e. ethical climate, organizational culture and auditing firm code of ethics) on auditor decision-making. However, only three studies investigate the impact of auditor moral intensity on ethical decision-making (judgment).

In the following subsections, we will discuss the impact of individual factors, organizational factors and moral intensity on the auditor's ethical decision-making (see Table 11).

**Individual factors.**

One of the most linked topics with auditor ethical decision-making is CMD. CMD studies relate to the ability of individuals to engage in higher levels of moral reasoning. In our study, nine articles examine the association between CMD and auditor ethical decision-making (Kerler and Killough, 2009; Schatzberg et al., 2005; Herron and Gilbertson, 2004; Jeffrey et al., 2004; Warming-Rasmussen and Windsor, 2003; Gul et al., 2003; Au and Wong, 2000; Sweeney and Roberts, 1997; Lampe and Finn, 1992). Six articles relate to ethical judgment, followed by behavior (two articles) and awareness (one article). However, no study in our sample examines the association between CMD and ethical intention. Most of these studies conclude that a higher level of moral reasoning significantly affects ethical decisions. In

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Ethical awareness</th>
<th>Ethical judgment</th>
<th>Intention to act</th>
<th>Ethical behavior</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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<td>14</td>
<td>4</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td>Organizational factors</td>
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<td>7</td>
<td>2</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>Individual and organizational factors</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Moral intensity</td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>24</td>
<td>7</td>
<td>5</td>
<td>44</td>
</tr>
</tbody>
</table>
addition, some previous studies conclude that auditors’ moral reasoning could affect auditors’ tendency toward providing independent and fair judgments (Lampe and Finn, 1992; Warming-Rasmussen and Windsor, 2003; Gul et al., 2003). Therefore, auditors’ level of moral reasoning could significantly influence their professional duties and responsibility performance. Growing evidence suggests that moral development affects both sensitivity to ethical issues and auditor judgments concerning work-related dilemmas (Jeffrey et al., 2004).

Several studies (Carrera and Van Der Kolk, 2021; Adeel et al., 2021; Espinosa-Pike and Barrainkua, 2016; Dalton et al., 2014; Karacaer et al., 2009; Curtis, 2006, Karcher, 1996; Merchant and Rockness, 1994) examine the impact of personal auditor values (i.e. age, gender and experience) on auditor decision-making. Gender on of the most discussed topic in the field. According to Lehnert et al. (2015), the most widespread impact noticed is that women were more moral than men. More recently, Carrera and Van Der Kolk (2021) indicate that woman auditors have greater moral awareness than their man counterparts. Besides, in most studies about gender differences, females are more ethically sensitive than males. Dalton et al. (2014) examine the antecedents and consequences of perceived gender discrimination in the audit profession. Other studies (see, for example, Karcher, 1996) indicate a positive association between age and auditor ethical decision-making; they argue that older people are more ethical than younger people. Concerning work experience, Espinosa-Pike and Barrainkua (2016) found a positive and significant link between work experience and auditor ethical judgment. A recent study conducted by Carrera and Van Der Kolk (2021) found that more experienced auditors show higher levels of moral awareness.

<table>
<thead>
<tr>
<th>No. of works</th>
<th>Scopes</th>
<th>Studies</th>
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<tbody>
<tr>
<td>3</td>
<td>The influence of auditor moral intensity on auditor ethical decision-making</td>
<td>Sweeney et al. (2013), Coram et al. (2008), Cohen and Bennie (2006)</td>
</tr>
<tr>
<td>2</td>
<td>Studies examine the influence of auditor individual and organizational factors on auditor ethical decision-making</td>
<td>Latan et al. (2019b), Patterson (2001)</td>
</tr>
</tbody>
</table>
Other studies (i.e., Tsui and Gul, 1996) link the Locus of control and ethical decision-making (behavior). The locus of control reflects how individuals maintain and address their ability to enact change within their domain or experiences. Barrainkua and Espinosa-Pike (2018) conclude that auditors possess higher ethical judgment than students, while students commit to independence enforcement and public interest and are substantially greater than auditors.

Adeel et al. (2021) examine the association between Islamic religiosity and auditors’ judgments. They reveal that auditors with high Islamic Worldview scores prefer exercising more judgment.

On the other hand, Karacaer et al. (2009) conducted a comparison study to examine the impact of auditors’ individual values on their ethical decisions using Turkish and Pakistani professional auditors’ sample. They found significant variations between the instrumental and terminal values of the auditors; they concluded that moral intensity perceptions affected behavioral intentions and ethical judgments. Blay et al. (2019) conclude that auditor misreporting decreases when the investor is another participant in the experiment rather than computer simulated and when the auditor is required to sign off on the audit. They also found that the social norm sensitivity measures are linked to the ethical judgment that auditor misreporting is immoral. Using SEM, Latan et al. (2018) indicate that all individual-level antecedents affect the auditors’ whistleblowing intentions; besides, they reveal that auditing team norms, perceived organizational support and moral intensity can moderately enhance the connection between the whistleblowing intentions and the individual-level antecedents. More recently, Latan et al. (2019a) reveal a significant link between the triangle elements and the whistleblowing intention. They found that financial incentives are the most critical factor of auditors’ that affect the whistleblowing intention in Indonesia.

Organizational factors.

Organizational factors are those elements of the company and the corporate environment that can affect moral behavior. According to Lehnert et al. (2015), organizational factors often relate to the regulations, rules and implied norms within the corporate environment comprising ethical culture, subjective norms, rewards and sanctions, organizational culture, codes of ethics, organizational size, policies/procedures and competitiveness. Using an ethical code in the business environment may mitigate the decision-making process. However, it could not limit the ethical violations (Green and Weber, 1997). The ethical climate is defined as the fundamental shared perception of organizational regular practices and procedures which have ethical content (Victor and Cullen, 1988). Therefore, it is argued that an organization’s ethical climate could be an essential source of information for employees to access what actions are “right” or ethical in the work context (Martinov-Bennie and Pfugrath, 2009). Therefore, an ethical climate significantly influences employees’ ethical decision processes (Shafer and Simmons, 2011). Thus, it is argued that the most critical research questions regarding the ethical climate focus on the influence of such climates on ethical behavior (Victor and Cullen, 1987). In our sampled articles, 13 investigate the effect of organizational factors on the auditor’s ethical decision-making. Seven articles relate to ethical judgment, followed by awareness (three articles) and intention (two articles). In contrast, only one study in our sample examines the association between organizational factors and ethical behavior.

The ethical climate is considered to be composed of some factors. Accounting research has analyzed these factors individually and in various combinations. Several factors are personal, which differ on the individual decision-makers. Frequently, these factors would interact to adjust the results. Different measurements were used to identify auditing firms’ ethical decision-making and ethical climate.
Moreover, most of the articles examine the effect of pressure (Johnson et al., 2016; Clayton and van Staden, 2015; Sweeney et al., 2010), perceived organizational culture (Sweeney et al., 2013) and type of CPA firm on auditor’s ethical judgment (Shafer and Simmons, 2011; Sweeney et al., 2010; Martinov-Bennie and Pflugrath, 2009; Shafer, 2008). For example, Kaplan and Whitecotton (2001) reveal that individual reporting costs negatively affect the auditors’ reporting intentions, while the personal responsibility for reporting is associated positively with the auditors reporting intentions. More recently, Commerford et al. (2019) examined the methods in which auditors react to real-earning management and how they deal with the intrinsic uncertainty related to real-earning management. They found that the auditors react to real earning management by reducing management tone assessments, being less likely to keep the client and being more likely to consider the concern with the audit committee.

On the other hand, three investigations indicate that moral intensity mediates the relationship between a firm ethical environment and an auditor’s ethical decision-making (Sweeney et al., 2013; Taylor and Curtis, 2010; Douglas et al., 2001). The mixed results of the studies indicate that the ethical climate with all factors significantly affects the auditor’s ethical judgment. Therefore, the top management in auditing firms could make an effort to improve and sustain supportive or positive cultures in their firms.

On the other hand, in our sampled article, some studies examine the determinants and factors related to the firm ethical environment. For example, Beneish and Chatov (1993) and Bernardi and LaCross (2010) studied the auditing firm’s code of conduct. Besides, McManus and Subramaniam (2014) investigate the impact of organizational and professional commitment of early career accountants on auditing firms ethical environment. Bobek et al. (2015) studied the influence of roles and organizational fit on auditors’ perceptions of their firms’ ethical environment. Finally, Garcia-Falieres and Herrbach (2015) investigate the connections between auditors’ professional identification, organizational identification and emotions at work.

Moral intensity.

Moral intensity is another somewhat new concept in the auditor ethical decision-making literature. In our sampled articles, only three (Sweeney et al., 2013; Coram et al., 2008; Cohen and Bennie, 2006) studies link moral intensity with auditor ethical judgment. However, no study links moral intensity with other decision-making variables (Intention, awareness, behavior). However, Cohen and Bennie (2006) indicate that all moral intensity factors are significantly related to each of the four phases of ethical decision-making:

- Auditors’ moral reasoning.

Moral reasoning is a well-recognized psychological concept that refers to the set of cognitive skills that a person uses to determine moral dilemmas with four chronological components of the moral reasoning process:

1. sensitivity in recognizing the presence of a moral question;
2. ethical evaluation of the situation;
3. intention to act morally regarding that situation; and
4. finally, the actual ethical behavior (Tsui and Windsor, 2001; Abdolmohammadi et al., 2003).

As shown in Table 12, 11 articles discuss the level of moral reasoning of auditors. It is worth mentioning that there are variances between the models built to investigate this scope, probably because of the lack of a uniform theoretical base. However, the most used
Theoretical base is Kohlberg’s theory with a variety of adjustments. Also, all of the articles, depending on the CMD theory, use the DIT to measure moral reasoning. The ethical reasoning of auditors of a particular dilemma is not only based on their opinion and judgment but also other considerations, including peers’ support, managers and organizational authority (Tsui and Gul, 1996). In addition, the perception and attitudes of employees affect their perception of ethical dilemmas, which influence ethical decisions (Thorne et al., 2003; Zheng and Li, 2010). Previous evidence advocates those accountants and auditors in different nations may have diverse ethical awareness and standards (Karacaer et al., 2009). Thorne et al. (2003) suggest that the national institutional framework found in the United States, which has a stronger regulatory and more litigious nature, seems to better persuade auditors to deliberate corresponding to what they recognize is “the ideal” judgment contrasted to the Canadian framework. Whereas Thorne et al. (2004) presented some significant implications for realizing the social influence process that affects auditors’ moral reasoning. Their results suggest that prescriptive discussion of an ethical dilemma inspires auditors to make every effort to find the best solution to a moral dilemma if represented by the majority view. On the other hand, Thorne and Hartwick (2001) emphasize the importance of the type of discussion between auditors for forecasting and explaining auditors’ moral reasoning; the results found that auditors have higher moral reasoning scores after rigid discussion with peers and poorer moral reasoning scores after deliberative discussion with peers.

It is worth noting that all the studies in this area are conducted between 1995 and 2016, which may indicate that the interest in this research area has dropped in the last five years. Moreover, most of the articles in this scope focus on the impact of auditors/student’s individual factors on the level of moral reasoning (Arfaoui et al., 2016; Fleming et al., 2010; Conroy et al., 2010; Thorne et al., 2004; Abdolmohammadi et al., 2003; Allen and Ng, 2001; Thorne and Hartwick, 2001; Green and Weber, 1997; Ponemon, 1995). Most of them focus on demographic such as age, gender, education, experience and position. On the other hand, few studies examine the influence of group discussion (Thorne and Hartwick, 2001; Thorne et al., 2004) and ethics course intervention (Green and Weber, 1997; Arfaoui et al., 2016) on the level of moral reasoning. While only two studies examine the impact of organizational factors on the auditor’s moral reasoning (Thorne et al., 2003; Tsui and Windsor, 2001):

- Other auditing ethics-related literature.

To summarize the scope analysis results, auditing ethics is an emerging field; the most discussed topics are the auditor’s ethical decision-making and moral reasoning. On the other hand, there are a wide variety of scopes and factors that are evolving in the literature, whereas future research may consider developing such areas. Among these topics, whistleblowing intention is one of the most recent topics discussed among our sampled

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<th>No. of works</th>
<th>Scopes</th>
<th>Studies</th>
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<tbody>
<tr>
<td>2</td>
<td>The influence of auditor organizational factors on auditor moral reasoning</td>
<td>Thorne et al. (2003), Tsui and Windsor (2001)</td>
</tr>
</tbody>
</table>
articles (Latan et al., 2019a; Latan, Jabbour and Jabbour, 2019b; Latan, Ringle and Jabbour, 2018; Alleyne, Hudaib and Haniffa, 2018; Alleyne et al., 2017; Soni et al., 2015). Other scholars examine ethical issues affecting audit quality (Blay et al., 2019; Lai, Sasmita, Gul, Foo and Hutchinson, 2018). Besides, Sakawa and Watanabel (2021), Verwey and Asare (2022), Chen et al. (2013), Schultz and Hooks (1998) and Matsumura and Tucker (1992) shed light on the auditor ability to detect fraud. In addition, Patterson (2001) and Karcher (1996) investigate factors affecting auditor ethical sensitivity. Besides, Barainkua and Espinosa-Pike (2015) and Buchheit et al. (2003) focus on the underreporting of time. In this vein, future research may consider developing such research areas.

Lai et al. (2018) indicate that auditors with multiple clients are linked to lower earnings quality. They reveal that auditors’ signatures on their reports help assess auditor quality at the individual level. According to Buchheit et al. (2003), achieving the initial phases of an auditor career obliges auditors to complete quality audits in an unreasonably short period. Conducting quality audits within inadequate time limits leaves junior auditors to report time honestly and fail versus underreport time and succeed. Barainkua and Espinosa-Pike (2015) claimed that underreporting of time is influenced by the pressures perceived by auditors linked to the ethical acceptability of underreporting of time, audit budgets and the impact of superiors and peers on the resolution of moral conflicts. Patterson (2001) concludes that the organizational and regulatory structures affect personal ethical sensitivity negatively.

5. Summary of results and discussion
This study provides a comprehensive review of the field of auditing ethics by applying bibliometric, SNA and content analysis techniques on the Auditing Ethics literature in top scientific journals. In general, the growing literature shows that the interest in auditing ethics research is increasing, especially since 2001. Besides, most of the most productive journals in the field are high-quality with a high scientific impact, which emphasizes the increasing awareness of the importance of the research on the topic. Our results also indicate the significant impact of the literature because the overwhelming majority of our sampled articles (112 of 114) were cited at least once, and almost 73% (83 of 114) articles were cited more than ten times. Douglas et al. (2001), Hope and Langli (2010), Merchant and Rockness (1994) and Sweeney Arnold and Pierce (2010) have the most significant value in the literature because they are the most cited articles in the field (with more than 100 citations).

However, the research in this field is not well distributed; almost 88% of the academic articles are in developed countries and are concentrated mainly in the USA, Canada and Australia. Thus, the most productive institutions and authors are primarily located in the same countries. On the other hand, research in the field is still very limited in developing countries. Therefore, future research may consider focusing on these countries.

Regarding topics of interest in the literature, the most used keywords were moral reasoning, whistleblowing, auditor independence, organizational ethical culture and code of professional conduct. The results also show that two authors or more study almost 88% of sampled articles: this means that researchers in this field tend to work cooperatively. The co-citation analysis indicates four main groups of cited documents in the literature; these clusters focus mainly on moral reasoning and ethical decision-making. Consistent with our content analysis findings, the bibliographic coupling results indicate three major clusters of articles frequently cited jointly:

(1) auditor moral reasoning;
(2) auditor ethical judgment; and
(3) firm ethical climate.

Accounting and auditing ethics are emerging fields. Therefore, most studies in this area are either exploratory or survey; the theories discussed in the sampled studies were diverse. Most studies discussed the CMD theory; such a result can explain that all accounting aspects are always surrounded by rules and regulations when there is a decision or judgment. Therefore, Kohlberg's approach to ethics about CMD can fit.

More importantly, almost 74% of our sampled articles are empirical; the overwhelming majority of these studies have used traditional statistical methods (for instance, multiple regression analysis and ANOVA). It could be valuable for future research to use other statistical techniques. One important technique is the SEM; this method is suitable for testing the complex model and exploratory research, which according to our results, is the case in the auditing ethics research field. The SEM could better interpret the literature due to the scarce data and prior information. Moreover, it is worth considering using new qualitative statistical methods such as fuzzy-set qualitative comparative analysis, especially in the debates where there are many mixing results (Ragin, 2009). Cowton and Downs (2015) and Dellaportas (2013) call to use focuses group discussion in business ethics research. The use of focus group discussion is a deep-rooted qualitative technique in the social sciences that could seem to present scope for a considerable influence on the development of knowledge and understanding of the business ethics field (Cowton and Downs, 2015).

One critical contribution of this investigation has been identifying the main scopes of auditing ethics literature. Our content analysis results indicate that almost 65% of our empirical sampled articles investigate two main scopes, auditors' ethical decision-making and moral reasoning (see Table 9). A significant number of studies in the scope of auditors' ethical decision-making examine the effect of auditors' individual factors. However, few studies examine the impact of organizational factors (13 articles) and moral intensity (three articles) on auditor ethical decision-making. Most of these works explore the auditor's ethical judgment (24 articles). In comparison, few studies examine auditor ethical awareness (eight articles), intention (seven articles) and behavior (five articles). Moral development is the second most discussed scope through our sample, noting most of the studies investigate the effect of auditors' individual factors such as ethics course intervention, personal auditor characteristics, group discussion and cultural differences) in auditor moral reasoning, while only two studies examine the effect of organizational factors.

It is worth mentioning that these two scopes (auditing ethical judgment and auditors' moral development) represent almost 65% (55 of 84) of the empirical works. On the other hand, the other scopes represent the remaining 35% of the empirical works that are widely distributed and diverse, emphasizing the need to evolve and develop the available literature patterns. For instance, few scholars examine ethical issues affecting audit quality (Blay, Gooden, Mellon and Stevens, 2019; Lai et al., 2018). Besides, Chen et al. (2013), Schultz and Hooks (1998) and Matsumura and Tucker (1992) shed light on the auditor's ability to detect fraud. Besides, Barrainkua and Espinosa-Fike (2015) and Buchheit et al. (2003) focus on the underreporting of time. Regarding auditor independence, some articles examine the perception of finance directors or different stakeholders about auditor independence (Hussey and Lan, 2001; Firth, 1980). Others (Mostafa et al., 2020) analyze the impact of religiosity on the level of auditor independence. Gendron et al. (2006) examine the auditor's ethical commitment toward auditor independence. DeZoort et al. (2012) test the auditor's reliability framework depending on lenders’ judgment. Moreover, other studies link the auditor’s independence with law litigation risk settings (Hope and Langli, 2010) and bankruptcy and...
going concerns (Citron and Taffler, 2001). Moreover, whistleblowing intention is one of the most recent topics discussed among our sampled articles. Latan et al. (2019a), Latan et al. (2019b), Latan et al. (2018) and Alleyne et al. (2018) examine the impact of different individual antecedents (such as attitudes toward whistleblowing, perceived behavioral control, independence, commitment, personal responsibility for reporting and personal cost of reporting) on whistleblowing intention. Therefore, it could be interesting for future research to take into consideration the uncovered ethical patterns.

Nevertheless, certain relations are complex and have not produced a clear understanding of their effect in the auditor’s ethical decision-making context even after years of investigation. For instance, the associations between factors such as locus of control, age, religion, ethical climate, employment, organizational climate and ethical decision-making still need to be additional examined and demands that we must consider other possible factors that may be a substitute as mediators or moderators of such associations. These factors do not work in a void, and scholars need to examine the direct impacts of these factors.

6. Conclusion

Following the waves of high-profile financial scandals that surfaced from the 2002 and 2008 global crises, many cases of audit failures were shown worldwide (Soltani, 2014). Such scandals damaged the accounting profession’s reputation and public trust (AICPA, 2014; IFAC, 2014), highlighting the importance of the profession’s ethical principles (Duska, 2005). Once again, inside another new global crisis, it seems reasonable to consider the lessons learned during the past decades to minimize economic damages and rapidly recover the activity. The current COVID-19 crisis reflects a recognition of and alertness to potential risks and how accounting and auditing ethics will remain a central priority in the future. The recovery of business is crucial; nevertheless, it should be achieved ethically and fulfill the public interest. Consequently, according to the lessons learnt, our societies will need faster and non-reactive responses from accounting and auditing ethics scholars. This time, within the current stressed business environment, we will need to go beyond the pandemic’s profound economic impacts and not analyze the outcomes.

As our search suggest, the field of auditing ethics is an emerging field; our search criteria of the literature reveal that studies in this field began in the 1980s. Therefore, it is worth exploring what was ignored by ancestors and unboxing 40 years of efforts in the field. In this vein, to the best of our knowledge, this is the first study that provides a comprehensive review in the field of auditing ethics.

The results of our study signify two major auditing ethics scopes in the literature: auditor ethical decision-making and auditors’ moral reasoning. However, research in these areas still need to be developed. Moreover, while moral development is the second most discussed scope through our sample, most of the studies investigate the effect of auditors’ individual factors. Nonetheless, only two studies examine the effect of organizational factors. Hence, there is a need to spread the research regarding the impact of organizational factors and moral intensity on auditor ethical decision and behaviors. Such studies are important for organizations and regulators as it could emphasize how audit firms could shape the ethical behaviors of auditors. Also, little attention has been drawn to other auditing ethics topics such as whistleblowing, fraud, personal auditor characteristics, auditor ethical sensitivity, public interest, underreporting of time, conflicts of interest, organizational ethical climate and audit quality. Therefore, future research could pay more attention to these ignored topics.

Furthermore, to improve the theoretical development, forthcoming investigations must continue to critically investigate Rest’s ethical decision-making model and identify more antecedents, mediators and moderators of the interactions between the four stages of ethical
decision-making. For instance, the addition of the moral intensity construct by Jones (1991) to the auditor ethical decision-making model has generated vital research, theoretical development and validation and testing of the link between auditor ethical decision-making and moral intensity. Moreover, previous studies of business ethics have introduced some theories, for example, ethical climate theory and role theory. However, few studies have applied such theoretical frameworks based on our results. Future research could use these theories to explain auditors’ behaviors and their outcomes.

More importantly, dealing with a rapidly changing business environment highlights the importance of moving toward more practical auditing ethics research to face any possible risk. For example, the exposure to COVID-19 brought many challenges to auditors. The speed of digital transformation and the use of technology, such as machine learning automation, in products and services has been unprecedented. In addition to the challenges related to cybersecurity and fraud, it is essential for auditing to stay on top of responsible automation. This involves attaining and maintaining the knowledge and skill required for the job. In the context of today’s world, this means learning how to properly understand threats to the fundamental principles of ethics from technology. Hence, studies of digital environments and artificial intelligence in the auditing field should be a top priority for both researchers and regulating bodies who govern the profession.

Moreover, the rise in stakeholder capitalism and subsequent call for environmental, social and governance (ESG) reporting is leading investors to not only seek more reliable and comparable information in the area of ESG reporting but also obtain assurance on such information (See Prajogo et al., 2021). Where auditors must answer and be prepared for that call. In this vein, it seems essential for future research to investigate the practical implication of risk assessment within a new business environment. There are many concerns about the auditing skills and ethicality required to operate effectively and ethically in a more digital environment. More precisely, understanding the impact of the changes on all of the entity’s internal control system components is vital to the audit work to respond to possible risks of material misstatement arising from fraud. In considering whether changes are needed to the auditor’s planned work, and mainly if the auditor relies on the operating effectiveness of controls, it is crucial to consider the impact of the pandemic on controls throughout the period under audit. On the other hand, it is essential for future research to investigate the professional competencies regarding technology and information systems related to concerns around capabilities and learning for new talent, who might be at a disadvantage reducing to a lack of in-person interaction with more senior colleagues. More importantly, the ethical consequence of using new technologies in auditing is still somewhat ambiguous. Hence it could be crucial to investigate the such effect.

Finally, this study might have some limitations in the search because of the bibliometric technique used. A significant limitation is the possibility of the non-inclusion of one or more critical vital articles in a substantial database, which was not due to a lack of methodology. Another limitation is that our study was restricted to journal articles published in English and accounting and some business ethics journals. An additional possible limitation is related to the database used (WoS). Due to its characteristics, some exceptions may be found throughout the results. On the other hand, database characteristics will be reproduced in the measurements, which can change (Van Raan, 2000). Thus, WoS has been working for decades and has changed over the years (the number of journals has grown notably). Finally, our study needs judgment in classifying and coding our sampled articles. We have tried to be unbiased and objective; however, the possibility of unintentional subjectivity and bias may be found.
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Corresponding author
Zeena Mardawi can be contacted at: zeedwedw@doctor.upv.es