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# Audit Quality Research: A Bibliometric Analysis

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## Abstract

*This study aims to determine the development and research trend maps with the theme Audit Quality published by well-known journals. The data used in this study were 499 indexed research publications with the theme Audit Quality in the period 1981 to 2020. The map of research development in Audit Quality was obtained through the export process, which would be processed and analyzed using the R Biblioshiny application program. This study shows that the number of publications about the development of Audit Quality research has increased significantly. The research results show that the journal that publishes the most and has the greatest impact in Audit Quality research is Auditing a journal of practice & theory. The most published writers are Myers LA while the most impactful authors are Carcello JV and Knechel WR. This study also indicates that the most widely used topic keywords are Audit, Quality, Evidence, Financial, and Accounting. Last but not least, in general, there are at least 5 theories that form the basis of audit quality.*

**Keywords:** Audit Quality, Bibliometric Analysis, R

## **INTRODUCTION**

The role played by the auditor is very important in the economy as a supervisor for the publication of information relating to the company's financial statements. The auditor's audit process proves and gives creditability to the company's statements to increase the reliability or accuracy of the information used in making economic decisions (Latham and Linviller 1998). Existing business actors are mutually interested in responding to existing information, so that information that is true and reliable is an important key for economic activity.

There is a potential violation by the company to get more wealth by falsifying information. The audit mechanism carried out is the first step to prevent these violations. Auditors take preventive measures to detect and report material inaccuracies disclosed in the financial information. Therefore, auditors' important role in issuing reliable financial information makes the public or companies need assurance that auditors do their job well (Watkins et al. 2004). Therefore, a standard to measure audit quality and ensure proper auditor performance is needed.

Audit Quality can guarantee the transparency of financial report information that will be useful for decision-making purposes and ensure the implementation of auditors' duties to be fair in examining financial statements. The problems most highlighted in audit quality are the auditors' ability to detect data misstatements and report these errors. Auditors' ability to detect data misstatements is meaningless if the auditor does not act independently, which will impact the ability to report existing violations. This inability will lead to audit failure and give rise to the prejudice that the audit process has a bad reputation (Francis 2004). The existing audit failure will impact an increase in lawsuits, a decrease in company value, and a decrease in auditing firms' service costs. On the other hand, implementing a good or quality audit by an auditor will minimize the lawsuits, increase the company's reputation, and increase its value, which will then affect the increase in the cost of auditing services received in the future.

Research related to Audit Quality has developed for more than three decades. Therefore, the author's research aims to determine the map of research developments related to Audit Quality starting from 1981-2020 using bibliometric analysis. The discussion studied in the bibliometric analysis in this study is related to average citation per year, tree fields plot, most relevant sources, source impact, top authors' production over the time, author impact, corresponding author's country, most relevant words, word. cloud, trend topics, thematic maps, thematic evolution, topic dendrogram, and collaboration networks.

## **LITERATURE REVIEW**

Audit Quality can be defined in several ways. Initially, the definition of audit quality as an outcome relies on certain auditor attributes, thus leading to audit quality as the possibility of auditors finding misstatements and reporting violations (DeAngelo 1981). This definition contains an important component, namely the discovery of errors that indicate auditors' competence, while the component of error reporting indicates objectivity, professionalism, and auditor independence.

Other definitions of audit quality refer to the auditor's responsibility when conducting the audit process or its purpose. The definition of audit quality is a process carried out following generally accepted auditing standards to provide reasonable assurance that the audited financial statements are under generally accepted accounting principles and that there are no material misstatements either due to errors or fraud (GAO 2003). Any material deviation from existing audit standards reflects poor audit quality. Then auditors need expert skills to detect errors in

the company's financial statements so that the results of the audits provided can improve the quality of the financial statements themselves (Gul et al. 2002, Behn et al. 2008).

According to Francis (2004) based on a structural view of the quality audit environment, auditing is influenced by six levels of analysis ranging from a narrow level to a broad audit level. The audit analysis level includes audit inputs, audit processes, accounting firms, audit industry and audit market, institutions, and the economic consequences of audit results. The existence of a level of audit environment makes audit quality evaluation a multidimensional challenge. This is because each level has its problems, processes, and audit assessments. The various viewpoints of audit evaluation make the need for a balanced and comprehensive audit quality system to be used for various stakeholders together at each level.

Audit quality measurement can be done using several ways. Several previous researchers used one of the audit quality measurements to classify KAP / auditor into large KAP (big auditor) and small and medium KAP (non-big auditor). Big and non-big dichotomy proxies have been used, among others, by Palmrose (1988); Deis and Giroux (1992); Teoh and Wong (1993); Becker, Defond, Jiambalvo, and Subramanyam (1998); Krishnan (2003); Jordan, Clark, and Hames (2010).

In addition to the big and non-big dichotomy proxies, the proxies for industrial specialization and non-industrial specialities have been used by Craswell et al. (1995); and Behn, Choi and Kang (2008). Some researchers use a combination of auditor size (big and non-big) with industry specialists such as Craswell et al. (1995); and Behn et al. (2008), while Duff (2009) uses proxies of technical quality and service quality.

Another proxy that can be used to measure audit quality is geographic proximity between auditors and clients (Choi et al., 2012), which states that the geographic proximity of auditor-client or auditor locality positively impacts audit limiting opportunistic earnings management or improving accrual quality. Also, research results from Choi et al. (2007) show that geographic trends stemming from the cooperative relationship between public accounting firms and client companies will have a positive correlation to the quality of accruals owned by clients.

Sutton (1993) uses a combined measure of process measures and outcome measures. Process measures focus on the work performed by the auditors and the auditor's adherence to established standards. Outcome measures focus on the increased confidence that users of financial statements gain in the auditor's report. This study indicates that the factors that influence audit quality are factors related to the client's environment, one of which is the users of financial statements.

Francis (2004) states that different audit quality is influenced by several other dimensions such as dimensions of the size or size of the public accounting firm, industry specialization, office characteristics, and differences between countries regarding the legal system and legislation in force in the country. However, from the various proxies used to the researcher's knowledge, there is no research on the best proxy to measure audit quality.

Carcello, Hermanson, and McGrath (1992) measure audit quality by factors of experience, understanding of the client's industry, response to client needs, and adherence to general auditing standards. Schoeder, Salomon, and Vickrey (1986) measure audit quality using 2 dimensions: audit team factors and public accounting firm factors. As for Knechel et al. (2012) measure the quality of the audit using 4 (four) indicators: (1) the quality of the input audit; (2) quality of process audits; (3) quality audit outcomes; (2) context audit quality.

Furthermore, Wooten (2003) has developed an audit quality model as an indicator for measuring audit quality, namely: (1) Misstatement detection and (2) Misstatement reporting.

Audit team factors influence misstatement detection, and audit team factors are also influenced by supervision, planning and performance, professionalism, client experience, industry experience, and KAP factors. Misstatement reporting is influenced by independence, where independence is also influenced by tenure, pricing, and other services. The results (outcome) of audit quality, according to Wooten (2003) are higher fees, lower litigation, good reputation, and higher client valuation.

## RESEARCH METHOD

This study uses both national and international publication data in Audit Quality from the Scopus database ([www.scopus.com](http://www.scopus.com)). We collected data by searching for publications in Scopus with the keyword Audit Quality with the categories article title, abstract, and keywords in the period 1981-2020. From the search results, there were 499 published articles. The analysis for the development map of Audit Quality research was carried out using the bibliometric analysis method—data processing for bibliometric analysis in this study using the R Biblioshiny software.

Bibliometric mapping is a research topic in the bibliometric field divided into two aspects (Borner et al. 2003). These aspects are the construction of a bibliometric map and a graphic representation of the map. The greatest focus in researching the bibliometric literature lies in the creation of bibliometric maps. Therefore, bibliometric maps' graphical representation aspect received less attention because most bibliometric literature articles rely on computer programs' simple graphical representations. Bibliometric analysis of the development of Audit Quality research in this study consists of the development of journals and writers who carry out related research, the development of frequently used words, the development trends of the topics and themes studied, and collaboration between Audit Quality research authors.

## RESULT AND DISCUSSION

### Average Citation per Year

**Table 1: Total Citations**

Year	N	Mean TC per Article	Mean TC per Year	Citable Years
1982	1	11	0.282051282	39
1983	1	13	0.342105263	38
1984	0	0	0	0
1985	0	0	0	0
1986	0	0	0	0
1987	1	12	0.352941176	34
1988	0	0	0	0
1989	0	0	0	0
1990	2	84	2.709677419	31
1991	4	69	2.3	30
1992	3	42.66666667	1.471264368	29
1993	5	27.4	0.978571429	28
1994	2	24	0.888888889	27
1995	4	40.25	1.548076923	26

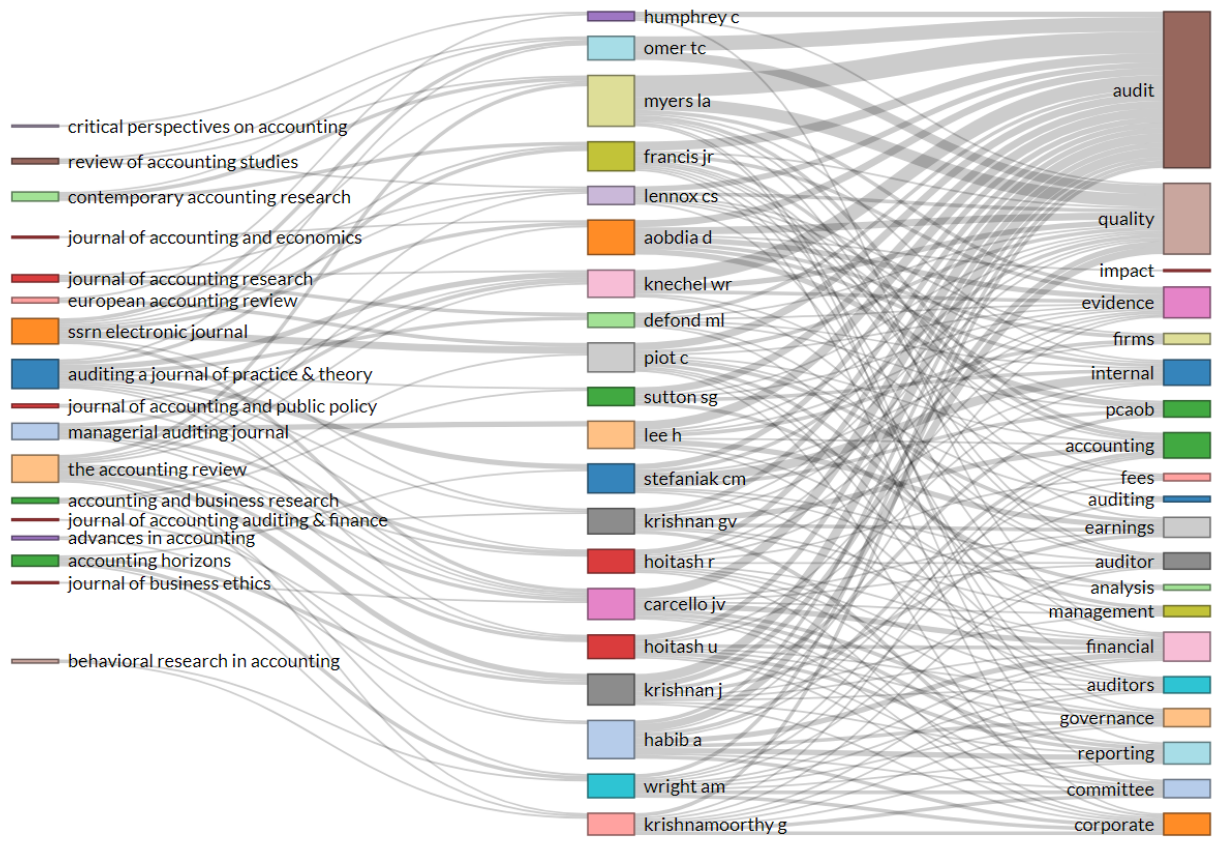
1996	2	59	2.36	25
1997	4	28.5	1.1875	24
1998	1	10	0.434782609	23
1999	6	27.33333333	1.242424242	22
2000	12	55.91666667	2.662698413	21
2001	9	57.44444444	2.872222222	20
2002	5	39	2.052631579	19
2003	12	52.91666667	2.939814815	18
2004	14	67.92857143	3.995798319	17
2005	19	78.84210526	4.927631579	16
2006	16	47.3125	3.154166667	15
2007	26	69.11538462	4.936813187	14
2008	30	48.56666667	3.735897436	13
2009	26	47.84615385	3.987179487	12
2010	24	29.45833333	2.678030303	11
2011	22	30.40909091	3.040909091	10
2012	32	32.75	3.638888889	9
2013	43	49.13953488	6.14244186	8
2014	35	34.22857143	4.889795918	7
2015	40	26.35	4.391666667	6
2016	36	24.08333333	4.816666667	5
2017	28	19.75	4.9375	4
2018	19	14.36842105	4.789473684	3
2019	14	15.85714286	7.928571429	2
2020	1	6	6	1
<b>Total</b>	<b>499</b>			

The table above shows the number of citations on average per article and year in scientific publications with audit quality. This study examines the publication of documents with this theme over 39 years or from 1981 to 2020. Based on this table, it can be seen that the publication of papers with the theme of audit quality was published in 2013 with a total of 43 documents. However, the data is still temporary because 2020 has not been completed, and it is still possible to add more. The collection of papers studied in this study is limited to July 2020.

The highest average total citation per article was in 2005, with an average of 78 citations. Interestingly, in the same year, the second-highest average total citation per year with a value of 4.92 only differs slightly from the largest total citation per year in 2007 with a value of 4.93. These results indicate that the paper published in 2005 was the paper most cited or cited in the theme of audit quality compared to the previous and subsequent years that experienced fluctuation but generally tended to be lower.

### Three Fields Plot

**Figure 1:** Three Fields Plot



The Three Fields Plot above illustrates 3 elements: a list of journal names, a list of authors, and a list of topics studied. These three elements are plotted with a grey plot that shows their relationship, starting from the journal's name. Each journal shows the author and each author on the topic they are studying in their paper with audit quality. Each rectangle's size in the list of names shows the quantity of paper associated with that element.

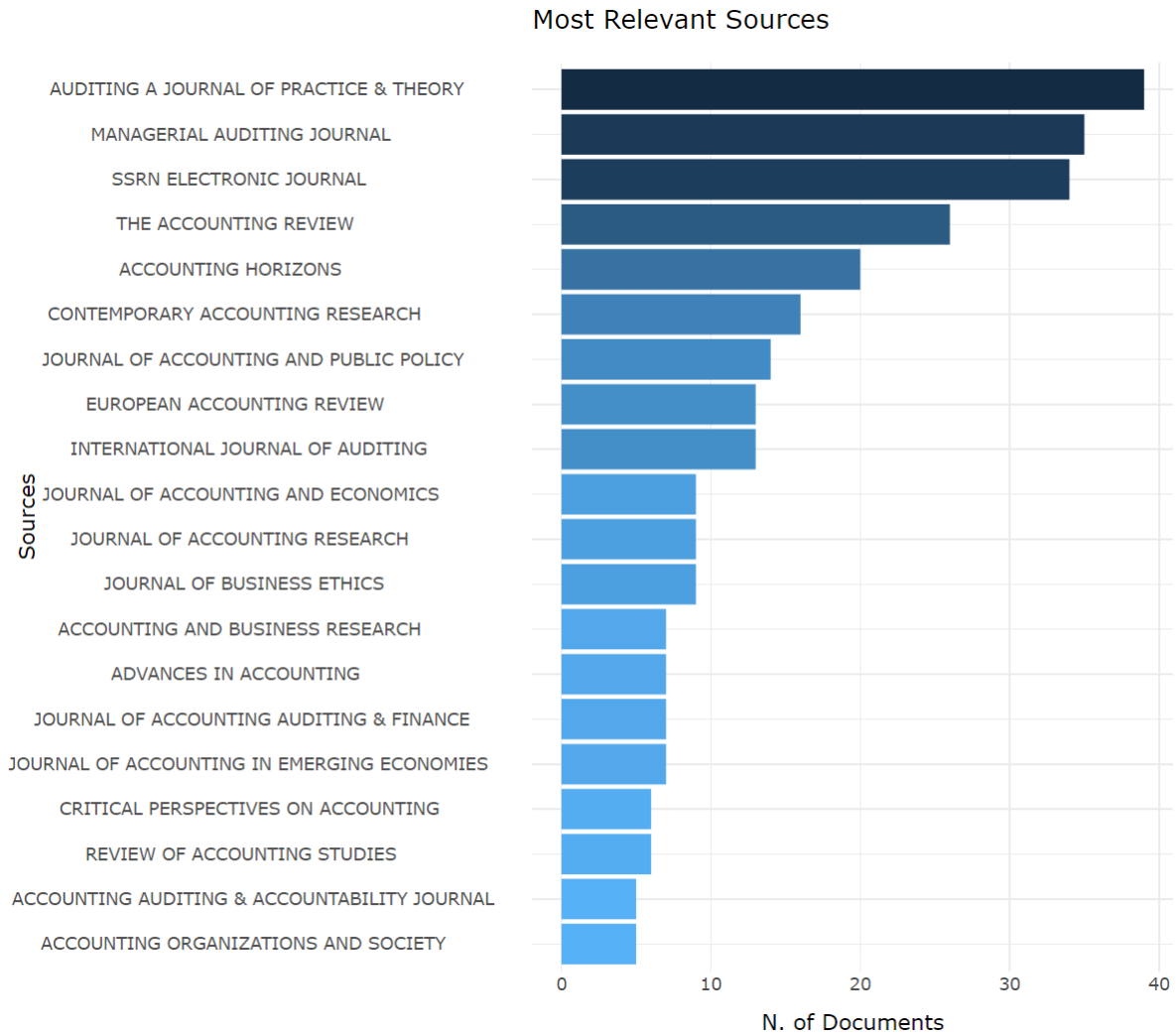
The first element, namely, the journal. There are 17 journals indexed in the Three Fields Plot that publish audit quality themes. Still, the top journal that publishes the most papers on this theme is Auditing a journal of practice & theory which is described in a dark blue rectangle and connected by several authors, namely Omer TC, Francis JR, Knechel WR, Defond ML, Sutton SG, Stefaniak CM, Krishnan GV, Hoitash R, Carcello JV, and Hoitash U.

The second element in the middle is the author's name. Some writers whose published journals are recognized will be associated with previous elements, such as an author named Wright AM who is linked with the Accounting Horizons journal on the journal element. Also, each of these authors will be associated with frequently used keyword topics on the right. There are the top 20 authors listed in this plot. The size of the rectangle shows the quantity of the number of papers written by each author. Myers LA occupies the widest rectangle in this plot, showing that he wrote the most on audit quality themes.

The third element is the keyword topic that appears the most in the paper, which is the object of research. Each topic is associated with an author who uses the topic a lot. There are 20 keyword topics listed, and the keyword that appears most often is the audit, as indicated by the size of the brown rectangle that dominates the rest of the rectangle. It also appears that almost all registered authors use the topic of auditing. This data is following the theme of this research,

namely discussing scientific papers related to audit quality. Apart from the audit, this plot also shows several other widely used keywords, such as Quality, Evidence, Financial, and Accounting.

**Figure 2: Most Relevant Sources**



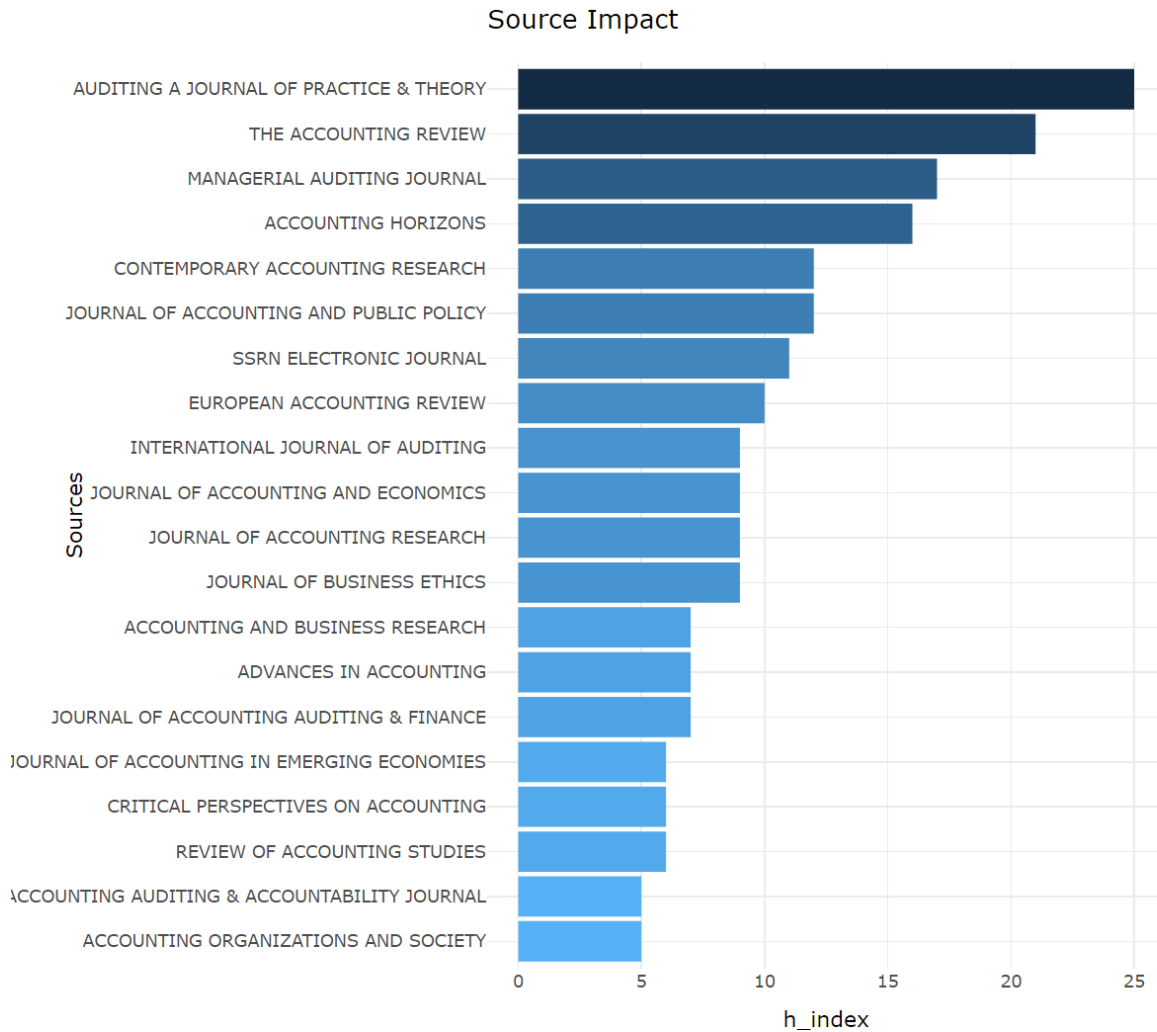
The picture above shows the number of paper documents published by each journal based on the level of relevance to this research theme, namely, audit quality. The data shows a list of the names of the top journals published and the interval of the number of documents published with a blue bar chart. The darker the blue colour shows the more quantity and relevance to the research theme, the number of documents published by all journals ranges from 0 to 39 documents.

Auditing, a Journal of Practice & Theory, is in the top position with 39 documents. This is indicated by the bar chart, which is the darkest blue colour compared to other journal bars because it is more relevant to its themes. The bottom journals are the Accounting Auditing & Accountability Journal and the Accounting Organizations and Society journal with a bar chart in bright blue and 5 documents. This means that there are not many published papers in quantity



and less relevant to audit quality research. Based on the picture above, there are 30 journals in the most relevant sources diagram, including the 3 journals discussed earlier.

**Figure 3: Sources Impact**

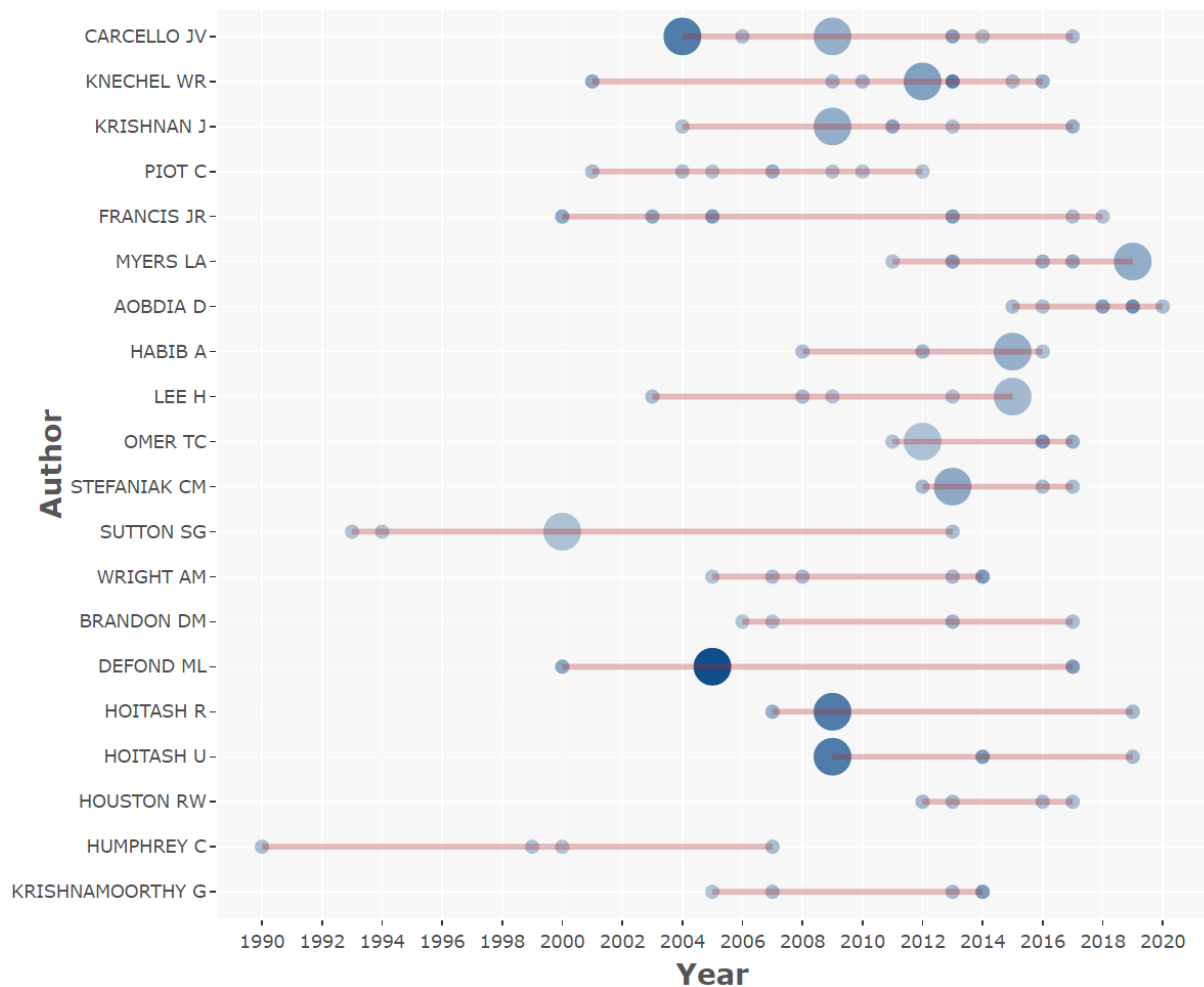


Journal calculations are not only seen in terms of quantity or relevance, but this study also discusses the impact of each journal that publishes a paper on the theme of audit quality by calculating the journal's h-index and then depicted in a blue bar chart. Apart from showing each journal's h-index value, this diagram also shows each journal's impact through the blue colour shown, the darker the blue in the diagram, the bigger the journal's impact.

The data obtained shows that Auditing a Journal of Practice & Theory occupies the top position with an h-index value of 25. The journal's bar chart is the darkest blue, indicating that this journal has the largest impact than other journals. The journals with the lowest h-index, with a value of 5, are occupied by 2 journals with a light blue diagram that reflects the low level of impact.

**Figure 4: Top Authors' Production over The Time**

# Top-Authors' Production over the Time

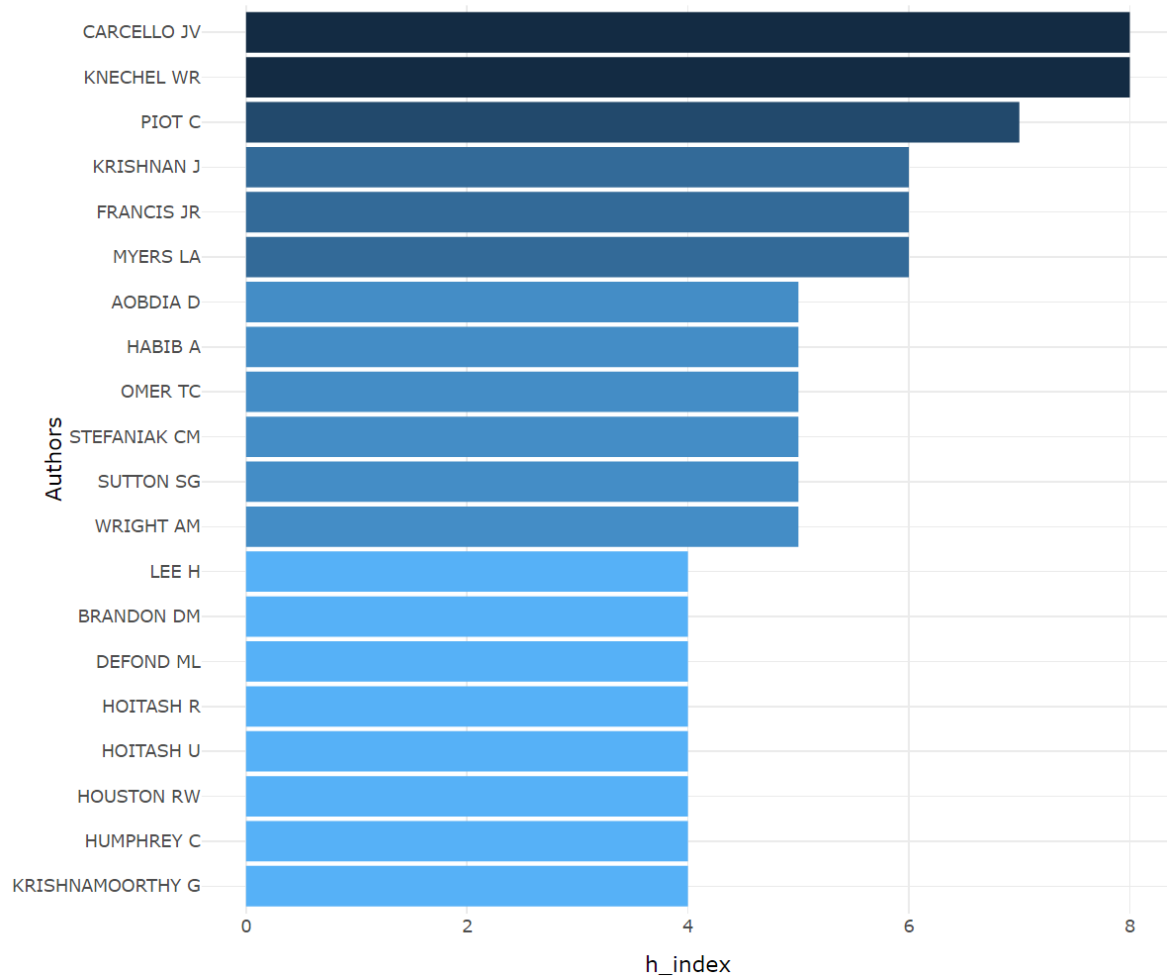


Productivity can not only be measured in journals, but also on the author in particular. The picture above shows some of the top authors' production during the study period, from 1990 to 2020. The red line graph shows the author's journal's production from the author's time until the last year. The author was recorded to have published his paper. The circle in the red line shows the number of papers issued according to the applicable year.

As shown in the picture above, these research results show that writers have started writing papers on audit quality for a long time, and some have recently written. The writer who has been writing based on data for a long time is Sutton SG, who has been writing since 1993 and continues to write productively until 2013 even though the quantity is not much. Also, writers who have a long track record are occupied by Humphrey C who wrote from 1990 to 2007, Francis JR who wrote from 2000 to 2018, and Defond ML wrote from 2000 to 2017 where he published the most papers in 2005.

**Figure 5: Author Impact**

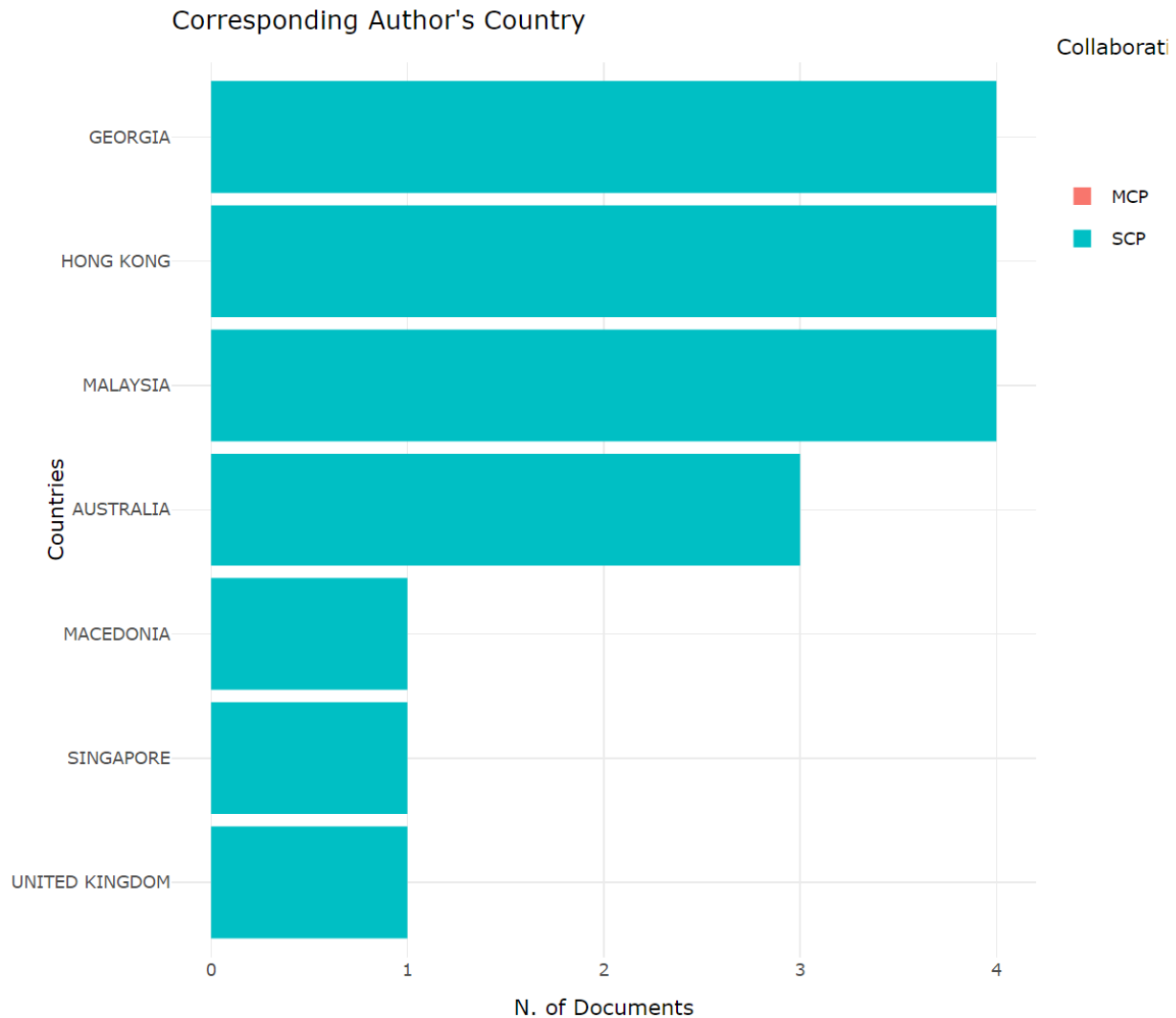
## Author Impact



Authors who have published their papers can also be sorted based on their impact rating with the h-index rating. My h-index values range from 0 to 8. The blue colour can indicate my level of impact on the bar chart, where the darker the colour means the bigger the impact.

The figure above shows the results that Carcello JV and Knechel WR achieved the author who achieved the highest h-index value, namely 8 with the maximum impact with the dark blue bar chart colour, then followed in second place by Piot C who won the h- value. Index 7 and the impact is very good but not as high as the impact generated by Carcello and Knechel. Besides, several other authors achieved lower h-index 4 and impact levels, as shown in the diagram above.

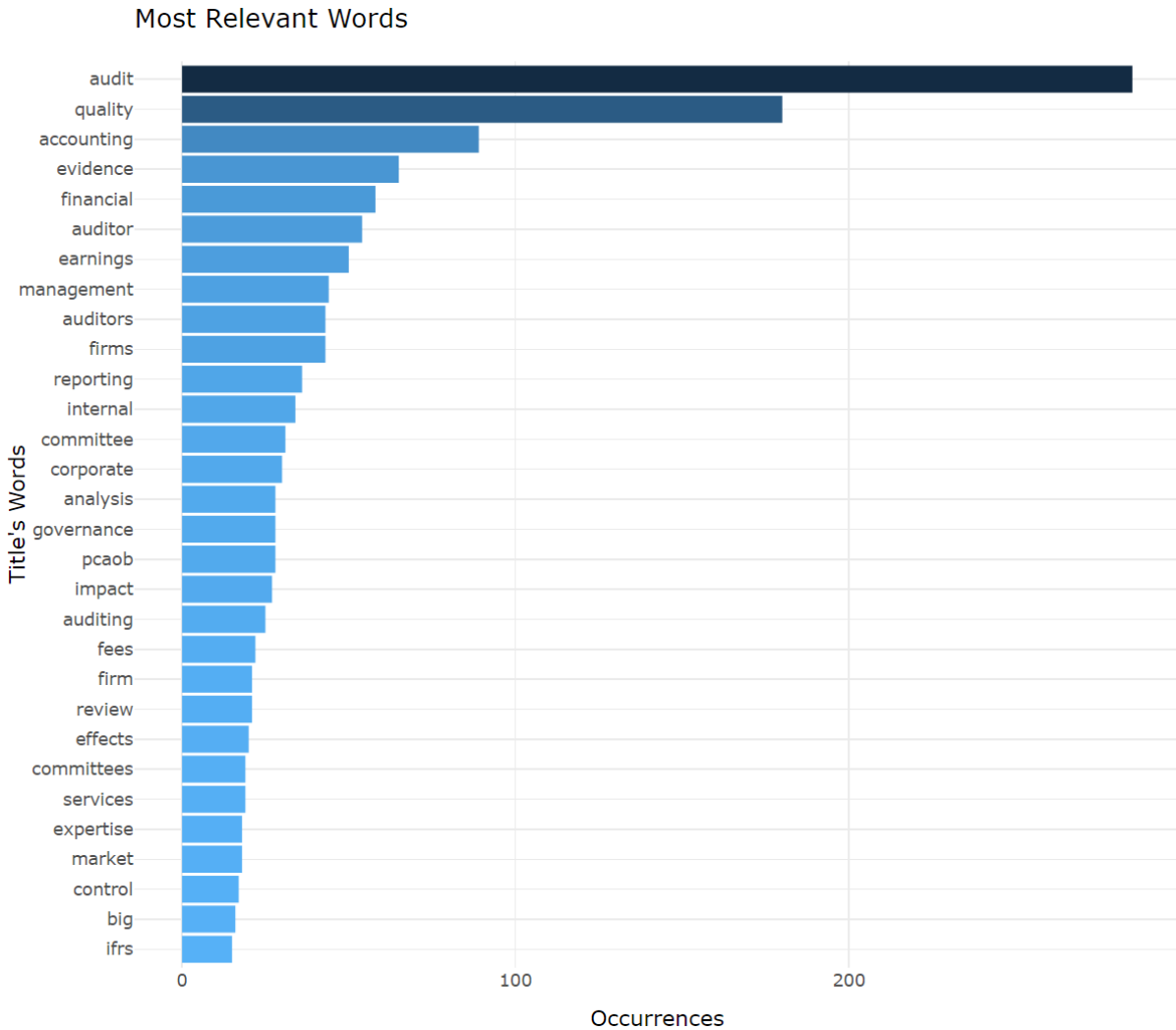
**Figure 6: Corresponding Author's Country**



The picture above shows the author's correspondence countries in each article, calculating the total form of collaboration between SCP (single country collaboration) or one country collaboration, not MCP (multiple country collaboration) or collaboration between several countries. There are 7 top countries included in this data, and the document quantity interval is between 0 to more than 4 documents published on audit quality papers.

The results obtained by countries with the highest quantity of author correspondence are Georgia, Hong Kong, and Malaysia, with each country having 4 paper publications. Furthermore, the second rank is Australia, with the number of published papers as many as 3. The rest, namely Macedonia, Singapore, and the United Kingdom published as many as 1 articles.

**Figure 7: Most Relevant Word**



This study also calculates the relevant words used in collecting documents that are the object of research. Several words have several occurrences between 0 and more than 200 occurrences in the image above, and the top 30 words are listed. The blue chart diagram compares the number of occurrences of each word usage and its relevance to the audit quality theme.

The top word with the highest number of occurrences and most relevant to this study's theme is 'audit' with total usage of more than 200 times and is most relevant as shown by the darkest blue line diagram. The word audit is also following the theme of audit quality research. Therefore the dominant word that appears in the data collection under study is the word audit.

Furthermore, in second place is the word 'Quality' with more than 100 occurrences, but nearly 200 times. This word is widely used, especially in describing the audit as a form of the quality of an audit performed, especially in the scope of corporate management discussions. The word "Accounting" has a quantity of more than 50 but less than 100 times in third place. A field of study in the list of word relevance that most often appears indicates that auditing is closely

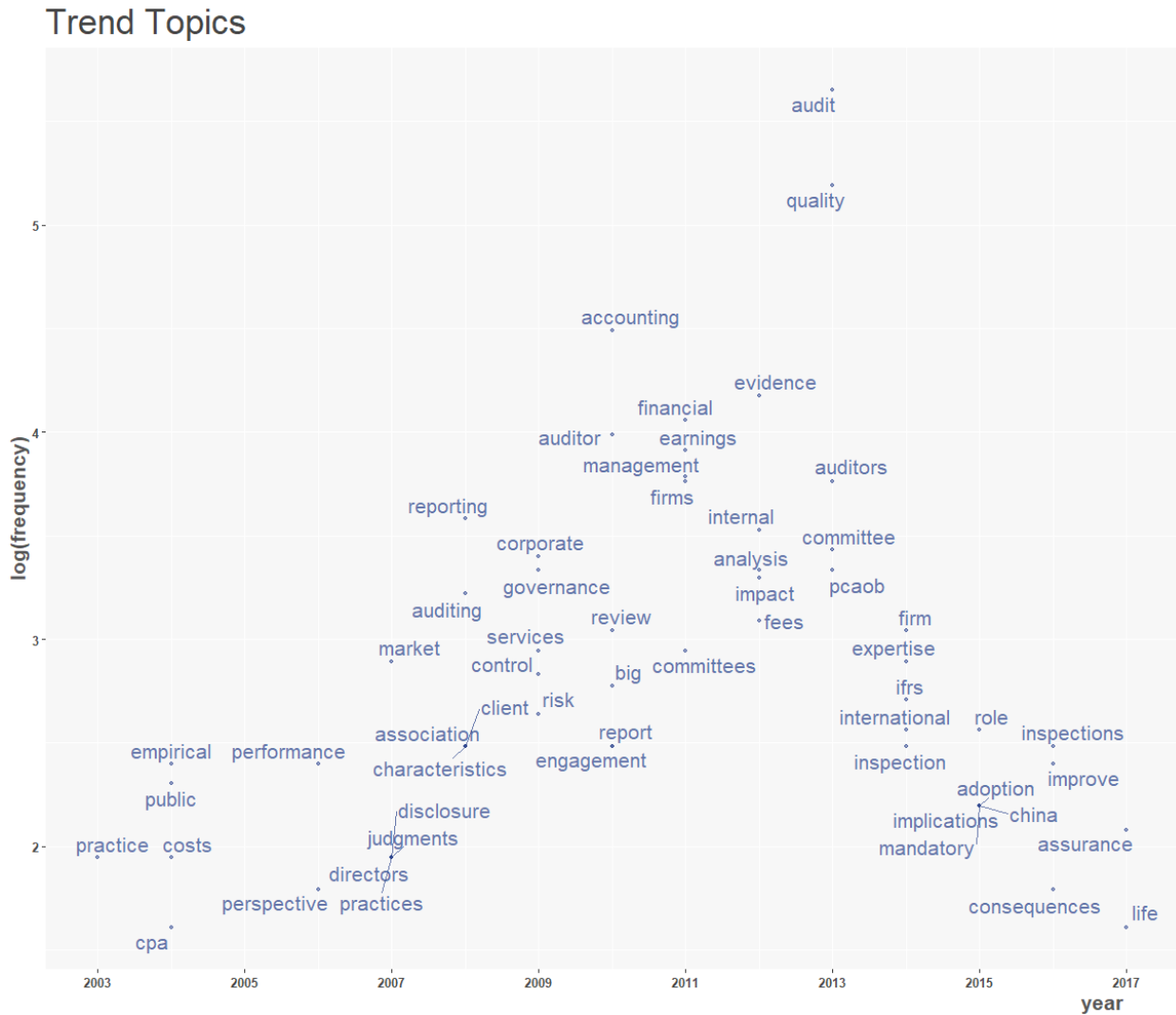
related to accounting, or accounting is quite often used as a field of study in the paper under study.

Figure 8: Word Cloud



The Word cloud displays a picture of words with various sizes according to the number of words appearing. In terms of placement, the word cloud tends to be random, but the words that dominate are placed in the middle to be more visible with their large size. The data processing results on the Word cloud shown in the picture above reveal a picture of the words that often appear in the data collection of the publication of the paper under study with the theme of audit quality in different forms. However, the results are the same, namely the word that most often appears in the first sequence, namely audit, in the second place, namely quality, and the third place, namely Accounting.

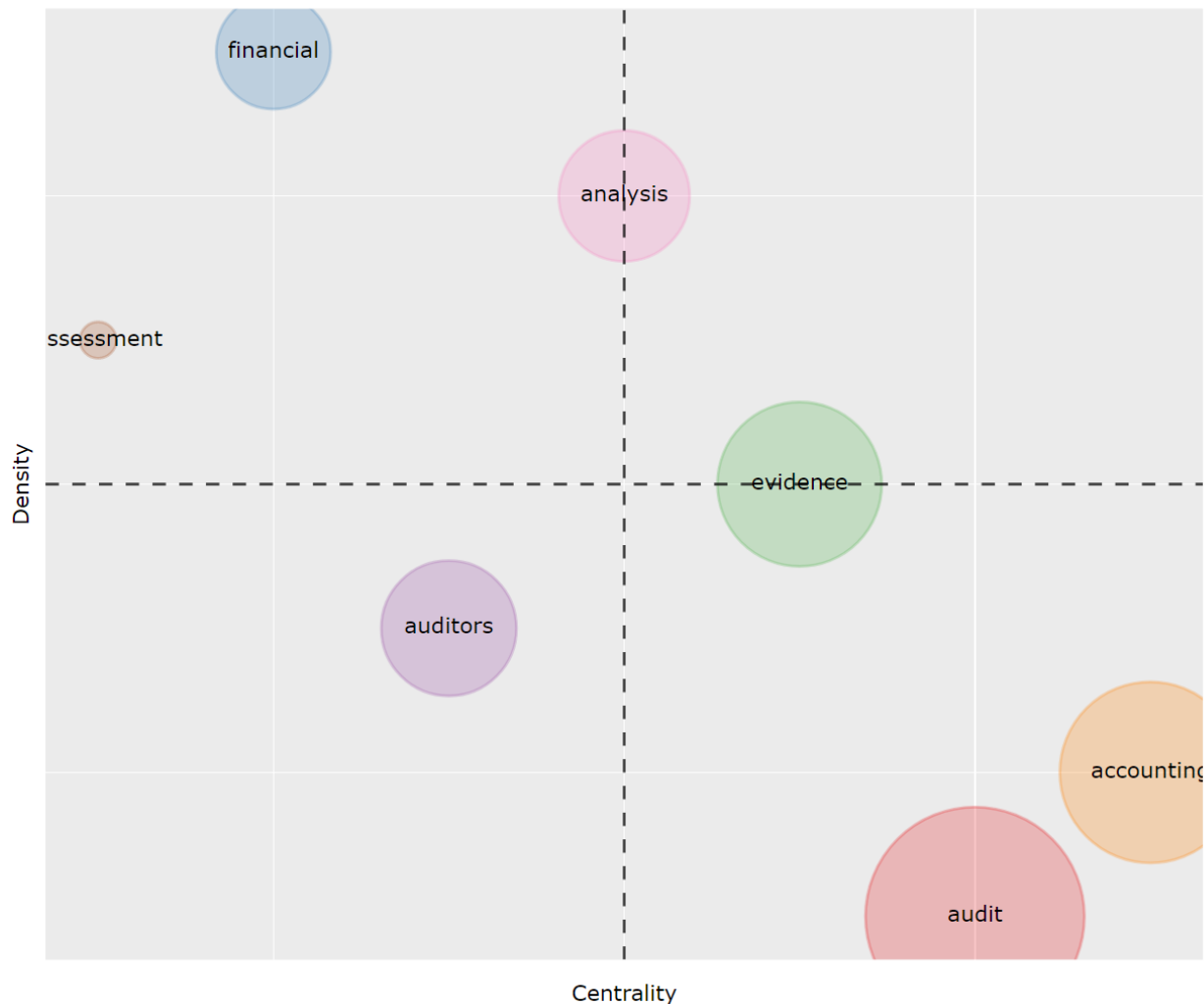
**Figure 9: Trend Topics**



Topic trends are also a part of this research, where the picture above shows an overview of the development of topics from time to time by a division per year so that it is known what topics have been used for a long time and what topics have been recently used. The emergence of topics is also adjusted to the frequency of the words appearing in this research on audit quality. The higher, the more the word is used, and then to the right, the more recent the word is used. The development of the topic began to experience a significant increase since 2004.

Based on the data above, the topic that has been used since 2003 is “practice”, especially relating to audit quality. In 2004 the topic “CPA, cost, public, and empirical” began to emerge. Even though it has been a long time, the topics that appear under this year, especially the topic of “CPA” are still small in quantity. The topics that are widely used in 2017 include “life and assurance” with different quantities. The “life” topics were the least by being at the bottom and the “assurance” topics being the highest with being higher.

**Figure 10:** Thematic Map



In this study, a thematic map analysis was also carried out based on density and centrality, divided into 4 quadrants of the theme, as shown in the picture above. These results are obtained from a semi-automatic algorithm by reviewing all references' titles to research objects with relevant keywords other than the author's keywords. So that the results can capture a deeper variation.

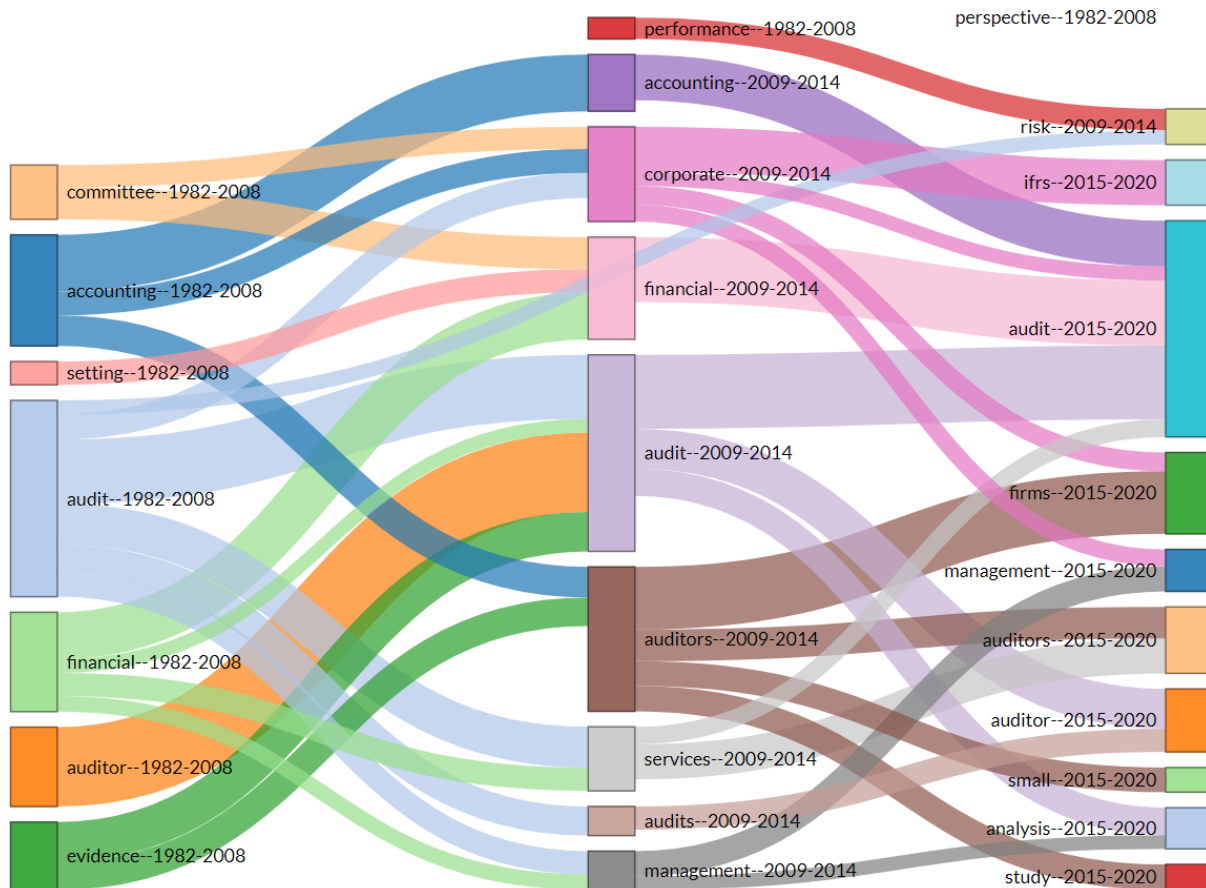
The upper right quadrant is a theme with high density and centrality characteristics, so it needs to be developed and studied further in further research. However, in this quadrant, no theme is captured, but two themes are almost included in this quadrant, namely 'evidence and analysis'. The theme of 'evidence' has high centrality but has a density that means neither low nor high mean. The theme "analysis" has a high density, but its centrality is still on average. Furthermore, the upper left quadrant shows a specific and rare but highly developmental theme characterized by high density but low centrality. The themes in this quadrant include 'assessment and financial'.

Furthermore, there is a theme in the lower-left quadrant that has been used for a long time but has experienced a downward trend with a quite low centrality. The theme detected in this quadrant is "auditors". Lastly, the lower right quadrant is a basic theme characterized by high



centrality but low density. These themes are important to be included in the research because they are general topics that are commonly used, including the theme 'auditing and accounting'.

**Figure 11: Thematic Evolution**

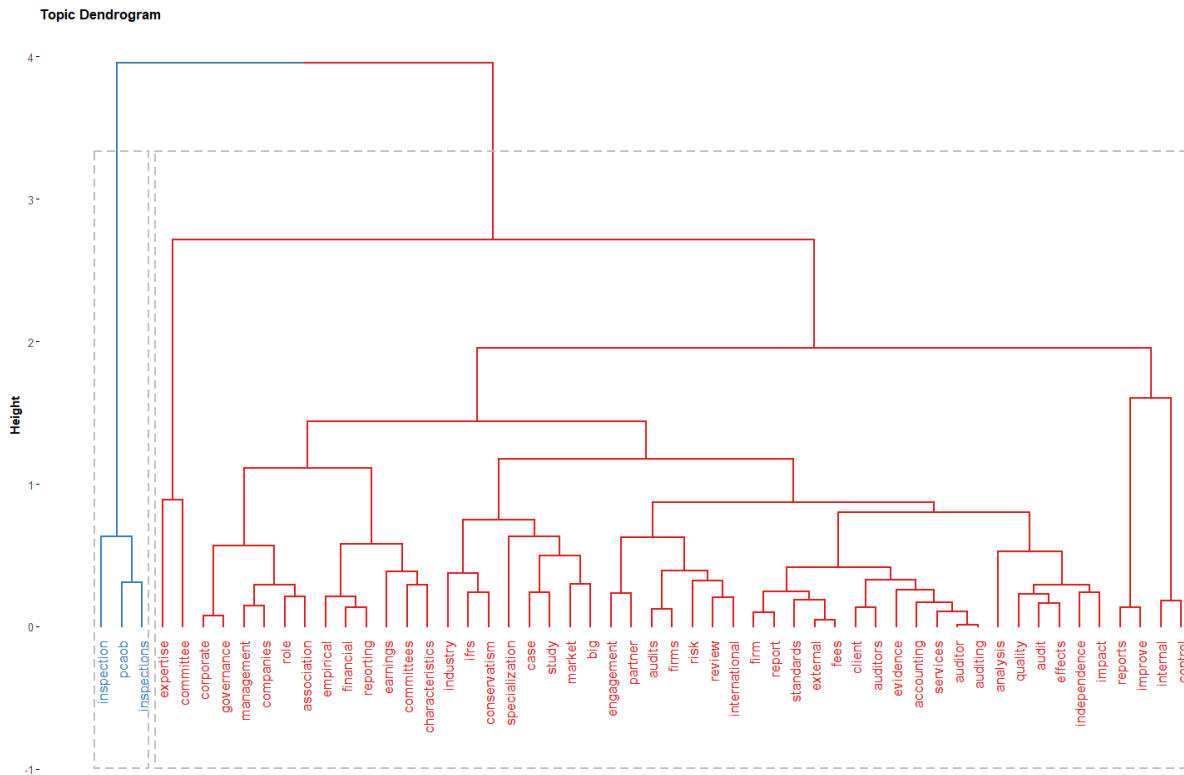


The themes used in papers that are the research object continue to change, especially from papers that have recently been published compared to papers published for a long time. The picture above shows the evolution of themes related to audit quality. Although this study's theme is audit quality, these data indicate that several sub-themes are widely used. The left side shows some of the themes that were widely used from 1982 to 2008. There are 7 listed themes with different sizes depending on the quantity of use of the theme. The theme "Audit" took first place, followed by the theme "financial" and "accounting".

The second or middle section shows several themes that were widely used from 2009 to 2014. Some of the themes that emerged during this period were an evolution from the previously used themes and connected in their content, such as the 'corporate' theme emerging as a form of revolution from the theme 'committee, accounting, and auditing'. This shows that research using the corporate theme is an extension of the committee, accounting, and audit theme research in previous studies. In this section, the most widely used themes are auditing, auditors, financial, and corporate.

The third or right section shows the most recently used themes in the period between 2015 and 2020. There are 9 listed themes, of which 4 themes are an evolution of the themes that appeared in the previous period, namely the theme 'Audit, Auditor, Auditors, and Management' which is an extension of several themes as indicated by the colourful flow. 5 other themes that are not evolutionary or emerging, namely 'Risk, IFRS, Firms, Small, Analysis, and Study' which also have a period between 2015 and 2020.

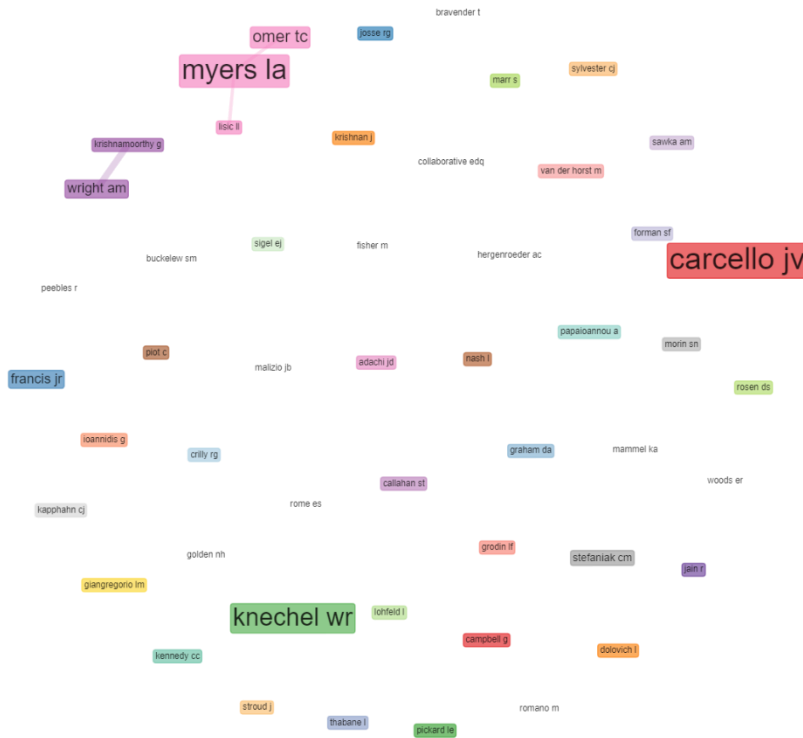
**Figure 12: Topic Dendrogram**



Next is a dendrogram tree diagram showing the most widely used topics and their relation to other topics and classification of these topics depicted in different colours. The representation of this dendrogram diagram is often used in various contexts; for example, in grouping hierarchy, this diagram illustrates the distribution of relationships between elements in groups resulting from software analysis. This grouping is also arranged in such a way as to consider the height of the coordination line between topics and between clusters.

This diagram shows there are 2 classifications of topics, namely topics in red and topics in blue. This shows that the relationship between topics in blue classification is far from those in red classification. Each of them is further divided into several clusters, each cluster is further divided into several sub-clusters, and so on until the topic used, several topics are part of one cluster, indicating there is a relationship between the two in the research paper on the theme of audit quality in recent years.

**Figure 13: Collaboration Network**



Furthermore, namely the collaboration network, or a collaboration network between the audit quality theme paper authors. In the picture above, you can see that several authors' names are displayed, and some have a connection, and some are not. The authors' relationship is shown by clusters of colour equations and lines between one name and another. The size of each square also indicates the number of papers published on this theme.

The data above shows a collaboration between the 2 clusters of authors. The first cluster in light purple shows the collaboration between Myers LA, Omer TC, and Lisc LL. The second cluster is dark purple which shows the collaboration between Wright AM and Krishnamoorthy G. The unrelated and indexed writers in the data above show no collaboration between the writer and other authors in making papers related to the theme of audit quality.

## **FINDINGS**

Based on the overall results of the research that has been done, it shows that the Audit Quality research theme is identical to the accounting field. This is supported by the research results that show that the word accounting is the most relevant word after the word audit and quality. Audit Quality is evidence of performance reports on management, especially in corporate accounting, and corporate governance. Audit Quality can be considered a corporate governance mechanism that reduces agency problems, information asymmetry between company stakeholders, and protects against losses resulting from audit report errors (Rodriguez and Alegria, 2012).

This study also indicates that Audit Quality research has been increasing, especially since 2008, which was the year of the global financial crisis. The financial crisis triggered the certainty of high-quality standards from internal and external audits. Good corporate governance in making an audit system, especially internal audit, is needed to avoid fraud that can harm the wider community (Kirkos and Spathis, 2019). Therefore, the research topic with the theme Audit Quality is growing. According to the research results, the Audit Quality topic trend is directed at improving audit quality and ensuring company compliance in reporting its condition, both private and public companies.

Meanwhile, several factors comprise an audit quality, consisting of the audit company's size, the audit industry speciality, the audit tenor, and the audit rotation. (Anis 2014, Rusmin 2017, Taqi et al., 2020). According to its size, audit companies can be divided into large companies or big 4 auditor companies and auditor companies other than the big 4 companies. The big 4 auditor companies with high audit service prices are considered capable of performing audit work that is much faster and more effective in detecting client company reports' misstatements than other audit companies. Another factor affecting audit quality is the speciality of the audit industry. Audit companies that specialize in the industry can provide audit services and have knowledge expertise related to the client industry to present the audit risks that clients will face and provide recommendations for dealing with financial crises. The next audit quality factor is the audit tenor, where the tenor is the period between the auditor serving the client company. The longer the audit tenor can have a good or bad impact. The longer tenor can make the auditor build more in-depth knowledge about the client to improve audit quality. Still, the long period can also make the auditors less objective and interfere with the audit's independence. The last factor is audit rotation in performing its duties on a client. The auditor considers the audit to improve the audit quality of a client for 3-5 years. Beyond that period, the auditor must rotate or move in serving other clients. This is done to avoid unprofessionalism and audit independence. Therefore, both the audit firm's clients and auditors must pay attention to these factors to better improve the audit quality.

As far as the researchers' knowledge, there has not been much use of regulatory theory and signal theory to explain audit quality, wherein previous research was not explicitly stated. Watkins et al. (2004), Francis (2004) and Carey and Simnett (2006) tell a lot about regulation in their research, but they do not explicitly state that they use regulation theory.

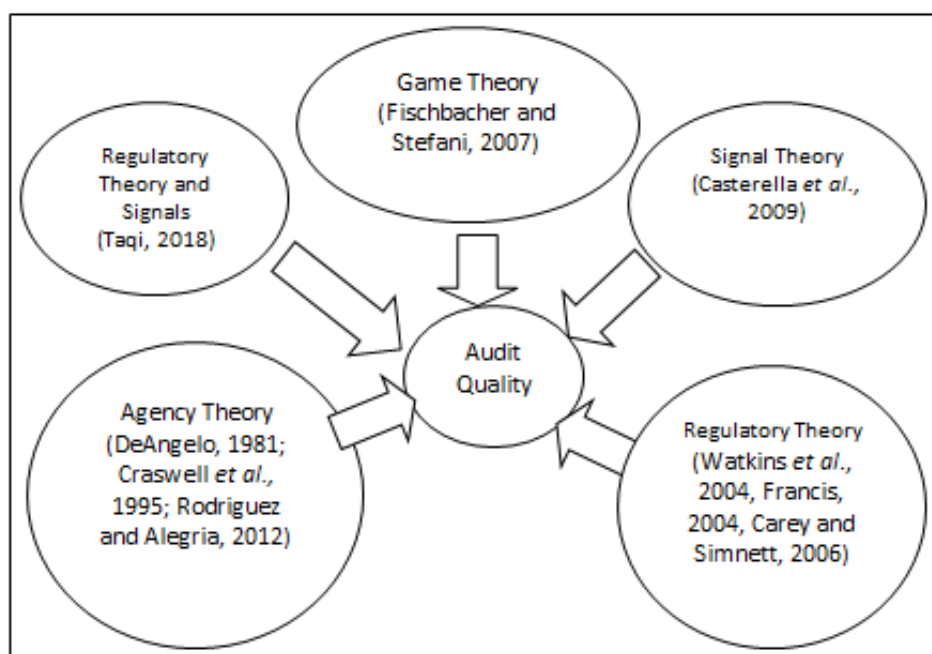
Likewise, with the use of signal theory. Watkins et al. (2004) only state that "the audit will be one way to provide a signal or a sign of the credibility of the information contained in a financial report and an auditor's reputation will perform or serve as a signal". Only Casterella et al. (2009) explicitly links the signal theory and audit quality by stating that: "peer review which is independently regulated by the AICPA provides an effective signal and is related to the quality of the audit produced by a public accounting firm".

Several theories that have been used to explain audit quality include Agency theory (DeAngelo, 1981; Craswell et al., 1995; Rodriguez and Alegria, 2012), game theory (Fischbacher and Stefani, 2007), regulation theory (Watkins et al., 2004, Francis, 2004, Carey and Simnett, 2006), and signalling theory (Casterella et al., 2009). As for this research, the writer uses regulation theory and signal theory.

The regulatory theory is used in this study because the regulatory theory has the advantage of being able to explain the relationship between antecedent variables (other services, audit tenure, industry specialization and company size) which represent auditors and auditee factors with audit quality and various interests that must be protected by the government as a good regulator. in the form of licenses, permits or certifications. The regulatory theory's weakness is that it cannot explain activities that have not been made rules or regulations.

Signal theory is used in this study because the signal theory has the advantage of being able to explain the relationship between audit quality and consequential variables (audit fees, reputation, litigation and firm value) representing auditors and auditee factors by using signals as a way to convey messages to recipients of messages intended as information. The drawback of this signal theory is that it cannot explain whether the signal receiver can receive all signals? Signals are like communication so that miscommunication can occur, wrongly sent and not caught the signal sent, so that the signal given by the sender must be strong and right on target. The difference in theory used with previous studies can be seen in Figure 14 below.

**Figure 14:** Differences in theory used with previous research



Source: Compiled by author from various sources (2018)

## CONCLUSION

The study was conducted to determine the map of Audit Quality research from 1981 to 2020. This study's 499 publication documents show that research with the theme Audit Quality has increased significantly every year. 2003 was the year with the most publications, while 2005 was the year with the highest average total citations per article and the second-highest average total citations per year. The top journal with the most publications on the theme Audit Quality and the most impactful is Auditing a journal of practice & theory. The most published authors are Myers LA, and the most impactful authors are Carcello JV and Knechel WR. Some of the widely used keywords in this research are Audit, Quality, Evidence, Financial, and Accounting. The evolution of the theme has always been the topic of research, namely Audit and Auditor, while themes that have recently emerged and widely used in recent years are Risk, IFRS, Firms, Small, Analysis, and Study.

Based on this study's results, it is concluded that the development of research on Audit Quality is growing. Therefore, this research with the theme Audit Quality needs to be continuously developed considering the limited research that discusses Audit Quality's theme amidst the increasingly complex business and company climate conditions at this time.

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