

## DECODING THE DECADES OF EARNINGS MANAGEMENT

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### ABSTRACT

Over the last few decades, earnings management (hereafter 'EM') has been an area at the core of finance research. Even though the research on earnings management has begun at least in the early 1980s, it remains relevant for ensuring the fairness of financial statements to secure the interest of the stakeholders, especially the potential investors. The purpose of this study is the systematization of literature to analyse evolution, development, and present trends in earnings management research. The study covers 5866 articles on EM from 1988 to 2022 indexed in SCOPUS and the Web of Science database. R Studio, Biblioshiny, Google trends, and Vos Viewer were used to analyse bibliometric data over the period. The present study has identified that auditor independence and non-audit fees are the least explored areas where the research on EM can be explored.

**Keywords:** Earnings Management, Accrual Earnings Management, Real Earnings Management

### INTRODUCTION

The academicians have addressed the issue of discretionary managerial practices even since the 1980s. The concept of EM was defined for the first time by Healy (1985) as a purposive intervention in the reported figures to demonstrate financial results in a way that is beneficial to the insiders of the company. Such benefits can be bonuses or managerial commissions (Jones, 1991), better credit ratings (Demirtas & Cornaggia, 2013), reduction in taxable income (Guenther, 1994), favourable proceeds during public offerings (DuCharme *et.al*, 2001), and so on. All these benefits were made possible through the intentional manipulation of financial reports. So, the flexibility in accounting standards and provision for accounting choices resulted in the asymmetry of information and it adversely affected the fairness of reported figures (Dichev *et.al*, 2013). Such information asymmetry is the basis of EM practices that can influence the decisions of investors based on the reported figures (Richardson, 2000). However, the emergence of globalization and technological advancements in the early 90s lead to information efficiency all over the world (Hussain *et.al*, 2021). EM became the subject of interest to the public and researchers following the global scandals in the early 2000s such as Xerox, Enron, and WorldCom. It was evident that managers were manipulating the reported earnings using the provision of discretionary accruals in GAAP and other country-level accounting standards (Dechow and Skinner, 2000). All these corporate failures were the results of inaccurate valuation of the suspect companies due to the presence of managerial discretion in their financial reporting (Habib *et.al*, 2013). Considering these scandals, the USA passed the Sarbanes Oxley Act in 2002 and it is a legislative milestone in the regulation of discretionary accruals (Cook *et.al*, 2008; Chan *et.al*, 2008). Mandatory adoption of IFRS has also reduced the level of discretionary earnings in developed economies (Zeghal *et.al*, 2011) and in emerging economies (Rudra *et.al*, 2012). The introduction of various corporate governance codes such as the Common code in Germany and Tabaksblat in the Netherlands has also mitigated the manipulation of earnings

at the international level (Chih *et.al*, 2008). The ultimate purpose of all these enactments and legislations was the protection of investors from earnings shocks (Leuz *et.al*, 2003). But, biased information in the financial statements has affected not just the confidence of investors but also the future performance of the entity overall (Gunny, 2010).

During the initial phase, research on earnings management was confined to detecting the motives and benefits behind such manipulations in developed economies. But recent studies have begun to address the issue of earnings management in emerging markets where the protection to investors is lower as compared to the developed markets (Leuz *et.al*, 2003).

This study offers more insights into earnings management literature that spans more than three decades. Even though there are some bibliometric studies on earnings management they are confined to a specific theme and not addressing the issue of EM on a global scale. So, the present study combines both SCOPUS and Web of Science databases using bibliometric data to get a more refined picture and insights on the current trends and scope for further research in earnings management. It can contribute to the systematization of diverse literature to impart scientific knowledge by identifying the popular and relevant keywords in EM literature. The rest of the paper is organized as follows. Discussion on previous studies addressing the issue of EM is depicted in Section 2 and it is followed by the methodology applied for the study in section 3. Section 4 outlines the results of the bibliometric analysis. Finally, Section 5 summarises the conclusion and proposes the scope for further research.

## REVIEW OF LITERATURE

Research on earnings management has exclusively begun with the introduction of discretionary accruals as a proxy for the detection of earnings management that segregates abnormal accruals from total accruals (Healy, 1985; DeAngelo, 1986). One of the main sources for manipulating accruals is the provision for bad debts which is used as a tool for reducing taxable income (McNichols & Wilson, 1988). These kinds of provisions and accounting choices create an asymmetry of information between the insiders (managers) and shareholders, leading to EM practices using accruals (Schipper, 1989). Such information asymmetry enabled companies to rely on discretionary income-decreasing accruals during import relief investigations to reduce reported numbers (Jones, 1991). However, troubled companies tend to inflate their earnings using discretionary accruals to avoid the violation of their debt covenants (Myres & Skinner, 1994; Defond & Jiambalvo, 1994). Up to the mid of 1990s Jones (1991) was the most prominent model in the estimation of discretionary accruals (DAs). Later, the accounts receivables were adjusted with changes in revenue for refining the estimation of DAs by addressing the tendency to manage earnings using non-cash revenue (Dechow *et.al*, 1995). Soon after this, Beneish (1997) formulated an EM index score by compiling various indices such as SG&A, Depreciation, Gross margin, receivables, and total assets to total accruals. Following this, Kothari (2005) also addressed the importance of performance aspects by incorporating return on assets into the modified Jones model. The concept of earnings management was confined to discretionary accruals until RoyChowdhury

(2006) addressed the issue of Real earnings management (REM) that results from the abnormality in R&D expenditure, production cost, and cash flow from operations. Thus, earnings management is the outcome of both real and accrual manipulation in the reported figures (Ferentinou *et. al*, 2016; Darmawan *et.al*, 2019). One of the major motives behind earnings management is to make high proceeds from public offerings using income-increasing accruals (Teoh *et.al*, 1998a). But firms with aggressive EM practices during public offerings lead to underperformance in terms of lower stock returns (Teoh *et.al*, 1998b). There are a lot of motives behind EM practices such as favourable credit ratings in the market (Demirtas *et.al*, 2013), managerial compensation (Aljifri, 2007), market speculations (Chen *et.al*, 2010), effective tax rates (Guenther, 1994), and Stock markets incentives (Cheng *et.al*, 2005). The composition of independent directors (Chen *et.al*, 2015), multiple directorships (Sun *et.al*, 2014), CEO duality (Baker *et.al*, 2019), and family control over the board (Achleitner *et.al*, 2014) also affect the quality of reported earnings as it can prioritize insider interests over the public interest. Even though earnings management practices are beneficial to the insiders, it ultimately detrimental to the potential investors (Gopalan & Jayaraman, 2012). IFRS was implemented at the international level to protect investors from such manipulations and earnings shocks (Jeanjean & Stolowy, 2008). Nevertheless, the adoption of IFRS has intensified the magnitude of discretionary accruals as compared to the non-IFRS period (Callao and Jarne, 2010). The introduction of corporate governance codes at the global and regional levels also reduced unethical business practices in financial reporting (DHU & HBP, 2019). So recent studies in earnings management are more interested in addressing the issue of investor protection in different dimensions such as sustainability reporting (Velayutham, 2018), ESG compliances (Velte, 2019), foreign ownership (Guo *et.al*, 2015), and so on.

Thus, it is evident from the literature that researches on earnings management is dynamic and it reports diverse and contradictory results over the period. So, the systematization of literature is essential to analyse the evolution and development of earnings management literature. Bibliometrics is a branch of information science that analyses the bibliographic aspects quantitatively for the systematization of literature (Pritchard, 1969) and it is developed from the statistical bibliography introduced by (Hulme, 1923). The impact of a particular research area over the period can be analysed using document citations, author citations, relevant keywords, and thematic clustering (Glanzel, 2015). So, the present bibliometric study is based on bibliographic data from 1988 to the present to develop scientific knowledge through the systematization of literature on earnings management by identifying the most relevant keywords in the previous studies. Apart from considering a single database, this study is based on publications indexed with both SCOPUS and Web of Science to get a more refined outcome in analysing the bibliographic data in the EM literature over the period.

## METHODOLOGY

Bibliometrics is widely applied in various disciplines including business, finance, and economics research. It can process large volumes of data using various indicators to measure the influence and productivity of various research publications (Diodato & Gellatly, 2013). To get more refined results, bibliographic data for the study was collected from comprehensive databases such as Web of Science (WoS) and SCOPUS which are repositories of high-quality publications (Bergman, 2012). Based on the query ((TITLE-ABS-KEY ("Earnings Management")) OR TITLE-ABS-KEY ("Real Earnings Management")) OR TITLE-ABS-KEY ("Accrual Earnings Management")), 3788 articles were collected from the Web of Science and 3413 articles from the SCOPUS database. Out of the 7201 articles in English that belong to business, finance, and management, 1335 duplicate articles were eliminated using R Studio. The final data covers 35 years (1988 to present) with 5866 articles. Refined data were analysed using Biblioshiny and R Studio for systematizing the existing literature. VOS Viewer is used to creating bibliometric maps and to portray the keywords graphically. The present study analyses the phenomenon of EM over the period to observe the changes in the perceptions and current trends and developments in the area.

## RESULTS AND DISCUSSIONS

The keywords 'earnings management', 'real earnings management', and 'accrual earnings management' have become popular among the research community. Because in Web of Science and SCOPUS alone, there are around 9476 articles from multiple disciplines have been published during the sampling period. It is evident from these numbers illustrated in Table I that earnings management has earned significant importance in academic research over the period.

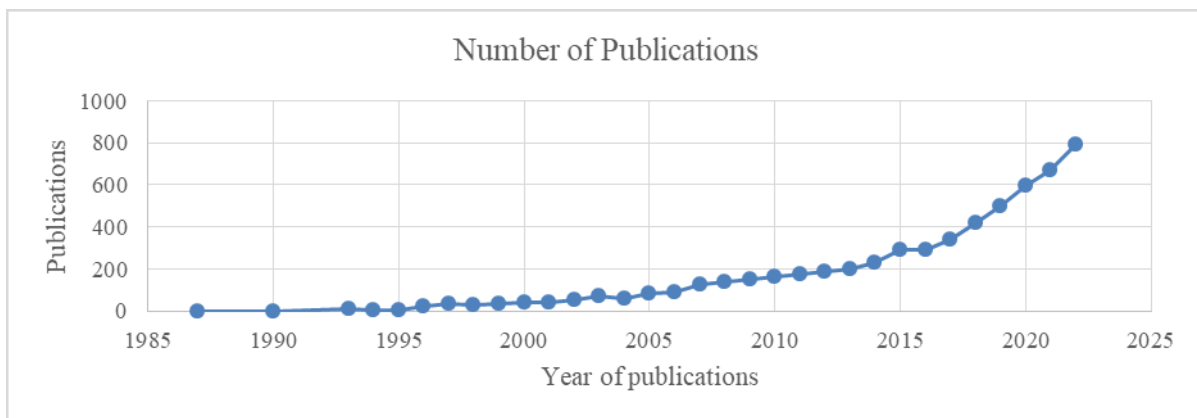
**Table I. Summary statistics of bibliographic data**

Description	Results
Years	1987:2022
Sources (Journals)	507
Documents (Articles)	5866
Annual Growth Rate (%)	13.74
Document Average Age	7.41
Average citation per article	38.89
References	82178
Keywords	8270
Authors	7464
Authors of single-authored articles	671
Single-authored articles	805
Co-Authors per articles	2.66
International co-authorships (%)	23.27

Only a few areas in fundamental finance research are maintaining their initial momentum and EM is one such area with an annual growth rate of 14% with an average age of 7.4 which

shows its significance in contemporary research. Also, the issue of EM practices is prevailing all over the world (Leuz *et.al*, 2003) and it emphasizes the necessity for international collaborations to address the issue at the global level. During the period of the study around one-fourth of the studies are based on international authorship (23.27%). The studies on EM increased during the financial crisis in 2008-09 (See Figure 1) which adversely affected the confidence of investors following the failure of giant corporates at the international level (Habib *et.al*, 2013; Filip and Raffournier, 2014). After the financial crisis, most of the studies have started to address the issue of investor protection (Nabar and Boonlert, 2007; Persakis and Iatridis, 2016). Even though the financial crisis in 2008 bubbled up in the USA, its effect has spread across the globe. So around two-fifth of the studies (41.37%) of studies in earnings management are related to the United States in one way or another.

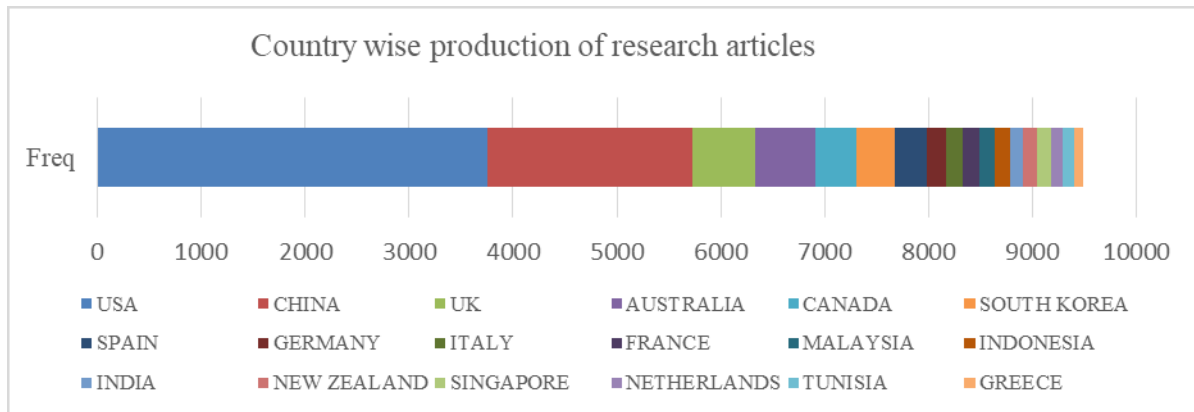
Figure 1. Number of Publications from 1988 to 2022



Earlier, research on the earnings management phenomenon was confined to developed countries. Around 65% of the studies in earnings management are being contributed by USA and China alone (Figure 2). But after 2003, we can see the development of research in emerging economies such as Malaysia, Indonesia, India, and Singapore. The emergence of corporate governance codes (CGCs) at the regional level during the beginning of the 20<sup>th</sup> century has insisted on the necessity for the ethical conduct of business, especially transparency in financial reporting (Sivaramakrishnan and Yu, 2008; Choi *et.al*, 2013). Even though CGCs are considering the protection of investors from unethical practices, it was the USA who passed the Sarbanes Oxley Act (SOX Act) in 2006 to address the issue of EM exclusively. SOX Act is the pioneering enactment to curtail earnings management practices (Zhou, 2008). However, firms engaged in managing their earnings have substituted their accrual earnings management strategies with real earnings management following the passage of the SOX Act (Cohen *et.al*, 2008; Ghosh *et.al*, 2010). Because the detection of managing earnings using accruals is relatively easier than managing earnings using real transactions (Enomoto, 2015). So, with the passage of the SOX Act in 2006, real earnings management (REM) has emerged as the subject of interest among researchers following the

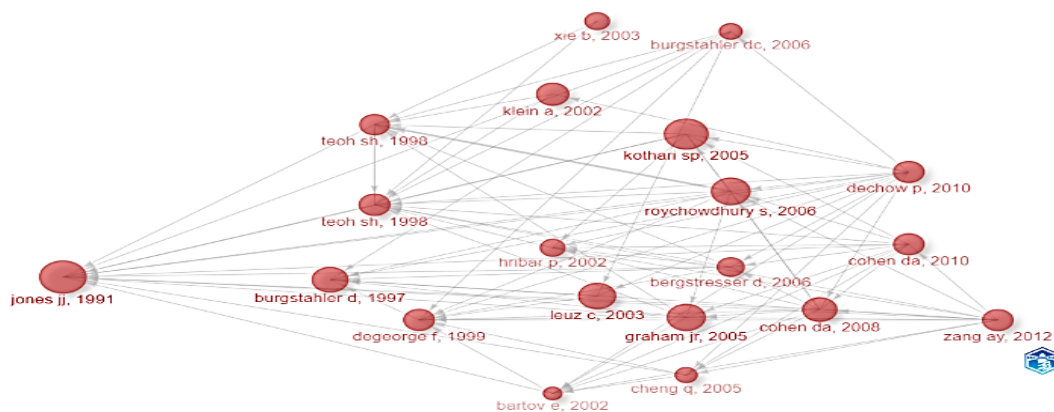
introduction of the REM model, which incorporates abnormality in the production cost, R&D, and Cashflow from operations (Roychowdhury, 2006).

Figure 2. Country-wise production of research articles



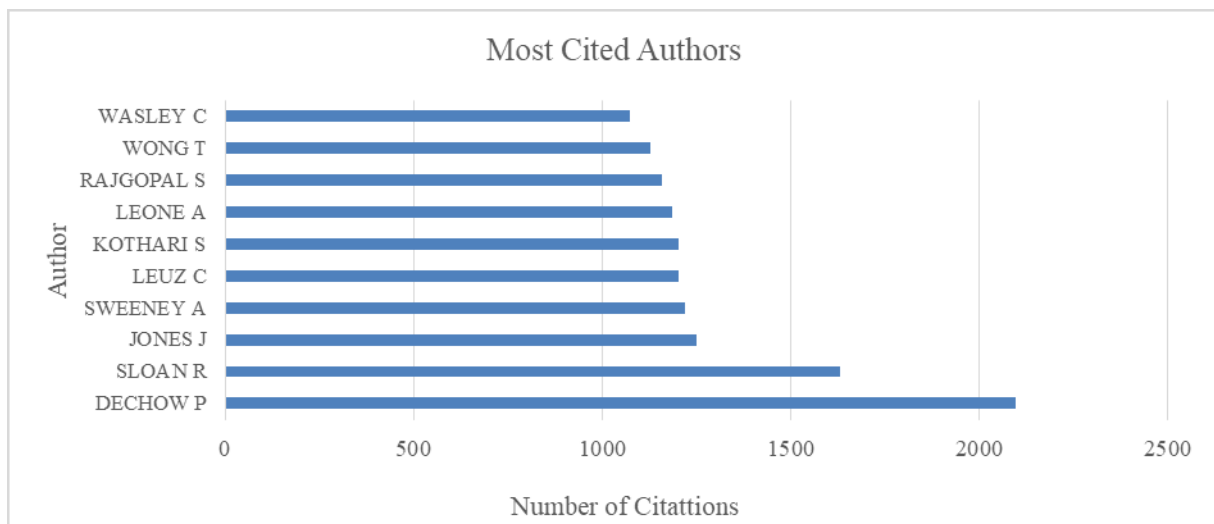
Every research in earnings management has its roots in the Jones model (See Figure 3) which is the most accepted base model introduced by Jones (1991) to detect abnormal accruals during import relief investigations. Later, the Jones model was modified by Dechow (1995) by incorporating changes in revenue and receivables together to refine the effect of non-cash items and it is more effective in detecting the manipulation of debt and revenue (Peasnell *et.al*, 2000). The reversal effect of accrual manipulations in the subsequent years was addressed by Sloan (1995) who is the second most cited author in both databases (See Figure 4). The reversal effect of accruals is quietly visible overall performance of IPOs (Teoh *et.al.*, 1998a) and the underperformance of seasoned equity offerings (SEOs) due to abnormal accruals (Teoh *et al.*, 1998).

Figure 3. Historiograph



Another effect of such accrual reversal is also visible among the firms with earnings thresholds as they tend to manage their earnings to achieve their benchmarks and it leads to poor performance in the future (Degeorge *et.al*, 1999). To increase their earnings or to avoid losses such firms mainly depend on the manipulation of their working capital and receivables (Burgstahler and Dichev, 1997). However, such manipulations using abnormal accruals are lower among firms with independent boards and audit committees (Klein, 2002). The advent of corporate governance codes (CGC) during the mid of 2000s also curtails EM practices (Xie *et.al*, 2003). The CGCs assert ethical financial reporting by mitigating the effect of abnormal accruals in the financial statements. So, Hribar and Collins (2002) modified the model by incorporating variance in the abnormal accruals that affect the quality of information accessible to potential investors. The protection of investors at the international level was compared by Leuz *et.al* (2003) quality of accounting information is essential to ensure the confidence of foreign investors. Foreign investors are making their investment decisions by considering the performance aspects of the firm (Louis, 2004).

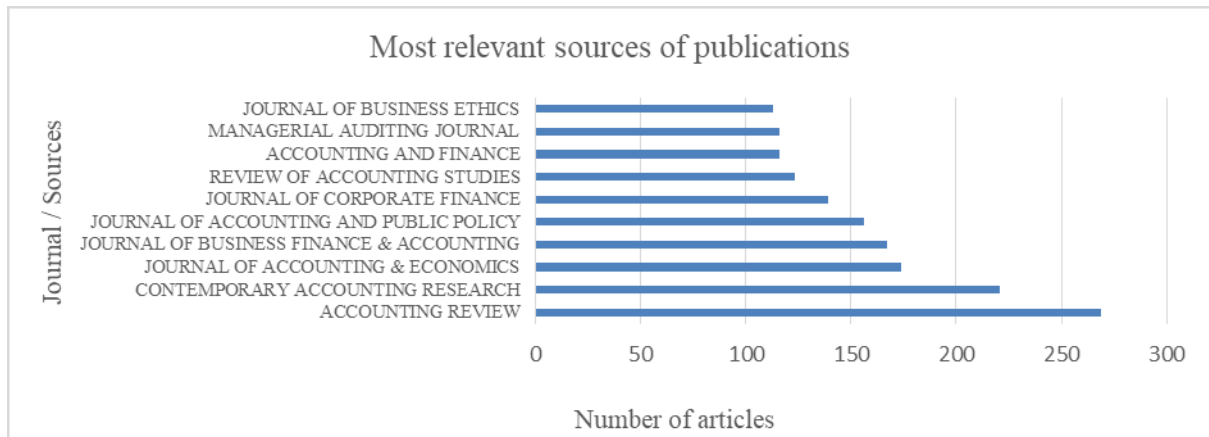
Figure 4. Most Cited Authors



However, the presence of aggressive accruals in the reported figures will lead to the underperformance of the entity overall due to the reversal of the accrual effect (Lee *et.al*, 2006). So, Kothari (2005) introduced a performance-matched model for incorporating the performance aspects in the estimation of discretionary accruals, the proxy for earnings management. Till 2006, research on earnings management was focusing only on the accrual aspect of managerial discretions. But the evidence for accounting manipulation and income smoothing using real transactions was pointed out by Roychowdhury (2006). Following this, researchers started to address the earnings management practices separately as the managing of earnings using accruals and real transactions (Xu *et.al*, 2007). The major argument put forward by the academicians and researchers was whether the EM practices are opportunistic or beneficial in their approach. Using agency theory Jiraporn *et.al* (2006) distinguished

opportunistic and beneficial EM practices and it was found that firms with more EM practices suffer from lower agency costs.

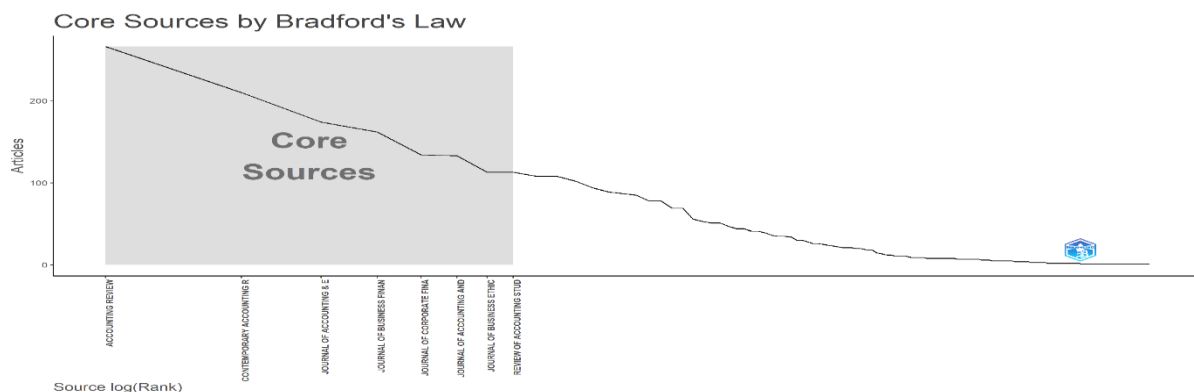
Figure 5. Most relevant sources of publications



Journals with the most relevant publications are illustrated in figure 5. Out of the 10 most influential journals top 3 journals contribute nearly 50% of the most relevant publications available in Web of Science and Scopus databases. All the top 10 sources belong to the A\* and A category of ABDC-indexed journals with an average Cite Score of 5.7%. It is evident from the Sankey diagram (See Figure 7) that 5 out of the top 10 journals are mainly addressing the keywords such as Earnings management, Corporate governance, and discretionary accruals in countries like USA and China. Nearly 80% of publications in the most prestigious journals such as Accounting Review, Journal of Accounting and Economics, and Contemporary Accounting Research are representing the issue of EM in the USA alone.

The influence of these journals in earnings management research is quite visible in (Figure 6) based on Bradford's law. There is an exponential growth in Scientific journals and systematic literature at comparable rates. It is also evident from figure 7 that in terms of citation and relevance, Accounting Review is found to be the most impactful journal in terms of Articles, Citations, and indexed rankings.

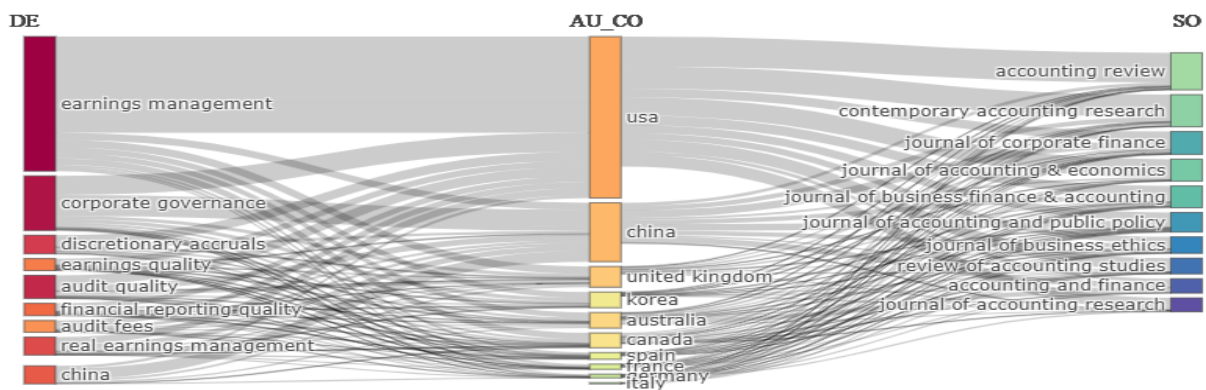
Figure 6. Core sources / Journals





The quality of accounting information is represented through various keywords such as earnings quality (Hribar and Nichols, 2007), financial reporting quality (Shuli, 2011), and audit quality (Becker *et.al*, 1998) are studied in various countries. The quality of financial information is relatively higher in developed economies as compared to emerging economies (Rathke *et.al*, 2016).

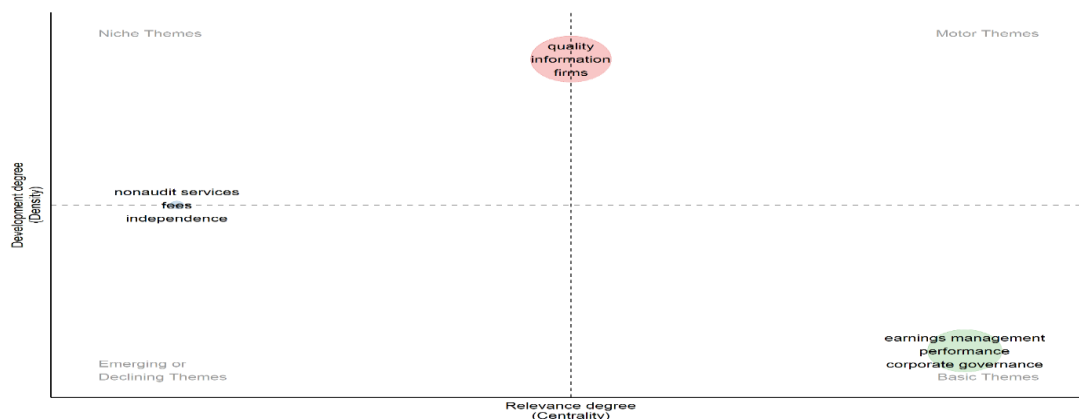
Figure 7. Three Field Plot Diagram



Note: DE, AU\_CO, and SO represents Keywords, Countries, and Sources respectively

Quality of financial information became popular among the financial community since the Asian financial crisis in 1997 (Ming *et.al*, 2007). Various crises such as the Brazilian capital market crisis in 2015 and the great financial crisis in 2008 also posited the relevance of quality in financial information (Dimitras *et.al*, 2015). Based on the thematic analysis using Biblioshiny, we can see that the research on the quality of financial information is at the commanding stage (see Figure 8). But, non-audit service, fees, and auditor independence is at their developing stage with lower density in the available literature. However, Fundamental studies in EM literature are considering the future performance of the entity (Gunny, 2010) as well as the effectiveness of corporate governance (Sun *et.al*, 2010).

Figure 8. Thematic Analysis



## Literature network analysis through co-citations and co-occurrence mapping

The co-occurrence of keywords in Scopus and Web of science are analyzed using VOSviewer software to get an overall image of research on EM (Figure 9). Relevant keywords are divided into 4 main clusters such as earnings management, corporate social responsibility, real earnings management, and accounting quality.

Earnings management is the most occurred keyword (3972) in the first cluster (Green) that stands out at the center of the map with diverse linkage with keywords such as initial public offerings, CEO characteristics, accruals, investor protection, real activities, and emerging markets. The keyword ‘earnings management’ is linked to all the keywords that occurred in all the clusters. Whereas in the second cluster (Red) most occurred keyword is corporate governance with 1849 occurrences. Corporate governance is strongly linked with keywords such as board of directors, ownership structure, board size, family ownership, and institutional ownership. In the third cluster ‘real earnings management’ is the most occurred keyword (1570 occurrences) and is mainly linked to keywords such as leverage, firm performance, short selling, financial distress, and audit risk. Finally the fourth cluster ‘accounting quality’ is linked to the keywords such as abnormal accruals, IFRS adoption, big bath, incentives, private firms, and agency costs.

Figure 9. Co-occurrence mapping



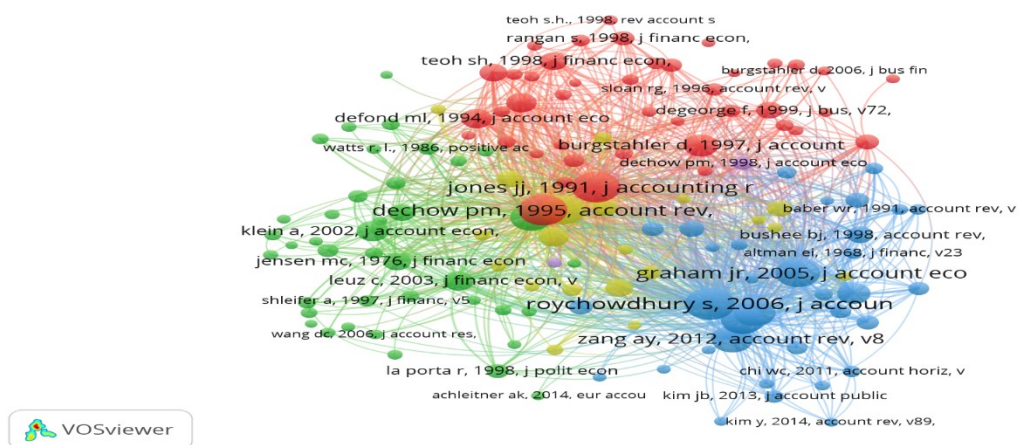
Co-citation analysis identified 4 relevant clusters (Figure 10) to demonstrate the impactful research works in earnings management. Healy (1985) is the pioneering research article in EM that analyse how accounting decisions are influenced by the bonus schemes offered to the insiders of the company. The major cluster (Red) exhibits EM practices during public issues. (Teoh *et.al*, 1998a) analysed the long-run market performance of initial public offerings whereas Teoh *et.al* (1998b) deals with the underperformance of seasoned equity offerings. Rangan (1998) examined the stock price fluctuations in the post-offering period. Burgstahler (1997) found evidence for managing earnings to increase income or to avoid losses around public offerings.

The cluster that addresses the real earnings management and financial reporting quality is depicted in blue colour. Graham (2005) identified the factors influencing the disclosure decisions that sacrifice long-run value to income smoothing. Roychowdhury (2006) is the most cited paper in this cluster that addresses asymmetry in financial disclosures due to the abnormality in production cost, R&D, and cash flow from operations. Zang (2012) found evidence for the substitution of AEM and REM by considering their relative costs in the future.

Cluster 3 (Green) deals with the approaches of insiders toward earnings management practices. Dechow (1995) introduced changes in revenue and receivables together to address the manipulation of earnings using non-cash items. Wang (2006) addresses the exploitation of flexibility in reporting R&D expenditure to inflate their income. The most cited paper in this cluster Leuz (2003) found evidence for lower EM practices among the companies that comply with corporate governance mechanisms.

The influence of insider incentives on earnings quality is depicted in cluster 4 (Yellow). Jones (1991) found evidence of accrual manipulation to deflate earnings during import relief investigations. Whereas (Bergstresser and Philippon, 2006) documented that the presence of discretionary accruals is more in firms to inflate their earnings, where the incentives to the CEOs are linked to the value of stocks. Another evidence for income-increasing accruals is visible in Beneish (2002) who found lower income-increasing accruals among firms with more abnormal insider selling and higher income-increasing accruals among firms with abnormal insider buying.

Figure 10. Co-citation analysis

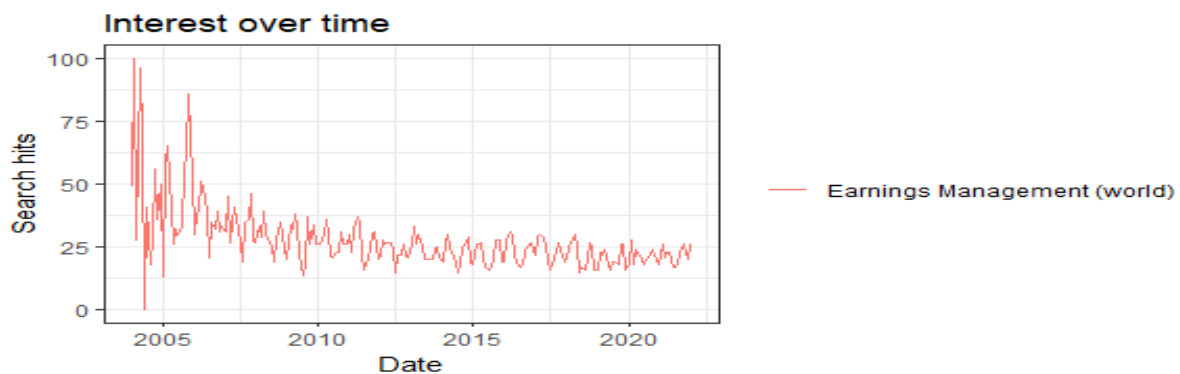


## GOOGLE TREND ANALYSIS

Google Trend is a technique based on an algorithm that is used to analyse search hits on the internet. It can gather data related to browsing hits based on keyword searches in the search engine. The interest of the public towards the keyword 'earnings management' in the last 2 decades is analysed using the Google trend package in R Studio (Figure 11). During the

period 2003-07 EM records significant search hits all over the world. Increase in global interest in this subject during this period can be attached to the emergence of the corporate governance code at the beginning of the 2000s, the introduction of performance-matched model for estimating discretionary accruals, the proxy for EM by Kothari (2005), and the enactment of Sarbanes Oxley act in 2006 to address the issue of discretionary managerial practices.

Figure 11. Google Trend Analysis



## CONCLUSIONS AND SUGGESTIONS

Research on EM has begun in 1985 but remains very relevant among academicians and the scientific community. Because the outcome of an investment decision depends upon the quality of the financial information supplied. This study is different from the previous studies as it deals with bibliometric data from both Web of Science (WoS) and SCOPUS simultaneously. The findings of the study reveal that research on earnings management is happening more in developed economies and much lower in emerging economies due to the constraints such as inadequate funding and lack of proper data depositories. Developed economies such as the USA, the UK, Germany, and the Netherlands are relatively more transparent in financial disclosure due to the systematic implementation of various legislations and corporate governance codes. Future research on earnings management can be extended to the corporate governance mechanisms in underdeveloped countries. Also, the influence of foreign institutional ownership is under-explored in newly industrialized economies such as Taiwan, Tunisia, and Mauritius. Likewise, analysis of earnings management in private firms has been done in very few countries which needs further attention in emerging economies. Similarly, changes in perception towards earnings management practices in the post-pandemic period can also be explored in various industries. So, the research on earnings management can be extended to new dimensions and it can also analyse the validity of fundamental findings in the modern scenario.

Bibliometric data for the study is collected from WoS and SCOPUS. If it were collected from other repositories such as ProQuest and Google scholar then the results would have differed. The study has considered only the articles published in the English language and ignored other types of documents. Bibliometric data were collected from repositories using keywords

such as ‘earnings management’, ‘accrual earnings management’, and ‘real earnings management’. Other terms such as ‘discretionary accruals’, ‘big bath’, ‘income smoothing’, and ‘classification shifting’ have not been considered for collecting bibliometric data.

## STATEMENT OF CONFLICT OF INTEREST

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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