Risk Disclosure Research Trends: Bibliometric Evaluative Study

Ag Kaifah Riyard and Mohd Noor Azli bin Ali Khan

Abstract--- Recent financial crisis has triggered tremendous awareness on the reliability of company financial report as the main source information to the market. Poor risk disclosure by company is worsen the situation as the company may hesitate to disclose disadvantage information to the market, fearing it will affect the company performance. Therefore, further understand the topic and widening the network are important to develop comprehensive research on the effect of risk disclosure. This bibliometric analysis study was aim to evaluate global research trend in risk disclosure area based on the outputs of publications, authors co-authorship and affiliated countries, and authors co-occurrences keywords. By using Scopus database as main search engine, a total of 400 articles were published between 1978 to 2018 was extracted. Based on the analysis, the result suggested that risk disclosure has getting attention started from 2010. The result also highlighted that English is the main language used by the authors in writing articles, followed by German and Spanish It also documented that most of the risk disclosure study coming from United Kingdom and Australia with total publication of 18%, superior to the other countries. The study also identified the most popular of sub-research theme for risk disclosure are cost of capital and bank disclosure.

Keywords--- Risk Disclosure, Research Trends, Bibliometric Analysis, VOSviewer, Scopus Database.

I. INTRODUCTION

One of the main impact of the recent global financial crisis to the market, is the regulators and shareholders have started putting significant demand on the company for extra transparency practice, especially information on risks and risk management due to the existence of uncertainties in the stock market (Muzahem, 2011). This situation has led to many conduct research either in industry and academic in effort to assist users to correctly interpret the risk information available in the annual report and at the same time encourage the management to provide extra risk information to the market (Muzahem, 2011). It is important to determine the types of risks associated by the company and their attitude towards the risk to allow users to determine the level of risk disclosure practice of the company and make an inform decision before the investment.

Recent corporate failures (Enron and Parmalat) (Azlan et al., 2009) and financial crises (Asian financial crisis, Global financial crisis) has triggered the importance of transparency practice among company and also the need for strong corporate governance (Cole & Jones, 2005; Muzahem, 2011). Accounting malpractice by these companies (Port Klang Free Trade Zone, Enron, WorldCom) who significantly deviate has elevated questions on the reliability of company annual reports and their risk management system (Linsley & Shrives, 2005).

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Risk can be defined as an inevitable element in any business operation (Azlan et al., 2009). Aside from regular financial risk associated by the companies, the companies are also exposed to fluctuation in overall economic climate which may influence their market prices. While, disclosure from the accounting perspective can be defined as an action of informing the public and potential stakeholder on the company performance through understandable medium such as company financial statement (Mohammadi, 2017).

In other ways around, Owusu-Ansah (1998) defined disclosure as a statement of declaration of economical information, either in quantitative, qualitative, financial or non-financial. It also argued that the disclosure of information is crucial and it should be available in a timely manner. Therefore, given the situation of current transparency practice, there is a need for this issue to be clearly addressed (Azlan et al., 2009).

It also documented the companies who associated with greater risk may intend to report as minimise as possible with the situation they affiliated, with the assumption that they have an option of what they want to disclose. This kind of situation arguably beneficial for managers as they will reverse the situation by blaming external factors for company poor performance (Barton and Mercer, 2005). Barton and Mercer (2005) in their study of analyst reaction towards poor corporate performance found that in a situation whereby the company is facing poor performance, the management tend to disclose extra information but most of the information focus on blaming external factors rather than the company itself. Despite the extra information being disclosed, it is found that information disclose is rather mislead and unreliable to assist users in making an inform decision.

In spite of growing interest in risk disclosure study due to unreliable financial statement and weak corporate governance, there are limited studies who focusing on measuring and analysing academic research publication from a global perspective. As far as the researcher concern, most of the risk disclosure study focus on review paper and meta-analysis. Siriyama and Albarqi (2017) focus on reviewing 24 papers related to financial quality and information quality available from 2009 to 2015. While Klif and Hussainey (2016) focus on meta-analysis analyses which involve 42 empirical papers who specially focus on the impact of company characteristics on total risk disclosure practice by the companies. Additionally, both papers using various database as data mining and study who focus on using scopus as data mining source are still limited.

Scopus database can be argued as the largest database for various field covering abstract and citation database of critical assessment by recognise reviewer (Khudzari et al., 2018). Although WoS (Web of Science), Scopus and other different database medium (ISI, DOAJ and SSRN) have the tendency to overlap in journal indexing, they also at the same time, indexing in different journals. Therefore, selecting Scopus as the target database in an attempt to cover more topics is rather suitable for the purpose of this paper and arguably may not be discussed in the previous study of Siriyama and Albarqi, (2017) and Klif and Hussainey (2016).

In this study, the objectives were as stated i) to analyse the distribution pattern of risk disclosure journal articles, ii) to investigate the distribution of writers, commanding countries and highest yielding academic institutions, iii) to determine most popular terminology and research topic employed, iv) to examine the leading countries based on their applications, and v) to highlight potential research topic for future directions. This paper arguably beneficial for

researchers, regulators and important individuals to understand the research trend in risk disclosure and may come up with potential research area in the future.

II. Methodology

This study employed bibliometric analysis study as the mechanic approach in an attempt to understand the global research trends of one particular area by referring on the outputs produces from academic literature database (Khudzari et al., 2018). This kind of research method differentiates a bibliometric analysis paper from other research type of paper such as review paper and meta-analysis paper which predominantly focusses on discussing the current research progress, challenges and potential research area for a particular topic (Khudzari et al., 2018).

Data Source and Search Strategy

All the data were retrieved between 21st until 23rd August 2019 by using Scopus database. The search theme in this study was focusing on the articles who containing "risk* disclosure*" in both of the paper title and abstract. The first publication on this topic was found back in 1978 and the most recent one was published in 2018 as the study purposely excluding the recent publication. To extract the related articles, the search query used was (TITLE-ABS ("risk* disclosure*")) AND DOCTYPE (ar) AND PUBYEAR > 1959 AND PUBYEAR < 2019 AND (LIMIT-TO (SRCTYPE, "j ")).

As a result, 400 articles were extract by using this search query. The next filtration process is to exclude the articles who contained terms such as review, critical, revisit, advance, development, highlight, perspective, prospect and trends, in both of the articles title and abstract. As are result, 26 articles were identified to have these terms in their articles and excluded in the stage of filtering process. All the EID's, the unique Scopus identification of 26 articles were extracted and list out in the next filtering process to ensure only the aimed articles appear for the final search result.

While for the authors filtration, this study utilised the 'analyse search result' and 'document by authors' available in the Scopus database to filter the authors publication. In addition, it also argued that the best approach to extract information on authors details is by referring to their ID (Scopus field code: AU ID) (Khudzari et al., 2018). An author profile arguably contained all the information needed who placed in one single profile such as ID's, h-index, their current affiliation and residence country.

For single-country publication (SCP) information were retrieved by using the same method except the authors limiting the search result to a specific country by adding search code 'AFFILCOUNTRY'.

The search results for the main theme were analysed according to the year, source, author, affiliation, subject of interest, country/territory, and type of the document. While bibliometric indicators such as total of publications, total citations, the CiteScore and h-index were employed for ranking purposes (Khudzari et al., 2018).

Figure 1 is the summarisation of the article collection process and the filtering process. Further details of search string used in the Scopus are available on the appendix Table 1a.
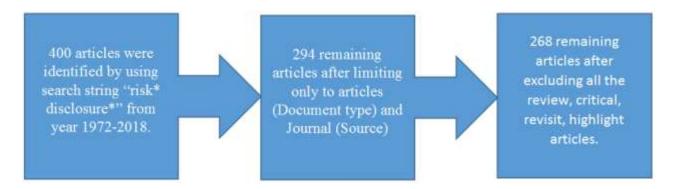
Figure 1: Process of Filtering the Article

Bibliometric Maps

All the citation, authors information, keywords and bibliographical of 400 articles were exported to VOSviewer (version 1.6.11, Centre for Science and Technologies Studies, Leiden University, the Netherlands). The VOSviewer software is a software tool used to construct and visualising bibliometric maps. VOSviewer is working by creating maps based on the set item include. For this study, the items are the objects of interest, namely the countries, authors profile and keyword. Map that were generated by using VOSviewer was analysed by observing the links between the items (Connection or relation between two items or more). The strength of each link is represent through positive numerical value. The higher the value, the powerful the link are.

For co-authorship analysis, the link between the countries suggests the number of publications that the co-authors has affiliated together, whereby the total link strength demonstrates the total strength of the affiliated co-authorship of one country with the others (Khudzari et al., 2018). Likewise, for co-occurrence analysis, the link between the keywords demonstrates the number of publication whereby the two keywords was choosen to use together. Further details of VOSviewer features can be extracted through the user manual (Van Elk and Waltman, 2018).

Analysis of Co-authorship

In the analysis of co-authorship, the researcher includes all the 53 countries which affiliated with 269 authors. The affiliated countries/territories is divided into 5 continents: Asia, Europe, America, Africa and Oceania.

Analysis of Co-occurrences

Analysis of co-occurrence of keywords involved 650 keywords of 268 articles. The remaining of 26 articles is excluding due to the characteristics of the articles itself who exist as review, critical or highlight articles. The minimum occurences of keywords to be included and analysed was setting to 5 in the VOSviewer. To further understand the map of average publication in a year, the number of occurences, the link strength between the keywords and the overlay visualisation mode is choosen (Khudzari et al., 2018). The color for each keywords indicated the average year of publication of the articles in which the keyword had been used.

Risk Disclosure Application

To analyse the trend of search output, the main theme which is represented by keyword co-occurrence and total publication who represent the sub-theme was compared. To illustrate this, in the VOSviewer software, all the keywords which related or synonym to 'risk disclosure', 'risk management' and 'risk reporting' were taken counted. In addition, this study also analysed ten countries with top publication of 'risk disclosure' articles.
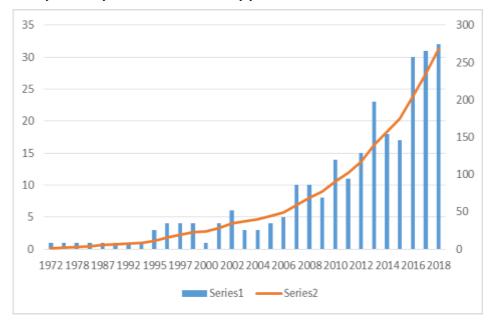

Figure 2: Total Cumulative Number of Risk Disclosure Articles for each Year Index in Scopus from 1972 to 2018

III. RESULTS AND DISCUSSION

Publication Production and Research Interest Trend

For the last 15 years, a total of 268 articles had been issued (Figure 2). The oldest publication based on the researcher's analysis was started as early as 1978 and the latest publication was recorded in 2018 with steady increment rate for each year. Based on the graph, it was proposed that the risk disclosure research trend has got more attention started from 2010. In 2010, the annual growth rate (AGR) for risk disclosure research significantly increased from the previous two years with a growth rate of 200%. It also suggested that, from the same year as well, the annual publications of the research have increased consistently which resulting in higher cumulative of total publications. Based on trend analysis of risk disclosure, it is expected that the total annual publication will continue to increase. However, one thing to be noted is that, some of the articles are not free access which left users with payment option in order to have access on the articles. To increase the articles total citation, it is suggested that the authors of the articles may want to publish it through an open access journal.

Risk disclosure area mostly focussed on the accounting, finance and management field and the number of research group who actively working in this area are fairly limited. Analysis on the subject area showed that business, management and accounting and economics, econometrics and finance area are the main area in risk disclosures which researcher wish to study. This can be proved through total publication on these area who are

divided into several areas of interest: Business, Management and Accounting (31.2%), Economics, Econometrics and Finance (22.1%) and Social Science (9.6%). From the analysis, it can be seen that risk disclosures is standing from multiple discipline and one of the areas of publications was classified as medical. The multidiciplinary area arguably can be used to increase the social acceptance of this topic and further extend the research on other fields for more functional research (Khudzari et al., 2018).

Preferred Language

In addition, another analysis being conducted by the researchers was the preference writing language. The analysis showed that most of the articles in this area are written in English (96%) where the rest of the articles is written in another three different language: German (3.5%), Slovak (0.25%) and Spanish (0.25%). It is suggested to enhance the opportunities to be accepted in Scopus, the articles must be written in full English and the articles who manage to be indexed in Scopus by writing in a foreign language must come with a title and abstract in English.

Top Journal

While for the journal publication, the analysis result showed that for the top 10 ranked journals, the publishers were stand from 6 differents journals as stated in Table 1. The two top publishers in this area are Emerald and Elsevier with 3 and 4 journals publications each and the rest of four journals are Springer, Virtus Interpress, American Accounting Association (AAA) and Universidad Nacional Autonamade Mexico.

After the filtering process of review papers, the most productive journals are Managerial Auditing Journal of 9 publications which covering 16.9% of total 10 top publications. Next most productive journal is Corporate Ownership and Control (13.2%), Accounting review (11.3%), British Accounting Review (9.43%) and Journal of Applied Accounting (9.43%). Despite being ranked 3 and 4 in the top 10 journal publication, the Accounting Review and British Accounting Review receive the highest number of total citations with a total of 349 and 442 each. One of the surprising facts is, one of the articles in the British Accounting Review received the highest citation of 199 who published back in 2009.

Based on journals CiteScore score for 2018, only two of the journals had a CiteScore above 3 which are Accounting Review and British Accounting Review. These two journals as well recorded among the highest total citation from the researchers. One of the reason is the journals are among the earlier journals who publish study related to risk disclosure. The highest CiteScore was belonging to the Accounting Review of score of 4.73 and the lowest CiteScore belongs the Journal of Financial Regulation and Compliance. This is due to the fact that there are less number of researchers who interested in studying regulation in risk disclosure as most of the researcher focus on investigating the determinants and factors who may influence risk disclosure practice in the company.

It also argued that the CiteScore score may influence some of the authors decisions in selecting the journals who fit with their work. CiteScore or the alternative of it, Clarivate Analytics Impact factor for the Elsevier-Scopus was used to measured the impact of the journal in the Scopus based on the total citation. However, it is note that CiteScore score should not only be taken as the main measure to measure the impact of the journals. The researcher should not only refer the CiteScore when selecting or publishing their work, but also the possibility of the journals to

contribute the researcher work to the right audience in one particular field. Therefore, it is important for the researcher to not only refering the CiteScore score when choosing their potential journals, but also the impact of the journal and the access of the journals to the right audience.

Table 1: Top 10 Most Productive Journals on Risk Disclosure Study and their Most Cited Article

Rank	Journal	Number of publications	%	Number of citations	Cite score 2018	The most cited article	Times cited	Publisher
1.	Managerial auditing Journal	9	16.9	188	1.63	Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports	89	Emerald
2.	Corporate ownership and control	7	13.2	14	0.11	Corporate governance and risk disclosure: Evidence from Saudi Arabia	10	Virtus interpress
3.	Accounting Review	6	11.3	342	4.57	How informative are value-at-risk disclosures?	103	American Accounting Association
4.	British Accounting Review	5	9.43	449	3.73	Risk reporting: A study of risk disclosures in the annual reports of UK companies	199	Elsevier
5.	Journal of Applied Accounting	5	9.43	12	1.54	Board's financial incentives, competence, and firm risk disclosure: Evidence from Finnish index listed companies	6	Emerald
6.	International Journal of Accounting	4	7.5	190	1.43	A framework for the analysis of firm risk communication	177	Elsevier
7.	International Review of Financial Analysis	4	7.5	182	2.25	Corporate governance and risk reporting in South Africa: A study of corporate risk disclosures in the pre- and post-2007/2008 global financial crisis periods	81	Elsevier
8.	Journal of Financial Regulation and Compliance	4	7.5	10	0.6	Market risk disclosure: Evidence from Malaysian listed firms	14	Emerald
9.	Contaduria Y Administration	3	5.6	11	0.72	Determinants of corporate risk disclosure in large Spanish companies: A snapshot	8	Universidad Nacional Autonoma de Mexico
10.	International Journal of Disclosure and Governance	3	5.6	16	1.09	Risk narrative disclosure strategies to enhance organizational legitimacy: Evidence from UAE financial institutions	12	Springer

Table 2: Top 10 Most Productive Countries in Risk Disclosure Study

Rank	Country	TPc	% TPC	Tpi	Single Country Publication (SCP)	SCP %
1.	United States	80	34.63	11	65	43.04
2.	United Kingdom	48	20.77	26	28	15.54
3.	Australia	21	9	11	12	7.94
4.	Canada	21	9	5	14	9.27
5.	Malaysia	14	6	5	8	5.29
6.	Italy	13	5.62	2	9	5.96
7.	Egypt	12	5.19	4	3	1.96
8.	UAE	8	3.46	6	5	3.31
9.	China	7	3.03	2	3	1.96
10.	Germany	7	3.03	1	4	2.64

Top Countries and International Collaboration

Table 2 shows the top 10 most productive countries who actively contribute to the increasing number of risk disclosure publications around the globe. Based on the analysis conducted, there are two countries who significantly contributed in the risk disclosure field which is the United States and United Kingdom. The United States is the top country who actively produces risk disclosure articles with 80 publications with total of 11 journals affiliation covering 34.63% from total global publications. However, it is to note that most of the publication from the United States is related to public health whereby this study focuses on risk disclosure from the business, finance and accounting perspective. Therefore, the most productive countries in publishing risk disclosure articles from the point view of business, finance, and accounting perspective is the United Kingdom and followed by Australia 9%. From United Kingdom viewpoint, the organisations who actively published risk disclosure articles were from University Plymouth and followed by University Bristol with total publication of 6 and 4 accordingly. Both of the university arguably are the pioneer universities especially in this area as most of the earliest articles is coming from these two universities.

From the top 10 countries, only two countries excluding the United States who has total Single Country Production (SCP) exceeding 9 percentages which are United Kingdom and Canada. According to the result, United States is the leading countries with SCP of 43%, however, as the researcher explained before, most of the publication under United States is rather focus in the medical field whereby the focus of this study is to measure and analyse the academic research publication of risk disclosure from the global perspective. Based on the analysis also, it was suggested that these two countries have a strong collaboration within their country. In contrast, the least country with SCP is Egypt and China with SCP less than 2%. This suggested that most of the articles published in these countries were affiliated with other countries whereby out of 12 publications of articles, only 3 of the articles produced within the countries itself. It was argued that, one of the advantages of an international collaboration is, the country has the opportunity to increase their publication rank apart from enjoying the benefit of exchanging information, expertise and networking (Khudzari et al., 2018). For instance, UAE despite among the newest country who venture into risk disclosure study, their TPc (Total Production Country) is 3.46% and their SCP is 3.31% indicated that half of their publications are an affiliation with other countries.

This strategy arguable has increased their rank to be included among the top 10 countries who have the largest publication, better than other countries such as Germany and China.
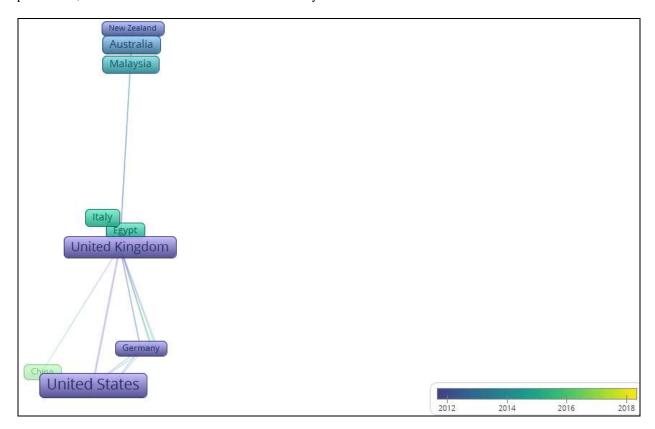

Figure 3: A Screenshot of Bibliometric Map for Co-authorship together with Network Visualization Mode

In addition, Figure 3 shows the distribution of countries/ territories per region. It was indicated that the closer the range and the thicker the line that connected between the two countries, the stronger the relation between those two countries. The highest the number of countries per region coming from Europe (16), followed by Asia (12), America (4), Africa (2) and Oceania (2). While the analysis of co-authorship based on the VOSviewer map showed that the United Kingdom was the most affiliated country, which links to 18 countries/territories with 32 time of co-authorship.

It was followed by German and Greece with 9 links and 10 co-authorships and 9 links and 9 co-authorships each. Next on the rank are Netherlands and Spain with each of 8 links and 8 co-authorships. It also to note that 75% of the listed countries have an international publication collaboration with less than 10 countries. Besides, it also suggested that at least 10 of the countries have a single link with other countries in their effort of publications.

There are several components who may contribute to the dynamic of international collaboration and the pattern of diversity in research partners. For example, high degree of foreign and local postgraduate, visiting lecturers, and strong researchers funding may contribute to the diversity of research partners. Not to forget as well the stable and dynamic research policy in the university may also contribute to the varsity of international collaboration.

Table 3: Top 10 of Most Prominent Authors in Risk Disclosure Study

No.	Authors	Scopus Author ID	Rank Authors	Years of 1st publication	Total publication	H-index	Total citations	Current Affiliation	Country
1.	Hussainey, Khaled	16444230900	1st	2012	11	7	192	University of Portsmouth	UK
2.	Roberts, J.S	55449044500	2nd	2005	11	33	320	University of Michigan School of Public Health	USA
3.	Christensen, Kurt D.	7202687824	1st	2011	7	4	60	Harvard Medical School	USA
4.	Green, Robert C.	26643307400	4th	2005	6	6	316	Brigham and Women's Hospital	USA
5.	al- Hadi, Ahmed Khamis	6506840920	1st	2015	5	3	43	Curtin University	Australia
6.	Zéghal, Daniel	8915903400	2nd	2005	5	3	171	University of Ottawa	Canada
7.	Boutis, Kathy	6507710265	1st	2013	4	2	70	Hospital for Sick Children University of Toronto	Canada
8.	Cupples, Laura Adrienne	57203177830	4th	2010	4	4	112	Framingham Heart Study	USA
9.	Elshandidy, Tamer	55797105800	1st	2013	4	2	104	University of Bradford	UK
10.	Hassan, Mostafa Kamal	24314967800	1st	2009	4	4	88	Qatar University	Qatar

Top Authors

Based on the analysis of the top authors in the field of risk disclosure, the result on Table 3 shows that most of the prolific authors were coming from USA (4 authors), UK (2 authors), Canada (2 authors), and Australia and Qatar with 1 authors each. It is suggested that the risk disclosure publication range is between 2005-2013 with 6 authors act as the first authors, 2 authors act as the second author and another 2 author's act as fourth author. As there is no rule in author's position for authorship, the first authors basically are the main author and also the corresponding authors while the last author normally associated with seniority such as supervisor role. The affiliation of the authors indicated that risk disclosure is a broad field which not only related to business, management and accounting, but also medical field.

It was found that, according to the analysis, Hussainey K. from United Kingdom is the lead authors in publications of risk disclosure with a record of 11 publications, 199 total citations and score of h-index of 7. This is followed by Al-Hadi and Zéghal, Daniel with 5 publications each and total citations of 43 and 171. It also suggested that the other 3 of top authors are coming from United States and affiliated with medical sectors (Brigham and Women Hospital and Harvard Medical School) which therefore being excluded from the analysis.

It was argued that the authors who appear in Table 3 with most cited articles are not necessary to be present in the Table 1. The authors name should only appear on both tables if their publications are significant to the field such as Hussainey Khaled from UK.

Authors Keywords

In sum, 650 keywords are identified related to risk disclosure area, and among of 650 keywords, 104 keywords are identified to be used twice and 45 keywords was determined to be used by the authors for thrice. After removing irrelevant keywords, a total of 21 keywords with a minimum threshold of 5 is identified for the VOSviewer mapping purpose.
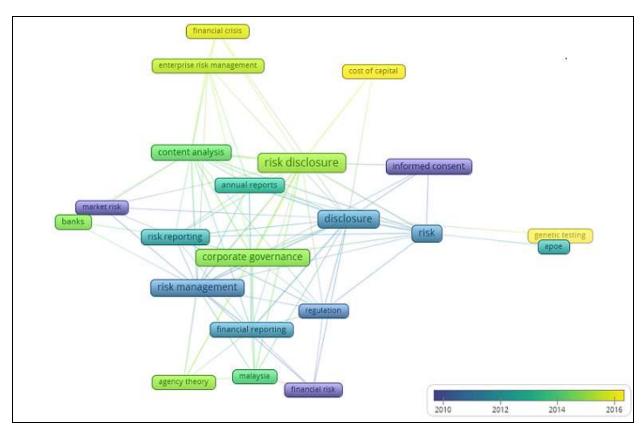

Figure 4: A Screenshot of Bibliometric Map based on Authors Co-occurrence Keyword with Overlay Visualization Mode. The Study Choose Threshold of 5 for Minimum Keyword Occurrences

Terminology and Concept

Based on the VOSviewer map, it showed that 'risk disclosure' was the most frequent keyword used by the author with 39 occurrences and 14 links with the other keywords. While the other keyword who frequently employed in risk disclosure study are 'disclosure' (35 occurrences, 16 links), 'corporate governance' (21 occurrences, 11 links) and 'risk' (20 occurrences, 10 links).

Furthermore, the researcher also aware of similar attribute to represent risk disclosure, such as 'market risk disclosure' and 'corporate risk disclosure'. Another examples of risk disclosure synonyms are corporate risk

transparency (1), corporate risk disclosure (4), mandatory disclosure (1) and mandatory business disclosure (1). These types of words repeatedly used by the authors to replace and also to refer the term of risk disclosure in the study. It is also interesting to observe the pattern of the term used throughout the year of study. At first, most of the authors have the tendency to use risk disclosure term in their study to represent company willingness to share their information with the public. However, as the time pass by, the term risk disclosure is being replace by corporate disclosure or market disclosure to represent the current business circumstances of where the company operate and type of risk that they associated.

In addition, besides risk disclosure term who repeatedly uses by the authors in the study, another term who always being used by the authors is corporate governance (21), risk management (19) and risk reporting (13). These terms are popular among authors as it is capable to explain the nature of risk disclosure study in an attempt to answer the formulated research questions and objectives. .

Review of Co-occurrence

As one of the growing topics who getting attention these days, the term of 'risk disclosure' is repeatedly used by the researchers. The 'risk' keyword itself has being repeated for 20 times while the term 'disclosure' itself has been repeatedly used for 35 times.

Another term who importance in risk disclosure study is corporate governance, content analysis, annual report, risk disclosure determinants and risk management. In comparison with 'risk disclosure' terms who regularly used in risk disclosure study, another frequent keyword use is 'corporate governance' with occurrence of 21. Recently, apart from being link with company special characteristics (size, leverage, debt and ownership), risk disclosure study nowadays have started to focus on corporate governance as it was argued that corporate governance was capable to reduce agency cost and promote transparency (Saggar & Singh, 2017; Wahab et al., 2014). In addition, the use of content analysis (18 occurrences) also frequently used in risk disclosure study as most of the methodology used in risk disclosure study is content analysis such as study conducted by Linsley and Shrives (2006) and Azlan, Rosli and Hassan (2009).

One of the typical and regular mediums to extract risk information is the annual report. This is proved through the analysis who revealed that the authors tend to use the term of 'annual report' in their risk disclosure study. Annual report arguably is the best medium to extract information regards the company performance which reduce the shareholder monitoring cost (Schipper, 2007) and at the same time also capable to store such a huge amount of information who arguably useful for the users (Barizah A. Bakar, Rahim A. Rahman and Majdi A. Rashid, 2005). While, 'risk management' is another term who commonly used by the authors with 19 occurrences. Risk management is very important in risk disclosure as the main purpose of transparency practice is to improve company risk management (Laijili & Zeghal, 2005) and to ensure that risk management practice by the company is generally accepted (MCCG, 2017).

In addition, with 13 occurrences, 'risk reporting' is another term who frequently used by the authors when explaining risk disclosure. One of the major complaints from the stakeholder is the insufficient risk information in

the company risk reporting (Solomon et al., 2000). They argued that the risk information in risk reporting is rather vague (Elzahar & Hussainey, 2012; Konishi & Ali, 2007) and reflecting on backward information (Zadeh, 2015). To improve company risk reporting, an improve governance system such as large board size and a higher degree of board independence arguably will increase the company disclosure practice.

Risk Disclosure Discussion

By referring to the number of articles available and occurrences of keyword by the authors, it suggested there was a positive relation between the sub-theme research and the central theme search. 'Cost of capital' was one of the most popular sub-theme in the risk disclosure area with 287 articles and 652 co-occurrences. This was followed by 'bank disclosure' with 36 articles in Scopus and 96 co-occurrences in the VOSviewer.

Prior to 2009, risk disclosure was not associated with other sub-theme research and only started to get enormous attention from the researcher post to the global crisis in 2008 (Tauringana & Chithambo, 2016). Articles related to sub-theme of 'cost capital' and 'bank disclosure' were first published in 2003 and 2009 respectively (Figure 4 and Figure 5). This suggested that the researchers are gradually aware that risk disclosure not solely related to company risk reporting, but also other topic of interest such as cost of capital and bank disclosure.

In addition, research interest in other areas also can be identified by analysing the strength of two keywords. For example, the word 'bank' has total link strength of 19 (related to 19 other keywords) such as corporate governance, content analysis and liquidity risk. Based on the VOSviewer map, it showed that the link strength between bank-corporate governance and bank-content analysis was similar which 1, respectively is.

It is also to note that most publication related to bank disclosure such as corporate governance, content analysis and liquidity risk is coming from United States, United Kingdom, Australia, Canada and Netherlands. However, in general, United Kingdom, United States, Australia, Canada and Malaysia are the top 5 of countries who actively publishing articles on risk disclosure.
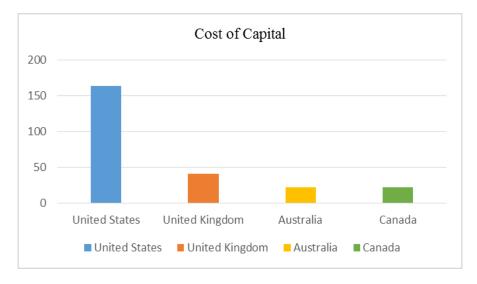

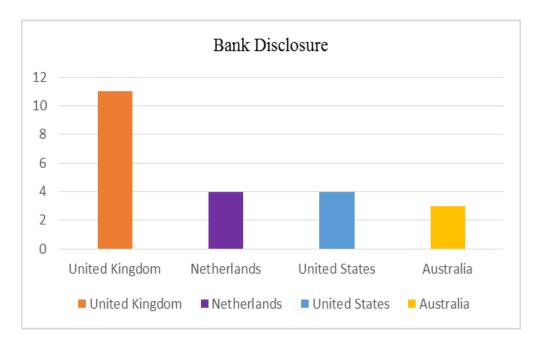Figure 4: Publications of Sub-theme of Cost of Capital in Four Countries

Figure 5: Publications of Sub-theme of Bank Disclosure in Four Countries

IV. LIMITATION OF STUDY

By focusing on the search of "risk* disclosure*" for both title and abstracts, the search result may not be able to cover all related risk disclosure studies in Scopus. This is because, some of the authors may prefer to use a different term who referring to risk disclosure such as transparency, risk communication, voluntary disclosure and signalling.

In addition, future studies may want to explore other databases such Scopus and Web of Science (WoS) to diversify the types of articles. For instance, search result from WOS will automatically show the most cited articles for one particular field who knew as 'hot paper' which is this feature are not available in Scopus. This hot paper basically is the key important paper in that field who received a significant number of citations (Khudzari et al., 2018). It also recommended that by using a variety of data sources, the bibliometric analysis will be more comprehensive.

V. CONCLUSION

This study arguably focusses on identifying the research trend on risk disclosure by analysing the articles (400 publications) from the Scopus database. The analysis also showed that, for the last 15 years, the publication has growth significantly especially after the global financial crisis in 2008, and expectely to continue to rise. United Kingdom and Australia have been identified as the top countries in publishing risk disclosure articles and also have a strong relation with other international authors. It also concluded most of the research in risk disclosure was written in English, followed by German and Spanish.

This is somehow being beneficial for other countries such as Romania and Egypt to strengthen their research network and improve their research skill under observation of pioneer countries who focus in risk disclosure study.

It was expected that by further examine risk disclosure study, it will assist the investor to fully utilise the information disclosure and at the same time enhance company value. This study also discussed the potential sub theme such as cost of capital and bank disclosure who arguably can be a future topic to be further research by the researcher.

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Appendix 1

Search	Step	Query string *data retrieved on August 21, 2019	Search Result
Any articles related to Risk Disclosures	Insert the main keyword(s)	(TITLE-ABS ("risk* disclosure*"))	400
Journal articles from the beginning until 2018(i)	Limit the search	(TITLE-ABS ("risk* disclosure*")) AND DOCTYPE (ar) AND PUBYEAR > 1959 AND PUBYEAR < 2019 AND (LIMIT-TO (SRCTYPE, "j "))	294
Review Articles (ii)	Find the potentially review articles (26) Screen the titles and abstracts to identify the real review articles Collect EID of the review articles (26 papers)	(TITLE-ABS ("risk* disclosure*")) AND (TITLE (recent OR progress OR review OR critical OR revisit OR advance OR development OR highlight OR perspective OR prospect OR trends OR bibliometric OR scientometric) OR (ABS (progress OR review OR bibliometric OR scientometric)))AND (LIMIT-TO (SRCTYPE,"j")) AND (LIMIT-TO (DOCTYPE,"ar")) AND (EXCLUDE (PUBYEAR,2020) OR EXCLUDE (PUBYEAR,2019))	26
Risk Disclosure research articles only (iii)	Add EIDs in (ii)	(TITLE-ABS ("risk* disclosure*")) AND NOT (EID (2-s2.0-85050975383 OR 2-s2.0-85049188400 OR 2-s2.0-85044818625 OR 2-s2.0-85054022448 OR 2-s2.0-85037356826 OR 2-s2.0-85021993043 OR 2-s2.0-85043589168 OR 2-s2.0-84990859043 OR 2-s2.0-84964330456 OR 2-s2.0-84960918911 OR 2-s2.0-84959233858 OR 2-s2.0-84976892839 OR 2-s2.0-84949461789 OR 2-s2.0-84947782245 OR 2-s2.0-84890041044 OR 2-s2.0-84870243899 OR 2-s2.0-84868132735 OR 2-s2.0-84856380634 OR 2-s2.0-84855170429 OR 2-s2.0-67650151824 OR 2-s2.0-34548709606 OR 2-s2.0-34447284017 OR 2-s2.0-33645056444 OR 2-s2.0-33750958708 OR 2-s2.0-3042805474 OR 2-s2.0-0030316942)) AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (EXCLUDE (PUBYEAR , 2020) OR EXCLUDE (PUBYEAR, 2019))	294-26=268