

## A BIBLIOMETRIC ANALYSIS OF LITERATURE REVIEW ARTICLES PUBLISHED BY MALAYSIAN AUTHORS

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**Abstract:** *A more profound fathoming of the existing research's concepts, methodology, and gaps will be obtained with scrupulous attention in conducting a literature review and systematically evaluating scholarly resources on a specific topic. This study examines the evolution and trends of literature review articles produced by Malaysian authors, identifies the ten most influential literature review articles, and investigates the nature of collaboration between Malaysian and international authors. Using VOSviewer and Publish or Perish (PoP), this study conducted a bibliometric analysis of 1,456 scholarly works pertinent to literature reviews in the Scopus database in December 2022. The number of publications remained constant between 1977 and 2008, with fewer than five articles published each year before beginning to increase in 2009. Since 2018, "systematic literature review", "comprehensive literature review", and "systematic review" have become popular strategies for creating literature reviews, as determined by analysing the text related to the titles. In the meanwhile, based on the text analysis of the abstract, this study revealed that the term "gap" is closely linked to "model", "topic", and "theory" literally. The article with the most citations is titled "Magnitude and risk factors for postpartum symptoms: a literature review". There is no precise pattern for creating a literature review; nonetheless, most authors supplied a systematic writing process by including objectives or research questions in their introduction or background. Most prior researchers utilised the Scopus and Web of Science databases to gather articles for review purposes. Authors from Malaysia worked closely with authors from Saudi Arabia, India, Italy, the United Kingdom, and Germany. Researchers commencing academic writing will find this study an invaluable resource for writing literature reviews. They may utilise this information as an indirect source of motivation to help them compose a literature review.*

**Keywords:** *Literature Review, Publication Evolution, Publication Trends, Research Gap, Scopus*

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## Introduction

As soon as someone steps into a university's post-graduate milieu or enthusiastically participates in scientific writing, their errands will endure radical metamorphosis. Some practices, such as drafting a literature review, may directly correspond to the topic assignment; nevertheless, composing the literature review is challenging and requires considerable reflection. It is an exciting interpretation that a literature review is encompassed analysis, summary, and synthesis of prior works on specific themes, theories, or methodologies that function in building discussions and arguments while expanding a field's body of knowledge (Paul & Criado, 2020). Moreover, Atkins and Murphy (1993) contended that an examination of the literature indicated that the primary distinctions between authors' representations of reflective processes include language, level of detail, and the degree to which these processes are ordered hierarchically. Hence, conducting a literature review and carefully assessing scholarly resources on a particular issue with scrupulous care will result in a more in-depth comprehension of the existing research's concepts, methodology, and gaps.

Academic writing is not comprehensive without a meticulous literature evaluation, as discoveries must be built upon previous work to expand knowledge's frontiers (Xiao & Watson, 2019). Thus, writing literature reviews requires a wide range of reliable print and digital sources that require further scrutiny, diligence in reading, analytical insight, and the capacity to articulate reasoning. Three document sources for creating a literature review are primary, secondary, and tertiary (see Table 1). Intriguingly, the tertiary sources may also be secondary, depending on the content and how they enlighten the facts. Whether those materials were abstract or generic, it is essential that the sources adequately describe the evidence, procedure, and research approaches that the researchers will utilise (Callahan, 2014). In this sense, using reference management tools like EasyBib.com, EndNote, Mendeley, ReadCube Papers, and Sorc'd streamlined the process of writing article reviews and bested the manual technique.

**Table 1: Sources of Literature Review**

Source	Assertion	Example
Primary	A primary source is a first-hand account of an event or evidence, free of any additional analysis or opinion. In layman's words, it's either new data presented for the first time or previously unpublished work used as the foundation for another study.	Theses, dissertations, articles from scholarly journals, symposia and conference proceedings, government reports, memoranda, personal narratives, diaries, interviews, autobiographies, and letters.
Secondary	Analysis and re-statements of primary materials are what secondary sources provide. This secondary source offers a straightforward explanation of the primary one. Articles that summarise, analyse, reorganise, or otherwise improve upon primary sources are typical examples.	Books, essays, and reviews of research works, textbooks, histories, biographies, literary criticism and interpretation, studies of law and legislation, political analyses, and commentary.
Tertiary	Tertiary sources provide readers with overviews or abridged versions of content, often citing their primary and secondary sources as references. They help research a topic or learn the basics but rarely feature new information.	Reference materials include books, encyclopaedias, directories, manuals, handbooks, guides, indexes and abstracts.

It is a top priority for all academics to construct research and relate it to existing knowledge, as this is the foundation of all academic research endeavours (Snyder, 2019). Literature reviews are common in theses or research papers, but they can also be written as stand-alone pieces and published in any number of journals that welcome review articles. A literature review can be divided into a traditional literature review which means unstructured or unsystematic review, and a systematic review (Kraus et al., 2020). It is fascinating that more than 100,000 copies of literature reviews were indexed in the Scopus database between 1903 and 2022. Exceptionally, many relevant papers to literature reviews can also be noticed in other databases, such as Google Scholar, which returns over a million hits. This implied that post-graduate students are not the only ones in the *sine qua non* of conducting literature reviews; researchers at all stages of their careers routinely do so.

The pillar of any captivating research is a comprehensive literature review. Performing in-depth literature supports researchers to have a firm grasp of their subject matter and motivates them to develop novel ideas and intriguing research. To contribute significantly to any phenomenon of interest or topic, researchers must be aware of previous efforts, the limitations of existing studies, and the areas where new knowledge might be generated (Snyder, 2019; Xiao & Watson, 2019). For this purpose, a well-organised and comprehensive literature review is compulsory. The literature review, which serves as the study's backbone, should attain several crucial goals. According to Boote and Beile (2005), a literature review establishes the background of the study, specifies what is and is not within the scope of the investigation, reports the claims made in the existing literature, and evaluates the research critically. Consequently, a well-executed literature review is essential for determining whether a study should be enhanced.

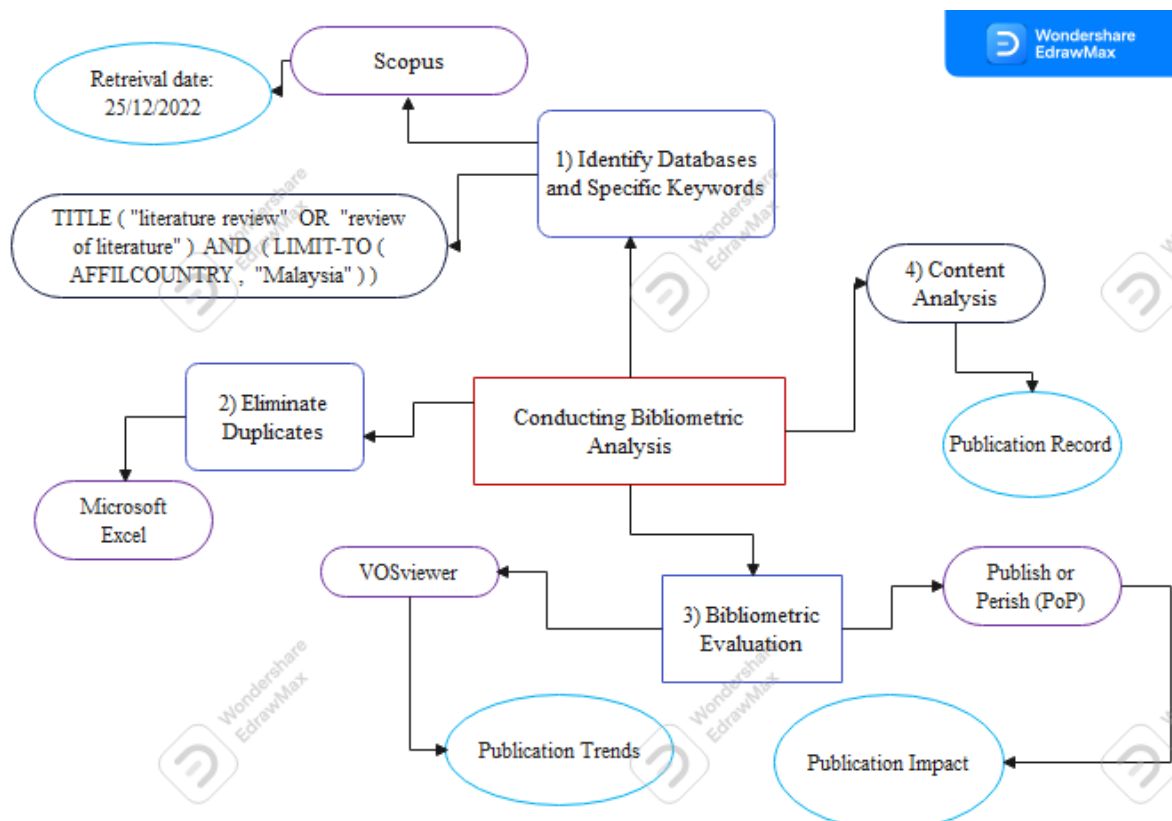
It is widely accepted that sharing and applying research findings among academics and professionals is essential for growing and refining. In the long run, research will support a publication expansion by creating new information, novel ideas, and fresh insights. Examining the papers by Malaysian authors could be an excellent way to find out what kind of content has a significant impact and is frequently cited in previous research. Likewise, it represents how Malaysian authors disseminated their ideas and thoughts to their global readers. Hence, students embarking on academic writing, particularly those in Malaysia, might use this input as an indirect source of motivation to guide them in writing a literature review.

This study aims to conduct a bibliometric analysis of a literature review published by Malaysian authors in the Scopus database. There is an expanding corpus of works on writing a literature review, some of which have been cited by other scholars. Understanding some of the essential characteristics of a literature review is an excellent manner to give a readily available source of knowledge for individuals who wish to compose a literature review. Consequently, this study will address the subsequent research questions:

1. What are the evolution and trends of literature review articles published by Malaysian authors?
2. What are the ten most impactful literature review articles published by Malaysian authors?
3. What is the nature of the collaboration between Malaysian authors and authors from other countries?

## Methodology

Bibliometric analysis is becoming increasingly prevalent in the research evaluation process to appreciate the characteristics of publishing trends and categorise potential research gaps (Abdullah, 2022). In addition, bibliometric analysis has emerged as a valuable technique for quantifying the factors that determine the quality of research. A bibliometric analysis relies on indicators where the reliability mainly depends on methodology, and several data normalisation forms are required (Abdullah & Sofyan, 2023). It was performed by identifying, organising, and analysing the most critical aspects of a particular study topic. The general ideas to undertake the current bibliometric analysis are sketched in Figure 1 using Wondershare EdrawMax Software.



**Figure 1: Mind Map of Conducting Bibliometric Evaluation**

This study employed the list of publications from the Scopus database. The Scopus database is preferred since it is a multidisciplinary database with more articles in social science, education-related journals, and management (Sweileh, 2022). Since this study intends to analyse publications on writing literature reviews in an interdisciplinary context, thus the selection of the Scopus database is warranted and reliable. This study retrieved and downloaded the related publication concerning literature review using the search strategy that has been appertained to the TITLE (“literature review” OR “review of literature”) AND (LIMIT-TO (AFFILCOUNTRY, “Malaysia”)). This process had completed on December 25, 2022. The search strategy is confined to searching on the article’s title to narrow the results to publications that merely performed a literature review or review of the literature. This article’s initial publication year and language were not determined to be included.

The downloaded publication lists returned 1,458 document results. The subsequent step is to eliminate duplicate files. The identical files were sorted during this stage based on their titles, authors, and source titles. They were then identified as duplicates using conditional formatting and red cell highlighting in Microsoft Excel. This study identified two similar papers in the raw datasets and deleted them. The final list of publications was 1456. Out of 1456 documents, there were 1190 journal articles, 194 conference proceedings, 63 book series, and nine books. Most of those publications were written in English with 1455 documents and other languages; Turkey, Indonesian, Malay, and Polish were found less than five publications. It should also be noted that Ramadan and Kasim (2022) published a bilanguage article in English and Polish. This study depicts that the top five research areas that mostly welcome literature reviews are Computer Science (523 publications), Engineering (372 publications), Medicine (348 publications), Social Science (273 publications), and Business, Management, and Accounting (200 publications).

Modern research relies on scientific software at every stage, which sometimes helps researchers with simple tasks and decides scientific procedures, outcomes, and conclusions. It is the same with the bibliometric study. In this study, bibliometric evaluation is conducted using VOSviewer and Publish or Perish (PoP). Importantly too, VOSviewer and PoP were utilised frequently to analyse publication trends and research impact by previous scholars, such as Abdullah (2022), Abdullah et al. (2020), Abdullah et al. (2022), Al Husaeni and Nandiyanto (2022), Sofyan et al. (2022), and Iqbal et al. (2022).

VOSviewer is a widely recognised programme for conducting bibliometrics. Researchers extensively utilise VOSviewer for visualising and building bibliometric networks. The networks consist of parameters related to authors, journals, and publications. These parameters can be analysed for their co-citation, co-authorship, and bibliographic coupling (Abdullah & Aziz, 2021). VOSviewer is also beneficial for text mining to visualise and build co-occurrence themes' networks from high-impact publications (Abd Aziz et al., 2021). PoP is another software that is useful in providing output or research impact. PoP compiles citation data from multiple sources, analyses it, and displays a variety of citation metrics such as paper count, citation count, and h-index (Abdullah & Othman, 2022).

Content analysis in this study is conducted to identify the phenomenon of interest pertinent to procedures and other characteristics based on the list of the ten most cited publications. This analysis is intended to provide the potential readers and researchers with relevant information about how those impact publications presented their writing styles to their readers until they obtained the most citations from other scholars. This input concomitantly; is valuable for novice scholars, especially new post-graduate students writing literature reviews.

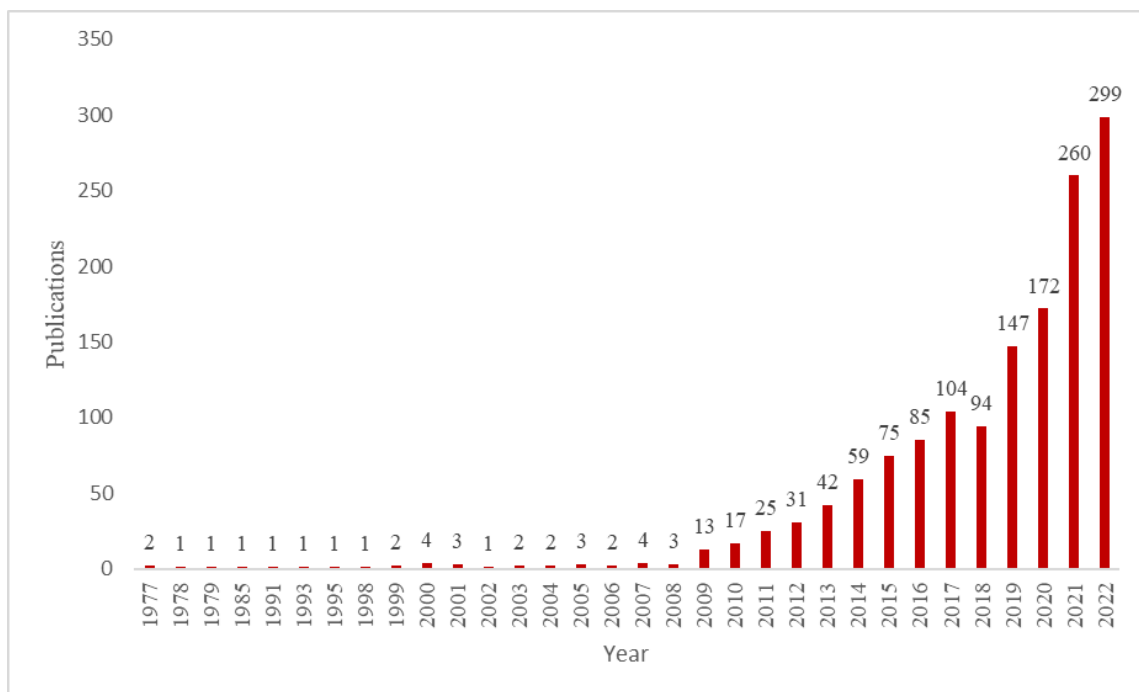
## Results

Bibliometric indicators must be interpreted to evaluate researchers and journals, prevent misuse, and establish them as objective markers of academic output. The bibliometric evaluation and content analysis results of literature review articles in this study are presented based on the following research questions.



**Research Question 1: What are the evolution and trends of literature review articles published by Malaysian authors?**

The number of publications signified the productivity of researchers in publishing their works. The increase in publications indicates that research garnered interest and the field’s knowledge distribution was thriving. Figure 2 illustrates the evolution of Malaysian authors’ publications on literature review articles from 1977 to 2022. The literature review article was initiated in the Scopus database by two authors, Annamalai et al. (1977) and Sivanantham et al. (1977). These two articles were published in the Malaysian Journal of Surgery. Based on Figure 2, the number of publications remained relatively constant from 1977 to 2008, with less than five articles recorded annually. In 2009, the number of publications rose to 13 publications. The progress of publications steadily increased until 2017, with 104 records. Nevertheless, as depicted in Figure 2, the number of publications in 2018 plunged to 94. Nevertheless, it rose to 147 documents in 2019, and the number of publications rocketed to 299 in 2022.



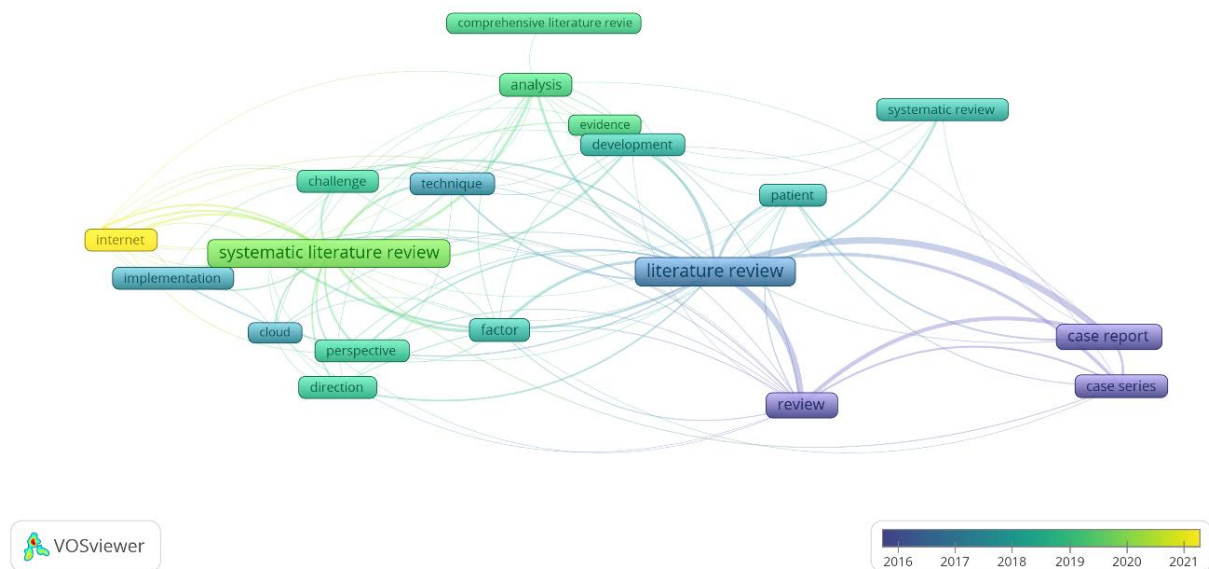
**Figure 2: The Annual Growth of Publications from 1977 to 2022**  
 Source: Data from Scopus; graph created by authors

This study also uses VOSviewer with the Text Data Mapping option to analyse the title and abstract texts. Analysing the article’s title and abstract is essential to determine initial impressions. Titles can be descriptive, declarative, or enquiring. Classifying them as nominal, compound, or full-sentence titles is also possible. Figure 3 reveals the results of overlay visualisation on the title. The title analysis was undertaken with a minimum frequency of 10 occurrences, which resulted in a total of 3415 terms, of which only 40 satisfied the criteria. For every 40 terms, a relevance score was produced, and based on this value, 60% of the most relevant terms were chosen. Therefore, the most pertinent terms for this study are 24.

Figure 3 displays the terms based on specific periods, with the term “internet” being the most discovered in the title since 2021. Articles related to the literature review were clustered into a few groups, with the lightest colour recently being studied. Based on the title analysis, we can obtain relevant input, such as the trending of the literature review article. There are two types

of article reviews, one undertaken conventionally and the other in a systematic fashion. Figure 3 indicates that “literature review”, “case report”, “review”, and “case series” were popular in 2016 and prior years. Whereas “systematic literature review”, “comprehensive literature review”, and “systematic review” have become trending techniques for writing literature reviews since 2018.

In addition, Figure 3 highlights terms pertaining to methodological elements uncovered in the literature review authored by prior researchers. This information is essential for comprehending the technique based on the period that had intrigued previous scholars to present their review papers to potential readers. The terms of methodological elements that appeared from 2017 to 2019 were “technique”, “implementation”, “perspective”, “direction”, “development”, “factor”, “challenge”, and “evidence”. Moreover, the term related to the study’s sample was “patient”, which was prioritised in 2017. The term “patient” is intimately associated with the medical sciences. It can be inferred that the importance of review papers in the medical sciences is expanding because physicians use them as a starting point when creating guidelines and upgrading their knowledge (Gülpınar & Güçlü, 2013).



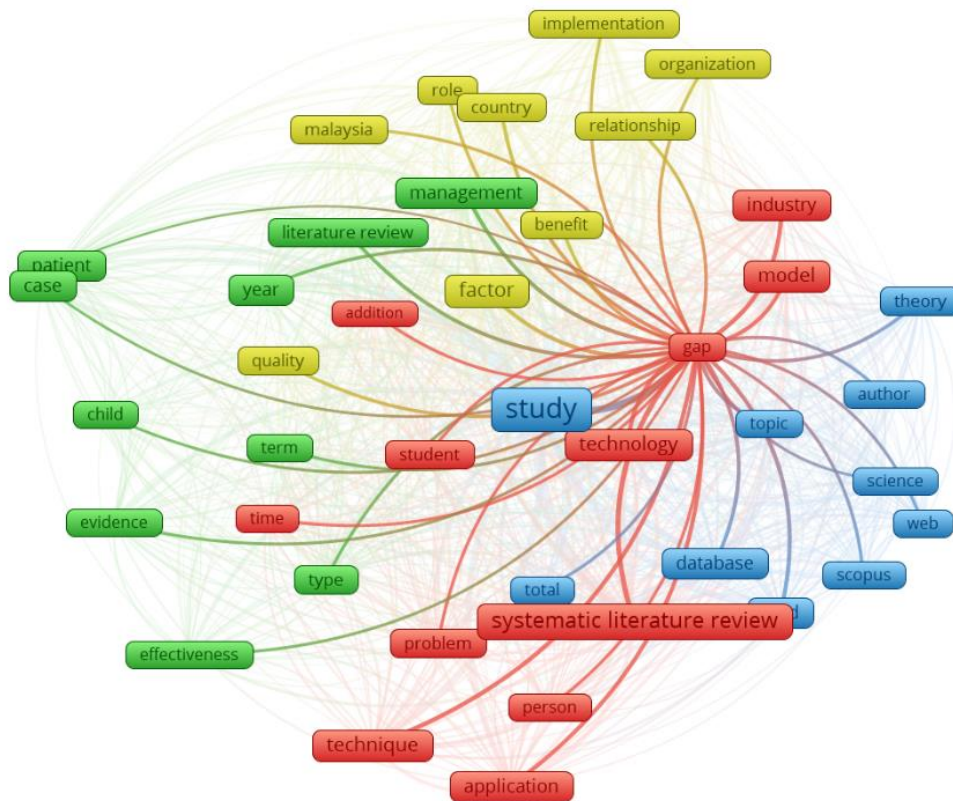
**Figure 3: Overlay Visualisation of a Term Co-Occurrence in Title**

It is also interesting to analyse the content analysis in the abstract to present specific ideas concerning the most used terms in previous research. This input concurrently renders the facets of prior research focused on writing a literature review. Figure 4 depicts the visualisation of term occurrences based on the abstract. The size of the box frames indicates the frequency of occurrences, while the thickness of the lines connecting the frames indicates the strength of the link. The analysis was conducted using an additional thesaurus file with a combination of terms that varied in spelling, singular and plural noun forms, and abbreviations.

Abstract analysis in this study is conducted by considering a minimum number of occurrences of a term as 100. Consequently, 69 terms out of 2,530 met the criteria and were assigned a relevancy score. Based on this score, 60% most relevant terms were selected as the default option. Finally, 41 terms have been chosen to complete the abstract analysis. Figure 4 consists of four clusters that colour-code red, green, yellow, and blue. The term “gap” refers to the intriguing outcomes suggested by the red cluster.







**Figure 5: Network Visualisation of a Link of Term “Gap” Co-Occurrence in Abstract**

**Research Question 2: What are the ten most impactful literature review articles published by Malaysian authors?**

To gauge the significance of a work of literature, one can count the number of times other researchers have referenced it. Generally, the greater an article’s citation count, the greater its significance to its field of study. This study utilised PoP to list the ten impact publications in Table 2. Table 2 discloses the top ten most cited articles; this counting is based on the number of citations as per the Scopus database retrieved on December 25, 2022. The article by Norhayati et al. (2015) titled “Magnitude and risk factors for postpartum symptoms: A literature review” has received the highest number of citations, with 405 citations or an average of 57.86 citations per year. In their study, Norhayati et al. (2015) found that the current prevalence of postpartum depression is significantly higher than previously reported and that identified risk factors have been established.

**Table 2: Top Ten Highly Cited Documents**

Rank	Citation	Reference	Article Title	Research Field	Citation Per Year
1	405	Norhayati et al. (2015)	Magnitude and risk factors for postpartum symptoms: A literature review	Medicine	57.86
2	328	Jula et al. (2014)	Cloud computing service composition: A systematic literature review	Computer Science	41
3	301	Sreeramareddy et al. (2009)	Time delays in diagnosis of pulmonary tuberculosis: A systematic review of literature	Medicine	23.15
4	294	Tseng et al. (2019)	A literature review on green supply chain management: Trends and future challenges	Business, Management, and Accounting	98
5	292	Inayat et al. (2015)	A systematic literature review on agile requirements engineering practices and challenges	Computer Science	41.71
6	263	Achimugu et al. (2014)	A systematic literature review of software requirements prioritisation research	Computer Science	32.88
7	263	Yeoh et al. (2011)	State of the art on timber-concrete composite structures: Literature review	Engineering	23.91
8	213	Salleh et al. (2011)	Empirical studies of pair programming for CS/SE teaching in higher education: A systematic literature review	Computer Science	19.36
9	197	Loh et al. (2013)	Review Sugarcane bagasse - The future composite material: A literature review	Agricultural and Biological Sciences	21.89
10	180	Busalim & Che Hussin (2016).	Understanding social commerce: A systematic literature review and directions for further research	Computer Science	30

Table 2 also provides relevant information concerning the research field. Based on the current analysis, computer science was recognised as the most contributive research field that published high-impact papers (Achimugu et al., 2014; Inayat et al., 2015; Jula et al., 2014; Salleh et al., 2011). The second contributing field was medicine; the papers written by Norhayati et al. (2015)

and Sreeramareddy et al. (2009) obtained the most citations in this field. Content analysis based on the list of publications in Table 2 has been scrutinised. It is vital to provide the methodology and technique applied by the top ten most cited papers as referral sources to potential readers. Hence, the inputs of content analysis are simplified in Table 3.

**Table 3: Writing Structure of Top Ten Highly Cited Documents**

Publication	Main Content Structure	Schematic Diagram	Database	Final Review Papers	Period
Norhayati et al. (2015)	<ol style="list-style-type: none"> <li>1. Background</li> <li>2. Methods</li> <li>3. Results</li> <li>4. Discussion</li> </ol>	Searching data	MEDLINE, PsycINFO, CINAHL, ScienceDirect, PubMed	202 documents	2005-2014 (9 years)
Jula et al. (2014)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Goals and research questions</li> <li>3. Literature related to the topic</li> <li>4. Discussion</li> <li>5. Conclusion and future works</li> </ol>	None	Not specified	34 documents	2009-2013 (4 years)
Sreeramareddy et al. (2009)	<ol style="list-style-type: none"> <li>1. Background</li> <li>2. Methods</li> <li>3. Results</li> <li>4. Discussion</li> <li>5. Conclusion</li> </ol>	Search results and study selection	PubMed, EMBASE, HINARI, Cochrane infectious disease group trials	50 full-text documents and 2 abstracts	1990-2008 (18 years)
Tseng et al. (2019)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Literature review</li> <li>3. Method</li> <li>4. Observations and recommendations</li> <li>5. Conclusions and future research potentials</li> </ol>	PRISMA – search results	Scopus (metadata analysis) and Web of Science (classifications and insights)	236	1994-2017 (23 years)
Inayat et al. (2015)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Related works</li> <li>3. Research method</li> <li>4. Findings</li> <li>5. Discussion</li> <li>6. Conclusion</li> </ol>	None – but provide a table of data retrieval	ACM Digital library, IEEE Xplore, SpringerLink, EI Compendex, Inspec, Web of Science, ScienceDirect	51 documents (round 1) 21 documents (round 2)	2002-2013 (11 years)

Achimugu et al. (2014)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Research method</li> <li>3. Validity</li> <li>4. Results and discussion</li> <li>5. Research findings</li> <li>6. Related work</li> <li>7. Discussion</li> <li>8. Conclusion</li> <li>9. Limitations</li> </ol>	Review protocol, search and selection process	IEEE Xplore, ACM Digital Library, ScienceDirect, Web of Science, Springer, Google Scholar	73 documents	1996-2013 (17 years)
Yeoh et al. (2011)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Related works</li> <li>3. Conclusion</li> </ol>	None	Not specified	Not specified	Not Specified
Salleh et al. (2011)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. The review method</li> <li>3. Results</li> <li>4. Discussion</li> <li>5. Conclusions</li> </ol>	None – but provide a table of summary of PICOC (Population, Intervention, Comparison, Outcomes, Context)	ACM Digital library, Current Contents, EBSCOhost, IEEE Xplore, ISI Web of Science, INSPEC, ISI Proceedings, ProQuest, Sage Full Text Collections, ScienceDirect, SpringerLink, and Scopus	74 documents	1999-2007 (8 years)
Loh et al. (2013)	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Related works</li> <li>3. Conclusion</li> </ol>	None	Not specified	Not specified	Not specified
Busalim & Che Hussin (2016).	<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. Background</li> <li>3. Review method</li> <li>4. Data extraction and analysis</li> <li>5. Results</li> <li>6. Discussion</li> <li>7. Conclusion</li> </ol>	Review protocol	ScienceDirect, Scopus, Springer, IEEE Explorer, ACM Digital Library, Engineering Village, ISI Web of Knowledge, AIS e-Library and Thomas	110 documents	2010-2015 (5 years)



			Reuters Web of science		
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There is no specific format for writing a literature review publication found in this study; nonetheless, most authors provided a systematic writing process, as such, Sreeramareddy et al. (2009), Jula et al. (2014), Salleh et al. (2011), Inayat et al. (2015), Busalim and Che Hussin (2016), Norhayati et al. (2015), Tseng et al. (2019), and Achimugu et al. (2014). In addition, information in Table 3 provides that most high-impact papers presented their writing by stating their background or introduction. The authors provided the aims and research questions for this section's literature review. It is worth noting that writing a high-impact literature review provided a systematic manner of writing, goals, and research questions in the introduction section. Some papers present their results according to the research questions; for instance, Busalim and Che Hussin (2016) and Inayat et al. (2015).

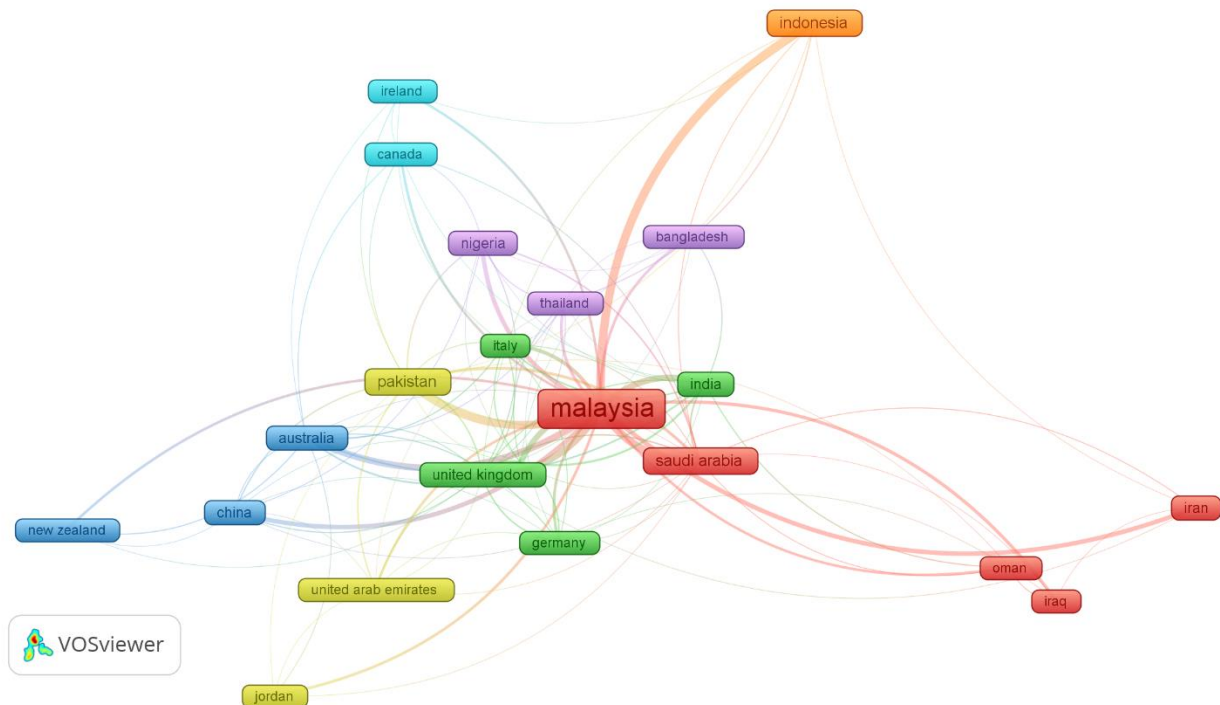
Most databases used in the study were based on the research field; in this sense, conducting literature reviews in medicine is frequently used PubMed database. The Scopus and Web of Science databases also attract most scholars to obtain publications for their review purposes, such as Salleh et al. (2011), Achimugu et al. (2014), Inayat et al. (2015), Busalim & Che Hussin (2016), and Tseng et al. (2019). These inputs could be a referral for potential readers to obtain the list of publications for their writing processes. Table 3 also shows that a schematic diagram is beneficial to describe the flow of data retrieval and analysis strategy. The number of documents that are typically used for writing literature reviews is varied, but it is within the range of 21 documents (Inayat et al., 2015) and 202 documents (Norhayati et al., 2015).

In terms of period, it is found that the authors in Table 3 had reviewed publications between 4 years (Jula et al., 2014) to 23 years (Tseng et al., 2019). It is depicted that there are no specific years for conducting a literature review. However, reviewed papers in the long period of more than 15 years have been completed on Medicine, Business, Management, Accounting and Computer Science. However, Computer Science also accepted review papers with less than five years, for example, a paper written by Jula et al. (2014). Based on these inputs, the average period for writing a literature review paper is 5 to 20 years. Nevertheless, it is interesting to note that when writing a literature review, it is crucial to visibly include the scope of the most recent and relevant studies, provide a balanced overview of the available information, provide enough detail to demonstrate both progress and limitations, and properly cite the sources.

**Research Question 3: What is the nature of the collaboration between Malaysian authors and authors from other countries?**

The VOSviewer programme was used to create a network representation of co-authorship mapping across countries (see Figure 6). This mapping was created with the assumption that a country's minimum number of occurrences is 10. A country's minimum number of citations is also 10. With this requirement, 22 countries were chosen out of 84. Figure 6 shows that the distance between the two countries in the depiction approximates their relatedness regarding co-authorship linkages. Generally, the closer two countries are to one another, the greater their bond. Lines reflect the most significant co-authorship relationships between countries. Malaysian authors collaborated closely with colleagues from Saudi Arabia, India, Italy, the United Kingdom, and Germany, as seen in Figure 6. Malaysian authors have also created

collaborative projects with colleagues in other countries, including Thailand, Pakistan, Bangladesh, and Nigeria.



**Figure 6: Network Visualisation of Co-Authorship by Country**

## Discussion

The current study seeks to undertake a bibliometric analysis of a literature review published by Malaysian authors in the Scopus database. This study is essential for broadening the contribution to the body of knowledge through comprehensive assistance to the literature review. Literature reviews are critical to a publication, and authors with a firm grasp of the fundamentals of literature review writing can generate academic writing that will pique the interest of potential readers and other scholars.

There is no specific format for writing a literature review publication; nonetheless, this study found that most Malaysian authors provided a systematic writing process concerning literature review. They are Sreeramareddy et al. (2009), Jula et al. (2014), Salleh et al. (2011), Inayat et al. (2015), Busalim and Che Hussin (2016), Norhayati et al. (2015), Tseng et al. (2019), and Achimugu et al. (2014). Moreover, the authors presented their study objectives and research questions for their literature reviews. A systematic writing style, research objectives, and research questions were included in the introduction section of a high-impact literature review. Some publications address outcomes following the research topics; for example, Busalim and Che Hussin (2016) and Inayat et al. (2015). Most databases examined in the study were based on the research field; hence, PubMed is widely used for literature reviews in medicine. The Scopus and Web of Science databases also draw the majority of researchers seeking papers for review purposes, including Salleh et al. (2011), Achimugu et al. (2014), Inayat et al. (2015), Busalim & Che Hussin (2016), and Tseng et al. (2019). These results could serve as a resource for future readers seeking a list of relevant publications for their writing processes.

This study found that the number of publications concerning literature review among Malaysian authors increased to 13 in 2009. Before 2009, the number of publications remains constant, with less than five publications per year. In 2017, 104 articles were published; nonetheless, as seen in Figure 2, the number of articles decreased to 94 in 2018. The number of publications then increased to 147 in 2019 and 299 in 2022. According to Fire and Guestrin (2019), the academic publishing world is undergoing a considerable transformation, with yearly growth and evolving publishing patterns.

Furthermore, concurrently, literature reviews serve a crucial function in academic research to collect existing knowledge and assess the current condition of an area (Kunisch et al., 2018). In this study, the increasing number of literature reviews by Malaysian authors revealed that the evolution of publication had accelerated significantly between 2019 and 2022, confirming the importance of publishing literature review articles to gather existing knowledge and assess the state of a research field. Moreover, authors from Malaysia worked closely with colleagues from Saudi Arabia, India, Italy, the United Kingdom, and Germany. Authors from Malaysia have also worked on joint projects with authors from other countries, including Thailand, Pakistan, Bangladesh, and Nigeria.

In this study, medicine ranked third among scientific fields with 348 publications, as explained in the methodology. Markedly, the initial two literature reviews were related to medicine (Annamalai et al., 1977; Sivanantham et al., 1977). This demonstrated that the review's interest in medicine is notable. Likewise, based on an analysis of the co-occurrence of terms in the title, "patient" was associated with the study's sample. In 2017, the term "patient" was prioritised in the previous literature review conducted by Malaysian authors. The term "patient" closely relates to medicine or medical sciences. The growing significance of review papers in the medical sciences may be deduced from the fact that clinicians use them as a starting point when developing guidelines and increasing their knowledge (Gülpınar & Güçlü, 2013). Many physicians and health practitioners might endeavour to conduct review papers to identify specific disease-related circumstances before starting the treatment process by developing a new drug. A likely reason is that the review papers were essential for describing the methods utilised, introducing the issue of interest, and providing expert judgements on the structured evidence obtained. According to Dutta (2019), medicine is an ever-evolving science; with each publication of original research, new data flow in and amass over time, fostering the development of novel ideas and views, research findings, insights into a methodology, and a deeper understanding.

Since 2021, the term "internet" has been the most frequently uncovered in the title. Because of how much the internet has changed our daily lives, being digitally literate is deemed essential. It is estimated that there are over 20.4 billion Internet-connected devices, meaning that the Internet of Things (IoT) is already being used in many industries (Kassab et al., 2020). Now that IoT devices are commonplace, educational institutions are exploring ways to employ them in the curriculum. Thus, literature reviews related to the internet have been conducted since 2021 by Malaysian authors to scrutinise this topic's progress and evolution further.

Also, it is interesting to know that based on title analysis, the term "systematic literature review", "comprehensive literature review", and "systematic review" have become trending techniques for writing literature reviews since 2018. Systematic reviews strive to minimise bias by exhaustively searching published and unpublished studies and giving an audit trail of the reviewer's judgements, methodology, and conclusions (Linnenluecke et al., 2020). The results

also provided the reader with vital information that the production of review literature has undergone a paradigm shift. This paradigm shift has motivated researchers to construct a more engaging and thorough literature review, namely “systematic literature review”, “comprehensive literature review”, and “systematic review”. A conceivable reason is that a comprehensive review paper can clarify the state of knowledge, clarify apparent conflicts, highlight research needs, and even build consensus where none previously existed. A researcher’s career can also be progressive by writing a high-quality review. As such, their publications tend to be highly cited and render protuberant contributions to the body of knowledge, becoming a significant reference source for post-graduate students, readers, and other researchers.

According to the text analysis of the abstract, the term “gap” was linked to another 40 terms, and remarkably, the term “gap” was strongly associated with “model”, “topic”, and “theory”. This demonstrates that the “gap” of a study is frequently related to the context of the study model, the theory employed, and the topic that is commonly linked to variables. For graduate students working on problem statements for their master’s or doctoral theses, narrowing the research gap down to the three most crucial areas is a considerable aid. Closing research gaps is a valuable activity for the advancement of science. Identifying an unexplored topic and devoting the time required to conduct a comprehensive, long-term examination can have far-reaching benefits for academia and society. Thus, past researchers have attempted to uncover study gaps by publishing model-, topic-, and theory-based literature reviews.

## Conclusion

This study analyses a literature review by Malaysian authors in the Scopus database. This study is vital for increasing the corpus of knowledge by assisting the literature evaluation. Authors who understand literature review writing can write scholarly work engaging readers and researchers. In addition, this bibliometric study encourages the examination and incorporation of recognised paths in literature review articles by Malaysian authors published in the Scopus database, which delved into publication evolution, the structure of writing, and network contribution by countries.

This study discovered and emphasised the following facts for readers and researchers:

1. Malaysian authors published 13 literature review articles in 2009. Before 2009, less than five publications were published annually. Publications progressively rose until 2017, with 104 records, and the peak number of publications was 299 in 2021.
2. In 2016 and earlier, “literature review”, “case report”, “review”, and “case series” were popular. Since 2018, “systematic literature review”, “comprehensive literature review”, and “systematic review” have become popular literature review approaches.
3. The evaluation of abstract text found that “gap” is closely related to “model”, “topic”, and “theory”. This implied that earlier researchers have attempted to discover research gaps by completing literature reviews based on a model, topic, and theory as a typical gap-searching method.
4. This study did not identify a particular structure for writing a literature review publication; however, most of the authors described a systematic writing process. In the introduction, the authors provided potential readers and researchers with a vivid outline of their review by defining study objectives and questions.
5. Malaysian authors collaborated closely with authors from Saudi Arabia, India, Italy, the United Kingdom, and Germany. In addition, Malaysian authors have collaborated with authors from other countries, including Thailand, Pakistan, Bangladesh, and Nigeria.



The primary limitation of this study is the exclusive Malaysian author focus of the published samples. Thus, the outcomes will be distinguishable if additional international authors are chosen. However, the core principles of composing literature reviews will stay unchanged. Furthermore, the selected database, Scopus, poses a constraint. The results were, therefore, dependent on this database.

This study's findings imply that writing a thorough and lucid literature review is critical. Therefore, potential readers and researchers can carefully study the style of literature review writing. This study can serve as a guide for post-graduate students to discover the fundamentals of what a literature review is and how it differs from the topic assignment. As a reference for future researchers, examining literature reviews based on different continents is fantastic for understanding key characteristics that have the potential to be studied based on geographical and demographic differences.

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