

Research Progress of Digital Technology and Emerging Themes During Covid 19 in Malaysia: Bibliometric Analysis Approach

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Abstract—The covid 19 immediate impact has intensely changed global trends. At the same time, the impact covid 19 has exhilarated research interest among researchers worldwide. In Malaysia, the Movement Control Order (MCO) and travel restrictions enforced by the Malaysian Government in March 2020 have significantly hit Malaysian daily life. Therefore, understanding the topic of interest and broadening collaboration networks is critically important to advance research development. This bibliometric study examines the Covid-19 research trends in Malaysia based on publication output, prominent journals, prominent authors, affiliated countries, and author co-occurrences. Utilizing the Scopus database, 1776 articles were identified and extracted from 2020 until 2021. The result has shown that the number of articles related to Covid 19 in Malaysia significantly increased in 2021, resulting in higher cumulative total publications. Most Covid 19 research publications in Malaysia collaborated with the United Kingdom, Pakistan, and United States. The bibliometric literature in this study have declared that digital technologies have the potential to fulfill customized requirements of COVID-19 pandemic. Thinking about advance technologies and its benefits, this study is going to provide a through literature about the application of advance technologies in real-time. Despite of that, this study also mapped the literature based on topic of interest to understand the benefits and application of these technologies in different areas including pure technology, sustainability, education, tourism, psychology, food and agriculture, and the economy.

Keywords—digital technology, covid 19, Malaysia, bibliometric analysis, VosViewer, Scopus database

1 Introduction

The SAR-CoV-2 pandemic has had a tremendous effect on the world. The new and unexpected global threat of the virus has posed an international challenge from any other in recorded history. Being declared as an acute and extreme difficulty by WHO (World Health Organisation) in January 2020 [1], the virus itself has fulfilled the SDGs (UN Sustainable Development Goals) criteria as one of the diseases that bring severe implications for social and economic welfare [2].

To combat the quick spread virus, most of the countries' mitigation plans are spontaneous and improvised based on the virus update and its impact on the community and business operations [3]. Besides the threat to general health, Covid 19 virus also affects company and community daily activities, which requires an urgent contingency plan from the top executives [4]. Owners are advised to use the psychological effect of the fear of the virus to ensure business sustainability and turn it into business transformation and survival objectives [5] [6]. Ultimately, whether to hold or continue business is placed in the executives' hands, considering all the threats that might affect the business performance [7].

It has been argued that Covid 19 has impacted all industries around the globe, but the degrees are different between industries [8]. The detrimental impact of Covid 19 outbreak has caused trillions of dollar loss around the globe and forced the existing company to adapt to different financial and operation policies and technological designs to minimize the effect [9]. For example, in the early stage of Covid 19 spread, the demand for grocery shops skyrocketed as people were concerned with their daily needs. However, some industries, like hospitality and airline, their business are severely impacted [10].

Therefore, this study employed bibliometric analysis to further understand the development of digital technology and emerging themes during Covid 19 in Malaysia by looking at the total publications, prominent authors, affiliated countries, and authors top keywords. In addition, this study also interested to examine another re-search interest arising from covid 19 research theme.

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1.1 Study gap

World Bank reported an approximately 54-billion-dollar loss in the global economy due to Severe Acute Respiratory Syndrome (SARS) in 2013. At the same time, the Gross Domestic Product (GDP) loss has been estimated to be over 3 trillion dollars [11]. Covid 19 outbreak, on the other hand, reported a global economic loss of 77 billion dollars and about 3 trillion dollars in loss of economic output (GDP). It clearly shows that the pandemic imposed an immediate effect on the stability of the economy.

During MCO (movement control order), people are restricted to do their daily activities which contribute to the increasing of technology usage among the people. Most of the daily activities are changed from physical to contactless activity. This indirectly has contributed to the mass usage of technology, especially the internet. Due to the

sudden increase in the usage of mobile internet, the current available system are not able to accommodate the user's demand. Schools, work, buying groceries, and entertainment activity have change to contactless which contribute to congested server especially in peak hours. This situation has forced the users to delay their work which arguably inconvenience.

Failure to adapt with new technology especially in education system (unfamiliar with new developed system- Webex, Zoom, Google Meet) force the student and instructors to hardly adapt with the digital transition. Relatively poor infrastructure in the country is also among the problem identified during Covid 19. Existing infra-structure arguably unable to accommodate sudden transition to digital platform. For example, the internet coverage in rural areas is not as good in urban area which re-strain the kids from joining online class. Inaccessible to good gadget is also one of the problems identified due to covid 19. Significant income gap especially among B40 are among the identified problem. Government through various measures tries to reduce the gap to enhance the living standard among the people.

Malaysia is among the countries severely affected by the danger of Covid 19 [12] [13]. By early June 2020, the government managed to control the outbreak; however, the fear caused by the mass gathering still affected Malaysian confidence until recently. Malaysia has reported significant losses due Covid 19. It is estimated that the GDP losses bear by this country is between 38 billion and 102 billion [14]. The loss mainly contributed to the manufacturing, aerospace, chemical, and tourism industries.

1.2 Research objectives

Although there has been a growing interest in covid 19 effect in Malaysia, studies that specifically analyze the Covid 19 trend in Malaysia using scientific publications are relatively scarce. Most of the Covid 19 study in Malaysia is an empirical study where the researchers investigate the effect of Covid 19 towards tourism [15], entrepreneurs [16] [17] and corporate governance [8]. However, this study will analyze Malaysia's covid 19 publication trends using the Scopus database and VOSviewer.

Based on researchers' knowledge, this study is among the studies in Malaysia who focus on assessing the Covid 19 trend from the perspective of technology while others are conducted in other countries. It is aware that there are some of the studies who also focus on assessing Covid 19 research in Malaysia [55], however, that study focus on identifying Covid 19 research between Malaysia and Southeast Asia countries while this study focuses on international collaboration. In addition, this study also employed VOSviewer as analysis tools where researchers argue that VOSviewer application will improve the research outcome. This study also interested to identify current research topic related to Covid 19 in Malaysia which is yet to be discuss by other bibliometric studies.

It is known that the articles between WoS and Scopus databases have always overlapped in journals. However, it also argued that the articles had been indexed in different journals [18]. Scopus is well known to comprise a comprehensive abstract and citations of peer-reviewed literature covering a wide range of topics [19]. Thus, this study

opts Scopus database for analysis to cover more topics that may not be available in WoS. Our objectives for this study are:

1. To analyze publication trends for Covid 19 in Malaysia from business perspective,
2. To determine the prolific authors, leading countries, and most productive institutions,
3. To identify terminologies and research topics that are often employed and
4. To recommend future insight related to Covid 19 research in Malaysia.

Arguably, this study will allow the researchers and policymakers to understand the impact of Covid 19 in Malaysia and provide potential research opportunities.

2 Research method

This study will employ bibliometric analysis as a primary tool to analyze publication trends of Covid 19 in Malaysia. Bibliometric analysis is a study that employs an academic literature database to understand the research trends of one specific topic. This approach differentiates bibliometric analysis from review papers that primarily discuss the latest progress, issues, and opportunities of one specific topic [19].

2.1 Data collection and research strategy

The data was extracted between June 5 to 8, 2022 by using the Scopus database. To find related articles, researchers only consider any research paper that contains “Covid* 19*” in the title and abstract. As this Covid 19 topic is relatively recent, all articles were published between 2020 and 2021. To extract the paper, the search string used by the researchers was (TITLE-ABS ("covid19*")) AND DOCTYPE (ar) AND PUBYEAR > 1959 AND PUBYEAR < 2022 AND (LIMIT-TO (SRCTYPE , "j")) AND (LIMIT-TO (AFFILCOUNTRY , "Malaysia")) and 1776 documents were extracted through this search string. To ensure only relevant paper included for analysis purpose, additional phrases were added in the query string to exclude all review papers. As a result, 76 papers were identified as irrelevant to this study. These papers were excluded as they enclosed irrelevant terms in their title and abstract. Review, recent, progress, critical, revisit, advance, and highlight are some irrelevant terms that do not fit with the research objective. The Scopus unique articles identifier, EID, of the paper was added to the search string to ensure the excluded paper did not re-appear.

It was argued that using the author's ID (Scopus code) to measure the author's output is much more relevant and accurate [19] [20]. It is because the Scopus author profile comprises all the essential variants, such as name, ID, and affiliation, which are crucial for the analysis.

To determine the single country publication (SCP), researchers include field code AFFILCOUNTRY in the search string to limit the search to the specific country. The search string result was analyzed based on year, source, author, affiliation, field, and document specification. While total publications, total citations, h-index, and CiteScore are bibliometric indicators used to determine the article's rank.

This study also investigated other researchers' Covid 19 theme. Among the covid 19 sub-theme studied by other researchers in Malaysia are medical, computer science, environmental science, e-commerce, technology, education, entrepreneurship, and marketing. Each application runs a different search string to determine the sub-theme. The specific term was added to the original search string for each of the applications, for example, (*Covid 19* OR “education”) or (*Covid 19* “medical”). The sub-theme search outcomes were analyzed according to the publication number per year.

It is argued that there is the possibility of overlapping between one sub-theme and another. For example, Covid 19 articles in Malaysia are likely related to other country virus articles. Therefore, to lower the overlapping possibility, researchers decided to limit the Covid 19 rather than ‘C-19’, ‘COVID- 19’, and ‘Covid-19’. Limiting the Covid 19 study to Malaysia only makes the results more concentrated.

2.2 Co-authorship analysis

This study conducted a co-authorship analysis, including all 135 countries with 94 authors. To determine the origin or co-authorship, this study chooses 5 main continents: Asia, Europe, America, Africa, and Oceania.

2.3 Co-occurrences analysis

Co-occurrences analysis on the author's keywords showed that 4378 keywords were employed from 1700 articles. Around 76 articles were excluded based on the search string due to a lack of author keywords. Prior to importing the keywords into VOSviewer, the researchers analyze for synonymic and congeneric words. The identified synonymic and congeneric words are regrouped and relabeled into one generic term for comprehensive analysis. ‘Coronavirus’, ‘Covid 19’, ‘C-19’ and ‘pandemic covid 19’ are among the terms that employed by other researchers which referred to Covid 19 research. All the identified keywords are regrouped and relabeled as ‘Covid-19’. Researchers set the minimum occurrences for keyword analysis in the VOSviewer into 5. To represent the average publication year, total occurrences, and keyword link strength, overlay visualization was opted for by the researchers. Through overlay visualization, researchers can determine the average publication for the year based on the color represented by the keywords (see Figure 1).

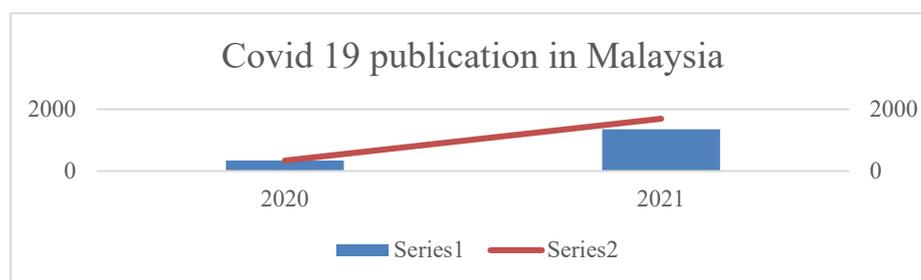


Fig. 1. Cumulative publication of Covid 19 research in Malaysia for 2020 and 2021

2.4 Covid 19 research

The search output between the central theme (keyword co-occurrences) and applications (sub-theme- total publication) was compared to determine the trends. For example, the application chosen is ‘medical,’ and in the VOSviewer application, any related keywords to ‘medical’ are counted. In addition, this study also determines eight top topics related to Covid 19, actively published by Malaysian researchers.

3 Result analysis discussion

3.1 Total publication and research interest development

Even though the Covid 19 topic is relatively new, the interest in this topic, especially in Malaysia, is massive and escalating. This topic has attracted many re-searchers’ attention due to its impact on the community. In the last 2 years (between 2020 and 2021), 1700 articles have been published concerning Covid 19 alone (see Figure 1). The analysis suggested that the strong interest in Covid 19 research started in mid-2020 after the country implemented a movement control order (MCO). From 2020 to 2021, the number of Covid 19 publications increased by 80% and is expected to increase as researchers explore the impact of Covid 19 from different aspects. This, as a result, will contribute to an increase in total cumulative publications. Despite the rapid growth, researchers have discovered that most articles are not free to access, and interested users have to purchase the articles. Current and future researchers should place their articles in open-access journals to enhance the total citations. Increased total citations will result in increased visibility of their paper in the database. The bibliometric analysis stated that the interest in Covid 19 research is noticeable, and many Malaysian researchers are currently working on this topic from many aspects. The subject area analysis showed that most Covid 19 research in Malaysia focuses on medicine. It is followed up by social science (404), environmental science (213), computer science (196), and business and management (181).

3.2 Top journal

The study result has demonstrated that two prominent publishers actively published covid 19 topics in Malaysia. Multidisciplinary Digital Publishing Institute (MDPI) and Frontiers Media S.A. have two publications each. At the same time, the top 2 journals were published by a similar publisher, MDPI. The rest of the journal were published by university publisher such as Universiti Sains Malaysia (1), Uni-versiti Malaysia Terengganu (1), Universiti Kebangsaan Malaysia (1) and Universiti Malaysia Sarawak (1). Table 1 shows the prominent journals that predominantly focused on Covid-19. Based on the ranking provided by Scopus, the International Journal of Environmental Research and Public Health had the most publications, with 57 articles and 2707 citations. Aligning with the reasoning, this journal makes an aggressive call for special issues related to Covid-19 along the time frame. Some of the special issues are “One year into

Covid-19 crisis”, “A public health view on Covid-19,” and "Second Edition of COVID-19: A Public Health Approach for Health Professionals". In addition, it was found that PLOS One has the highest CiteScore with a 5.6 score. The CiteScore metrics are essential to calculate the citations from all documents in year one to all documents published in the prior three years for a title [21]. It will offer a more robust and accurate indication of a journal's impact. Based on the journals, the article entitled “Public knowledge, attitudes, and practices towards COVID-19: A cross-sectional study in Malaysia” has the highest citation with 349 times.

Table 1. Prominent journals that focus on Covid 19

Rank	Journal	Number of publications	Citations	Cite score 2020	The Most Cited Article	Times cited	Publisher
1.	International Journal of Environmental Research and Public Health	57	855	4.5	The Psychological Impact of Covid-19 And Lockdown Among University Students In Malaysia: Implications And Policy Recommendations	164	Multidisciplinary Digital Publishing Institute (MDPI)
2.	Sustainability Switzerland	31	223	5.0	Exploring The Impact of The Covid-19 Pandemic On University Students' Learning Life: An Integrated Conceptual Motivational Model For Sustainable And Healthy Online Learning	29	Multidisciplinary Digital Publishing Institute (MDPI)
3.	Medical Journal of Malaysia	30	26	0.9	A Descriptive Study of The Psychological Experience of Health Care Workers In Close Contact With A Person With Covid-19	7	Malaysian Medical Association
4.	Plos One	28	349	5.6	Public Knowledge, Attitudes, And Practices Towards COVID-19: A Cross-Sectional Study in Malaysia	349	Public Library of Science
5.	Frontiers In Public Health	19	332	4.0	Acceptance Of A COVID-19 Vaccine in Southeast Asia: A Cross-Sectional Study in Indonesia	232	Frontiers Media S.A.
6.	Journal Of Sustainability Science and Management	18	28	1.0	Difmol: Indonesian Students' Hots and Environmental Education Model During Covid-19	11	Universiti Malaysia Terengganu
7.	Malaysian Journal Of Medical Sciences	18	127	2.5	A Critical Appraisal Of COVID-19 In Malaysia and Beyond	32	Universiti Sains Malaysia
8.	Frontiers In Psychiatry	15	125	4.6	Anxiety Level of University Students During COVID-19 In Saudi Arabia	32	Frontiers Media S.A.
9.	Sains Malaysiana	15	7	1.8	Situational Analysis for Covid-19: Estimating Transmission Dynamics In Malaysia Using A Sir-Type Model With A Neural Network Approach	2	Universiti Kebangsaan Malaysia
10.	Asian Journal of University Education	14	127	1.7	Online Learning Readiness Among University Students in Malaysia Amidst Covid-19	92	UiTM Press

3.3 Leading countries

As expected, there was a significant correlation between the pandemic, which ravaged all of the world, and the number of research and publications produced in academic circles. In the VOSviewer, the Countries and Regions of the re-search paper were identified based on the minimum publication of 1, which the re-searchers already pre-set. A total of 135 countries were identified and have collabo-rated with Malaysia. However, there are a few numbers of countries and regions that are not connected with Malaysia. The distribution of the country is shown in Figure 2. Different colors represent different clusters, and all 135 countries, including regions, are divided into 5 clusters, represented by different colors in Figure 2. Arguably, papers that belonged to the same cluster share similar references, thus suggesting that a cluster may reflect a stream of research on a similarity basis [24]. This study divided the countries and regions into five (5) clusters, namely, Cluster 1 (in red) is Africa (38 countries), Cluster 2 (in green) is Asia (43 countries), Cluster 3 (in blue) is Europe (36 countries), Cluster 4 (in yellow) is Europe (36 countries) and Cluster 5 who belong to Oceania (purple) with 2 countries.

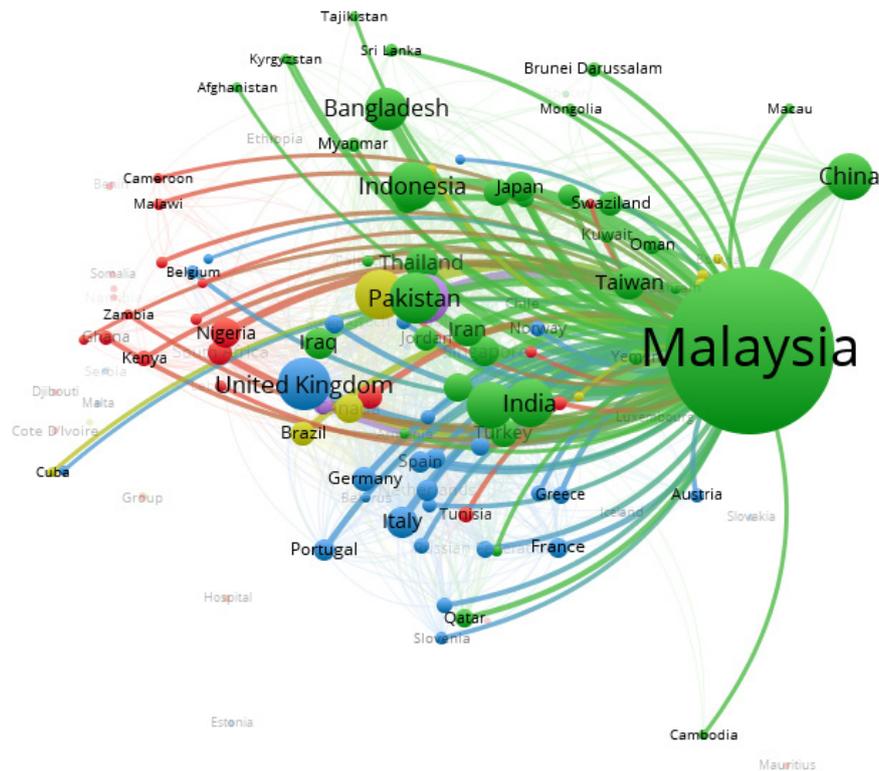


Fig. 2. Distribution of Country (based on VOSviewer)

It is worth noting that the nodes represent the countries/regions, and the size of the node denotes the number of publications. The links between any two countries/regions indicate partnership relationships, and the thickness of links represents the strength of the relationship.

Malaysia's link strength and total link strength with other countries were calculated to determine Malaysia's single-country publication (SCP). The VOSviewer portrayed 134 publications associated with co-authors from two affiliated countries. Whereas 1673 represents the total link strength of the co-authorship between Malaysia and other countries. The United Kingdom was found to have the highest number of joint co-authorship with Malaysia (155 articles); followed by Pakistan (142 articles); the United States (135 articles); Australia (134 articles); Indonesia (127 articles); Saudi Arabia (123 articles); India (125 articles); China (118 articles). Bangladesh (100 articles) and Thailand (64 articles). Interestingly, the top ten of the authorship networks were dominated by the Asian continent.

3.4 Terminology and concept

All 4371 keywords were derived from 1700 papers, the total strength of the co-occurrence links with other keywords was calculated, and the keywords with the greatest total link strength were selected. Figure 3 is a co-occurrence map of keywords in the articles related to the topic exposure in the context of the COVID-19 pandemic. The colors represent different thematic clusters, whereby the lightest color represents the latest employed keyword in Covid 19 research. The size of each circle reflects the co-occurrence frequency of the marked keywords; that is, the larger the circle, the higher the frequency. Based on the VOSviewer diagram, the largest keyword cluster is represented by the green color, with a total of 205 co-occurrence keywords. The second most prominent keywords are dark blue and brown clusters, with 143 and 139 co-occurrence keywords, respectively. The yellow and purple clusters have 101 and 112 co-occurrence keywords, respectively. The light blue and red clusters the other way around was connected with 139 and 129 co-occurrence keywords, respectively. The smallest cluster based on the VOSviewer diagram is the orange cluster with 65 co-occurrence keywords. Upon further review, the top four most frequently used keywords were usually employed in the top research topic. The figure showed that the most frequent keywords used by Covid 19 researchers in Malaysia were e-learning, higher education, sustainable consumption, and tourism.

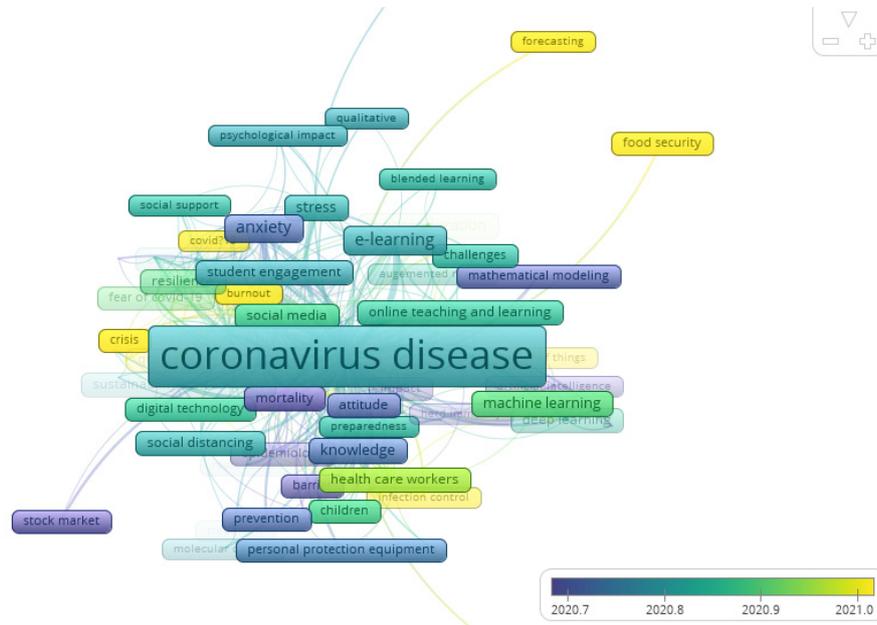


Fig. 3. Distribution of Keywords (based on VOSviewer)

4 Topics of interest based on cluster

Malaysia reported its first COVID-19 case on 25 January 2020; the patient contracted the disease from Chinese tourists who had crossed the border from Singapore two days earlier. After that, the number of cases continued to escalate significantly, and few clusters of the spread could be identified. On March 17, 2020, Malaysia recorded its first death related to Covid 19, and the number of deaths reported is increasing daily. To prevent further spread, the Malaysian government, through the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967, declared Movement Control Order (MCO) on 16 March 2020. The MCO was taken as the last resort to contain the increased Covid 19 spread among the community. Many sectors were hit due to the pandemic and MCO. Using comprehensive biblio-metric tools, this study the existing clusters and future emerging research from Covid 19. It can be identified based on the key research topic recognition, interrelationships, and collaboration patterns.

4.1 Cluster 1: Technology

The evolution of Artificial Intelligence (AI), the Internet of Things (IoT), augmented reality, and social media and technology have revolutionized many aspects of human life. People started to use the internet for shopping, attending online classes, managing jobs remotely and keeping in touch with people through online meetings,

obtaining information or entertainment [53]. An AI system tailors an appropriate response or service to fit users' requirements based on users' inputs in the system. Information inputs, such as question-answer sessions, allow AI machines to learn about users' specific requirements and conditions and determine particular features such as size, color, time, measurement and weight, and others as closely possible to users' needs. AI systems can also recommend suitable products, services, brands, or companies that best suit users' needs. Healthcare [22] [23] [24]. Building new intelligent and efficient frameworks is becoming easier with the features provided by 5G, such as low latency, larger area coverage, higher data rate, and real-time communication [25]. Similarly, social media is a potentially good platform for disseminating important information during the pandemic [26]. Significantly, during the pandemic outbreak, the need for rapid analysis, decision-making, and prediction of future trends become paramount [25] [27].

4.2 Cluster 2: Sustainability

It is worth noting that sustainable consumption behavior amongst Malaysians is still in its early stages [28]. People started being concerned about achieving efficiency, sustainable consumption, materials recycling, and effective disposal of domestic solid waste for broader social welfare [29]. Nevertheless, when the Malaysian government implemented MCO to reduce the spread of the COVID-19 pandemic, sustainable consumption gained eloquent popularity. It can be said that the MCO plays a significant role in reducing human outdoor activity, vehicle emissions, and coal-fired power plant emissions [30], which in return have 'repair' the environment. These unpredicted circumstances also exhibit the capacities of environmentally friendly and safe entities through recycling materials, business model variations, and consumption reduction [31] [28].

4.3 Cluster 3: Education

The pandemic coronavirus disease 2019 (COVID-19) has imposed social distancing measures and barriers to education delivery. All institutions need to use another alternative to teaching and learning to maintain the standard of education [32]. Due to that, online learning can be an alternative pedagogy in post-COVID-19 for the education sector [33]. Educational institutions should focus on improving output and achievement. In other words, the institution must be able to solve the real problems confronted by students and enhance their learning in quantity and quality [34]. They should provide sufficient guidance and training to improve students' skills, particularly in the COVID-19 era [35] [56]. Approximately, sudden changes in professional practices in the field of education have caused changes in the anxiety, depression, and stress levels of education workers and students [54]. Applications with high-immediacy and low-bandwidth applications, including WhatsApp, Telegram, and Youtube, are the most accessible and straightforward platforms to navigate in online learning [36] [57]. Despite that, there is a need to understand many challenges, including cost and reliability, to provide future direction for online learning mode [37] [58].

4.4 Cluster 4: Medical

The novel coronavirus disease 2019 (COVID-19) is a contagious disease that has caused thousands of deaths and infected millions worldwide. With this huge number of infected patients, the long-term impact of COVID-19 will cause a significant burden on the health care system. Hypercoagulation is one of the COVID-19 symptoms. Patients hospitalized with COVID-19 are at increased risk for venous thromboembolism. Early detection of infections is one of the first lines of defense against this pandemic to reduce the spread of infections. At the same time, the use of radio-logical examinations in identifying infections has become increasingly noticeable during the COVID-19 outbreak [38]. Thus, high-tech technologies that greatly detect COVID-19 infections with high accuracy can offer healthcare professionals much-needed help [39].

4.5 Cluster 5: Tourism

Due to Covid-19, tourists worldwide are banned from entering countries due to closed borders and the incessant fear for the safety of their lives [40]. The biggest challenge resilient by sustainable coffee/tea tour operators is customers' inability and, for some, reluctance to travel [41]. According to [42], to stimulate the tourism industry, more detailed segmentation and careful planning integration of tourism are needed to ensure the sustainability of tourism. The study's findings suggest that tourism businesses in highly resilient countries are better prepared to cope with the disruptive challenges posed by the COVID-19 pandemic and thus need less government assistance.

4.6 Cluster 6: Psychology

It is argued that the willingness of the community to receive the COVID-19 vaccine was caused by several factors, including age, race, perceived community risk of COVID-19 infection, perceived severity, and the absence of vaccine hesitancy sentiment [43]. Participants described their workloads, uncertainties caused by the pandemic, challenging work–family balance, and stretched workplace relationships as the sources of burnout [44] [45]. Direct involvement in COVID-19 screening or treatment, having a medical condition and having less psychological support emerged as significant factors in personal work and patient-related burnout [46].

4.7 Cluster 7: Food and agriculture

Food and medication security is an unseen battle occurring during the outbreak of the Covid-19 pandemic [47]. The study by [48] portrayed that rice supplies are highly vulnerable during the pandemic outbreak. Even though the Government of Malaysia has rolled out some initiatives to help Malaysian people to cope with the lock-down phase, the COVID-19 pandemic may heavily affect aquaculture activities in this country. In coping with the COVID-19 emergency, it is suggested that the Government conduct programs increase the farmer ability to proactively manage new risks caused by

COVID-19 and also those derived from climate change-related issues. Among the essential adaptation measures adopted in many countries is the investment in scientific research to prepare most social and economic layers for future pandemics [49].

4.8 Cluster 8: Economy

The greater size of government spending, the less efficient it becomes. It is contradicted Malaysian practice because the current Malaysian fiscal policy has allocated a massive budget for all income levels to reduce the economic implications caused by the outbreak of COVID-19 [50]. By providing an active fiscal policy in Malaysia, all the affected groups receive equal government incentives of the stimulus package to ease their burden and improve their life quality post the COVID-19 phase [51] [8]. All citizens have shown their compliance and support during the Movement Control Order (MCO) to control the spread and ease the burden of front liners. At the same time, the Malaysian government aimed to stimulate the economic sectors have allocated a substantial amount of money through PRIHATIN and PENJANA to assist the industry player [52].

5 Limitations

By limiting the search string to “Covid* 19*” within titles and abstracts, re-searchers might not be able to determine all the Covid-19 studies available on Scopus. Other researchers might use different terms to refer Covid 19. ‘Pandemic out-break’, ‘out-break virus’ and ‘Cov-19’ are among the terms use by researchers when writing their articles.

Future study is recommended to include multiple databases analysis such as Web of Science and JStor for comprehensive analysis. Researchers may utilize the ‘hot paper’ features in WoS, as these features are still lacking in Scopus. ‘Hot paper’ features in WoS work by identifying recently published papers that received significant citations. These features allow the researchers to identify a good research paper for their study. Including multiple databases in the bibliometric analysis will allow the researchers to develop a more comprehensive study.

6 Conclusion

This study has provided oversight of Covid 19 research trend in Malaysia. In total, this study has analyzed 1776 articles that were extracted from the Scopus database. It is presumed that interest in this topic will increase as many researchers are currently working on it from different fields. This study found that the United States, Pakistan, Saudi Arabia, and Australia have strong and massive collaborations with Malaysian researchers. These may open an opportunity for other country researchers to broaden their research primarily related to Covid 19. This study also determines other Covid 19

subtopics currently explored by Malaysian researchers. It is strongly believed that continuous efforts in researching Covid 19 will benefit the government and society at large.

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