

# Entrepreneurial leadership and global management of COVID- 19: A bibliometric study

*by Sanju Kumar Singh*

---

**Submission date:** 17-Jan-2023 02:41PM (UTC+0800)

**Submission ID:** 1993994450

**File name:** F1000\_Manuscript.docx (3.21M)

**Word count:** 6636

**Character count:** 38196

## Entrepreneurial leadership and global management of COVID-19: A bibliometric study

### ABSTRACT

#### Background

The coronavirus disease 2019 (COVID-19) pandemic has caused uncertainty in many economic sectors. An entrepreneurial leadership style can become an alternative method of leadership for facing uncertainty.

#### Methods

This study uses secondary data from the Scopus website as samples. The samples are papers from Indonesia, China, and the USA. Data were collected through the Scopus website, using keywords *entrepreneurial* AND *leadership*, saved into a CSV file, and processed using VOSviewer. The findings were analyzed using a systematic search.

#### Results

*Entrepreneurial leadership* as a topic was more prevalent in China than Indonesia and the USA. There were 101 papers from Chinese authors, 28 from Indonesian authors, and 575 from USA authors. However, there was no topic of *entrepreneurial leadership* connected to the strings of the topic of *COVID-19*. This study also found that inclusive leadership was used in China and local government leadership was used by the USA government to anticipate the impact of COVID-19.

#### Conclusions

Entrepreneurial leadership was not used for COVID-19 pandemic management in USA, China, and Indonesia as a research trend.

**Keywords:** COVID-19, economic growth, leadership, Scopus, topic.

#### Introduction

Entrepreneurial leadership is a new concept of leadership that can leverage the potential of the human resources in the company (Strubler and Redekop 2010). Moreover, entrepreneurial leadership is said to be more suitable than other types of leadership in facing the uncertainty of the business world. An entrepreneur is a leader for themselves and their company. Leadership is the activity of persuading people to work together in achieving a goal; the desire to achieve a impactful communication that results in influencing the actions of others.

Based on a study by Okudan and Rzasa, entrepreneurial leadership emerged as a unique type of leadership in response to the development of small and medium-sized enterprises

(SMEs) rather than big companies (Okudan and Rzasa, 2006), because this type of leadership believed that SMEs were the most dynamic type of business in the ever-changing market trends. Moreover, SMEs have to adapt to the fast-paced, competitive business environment which was common in the fourth industrial revolution (Saunila, 2014).

11

Since 2020, the global economy has suffered because of the coronavirus disease 2019 (COVID-19) pandemic. Many economic sectors have been affected and could not maintain their daily progress as a result of declining demand for their products. As a result, there have been waves of unemployment, company bankruptcies, and economic recessions have occurred in several countries (Nag and Puniani, 2021). The global market has recently become unstable and uncertainty surrounding the economic condition has increased with the pandemic (Filipe, 2021).

Leadership has become key for companies and institutions to survive the uncertainty of changing economic conditions. Entrepreneurial leadership, which has claimed to be able to leverage the potential of each human resource, could become the solution to the uncertainty of business, such as lack of demand in retail business as a result of lockdown and physical distancing. A study by Akter stated that there was uncertainty around the rapid decline in product demand, limitations in the workspace as a result of social distancing, problems with supply chains as a result of full and partial lockdowns, as well as declining productivity as a result of disease which could infect the human resources (Akter, 2020). Maintaining the health of human resources during the COVID-19 pandemic has become the main concern of entrepreneurial leadership, because without human resources, the production process in a company will be impeded (Septiarini, Filianti, and Suprayogi 2020).

Besides human resources, research and development have also been needed to create more innovation. Innovation has been needed during the pandemic to create more opportunities for institutions, along with the creation of new products to improve their revenue (Galanou and Farrag, 2015). Research and development (R&D) produced innovations for industries, so that it could become an inseparable part of the business world. A study by Mendenhall *et al.* stated that R&D has an important role in increasing firm value because it is an intangible asset that has a focus on technology and science. Startups and new firms in the fourth industrial revolution have to utilize any form of digital technology to create their own market opportunity, so that they can expand their business fast. R&D investments were made to deal with high uncertainty of product demand where innovation is needed (Mendenhall *et al.*, 2017).

As a policy maker, governments should give more support to the research and development activities in society (Naz, 2019). Moreover, during the COVID-19 pandemic, the implementation of limited physical contact and lockdown should be accompanied by research and development activities to help companies, especially SMEs, to create more opportunities that can save them (Nag and Puniani, 2021).

A paper in an academic journal published by a reputable publisher, for example, Springer, is one of the results of research and development activities. International standardized publications can demonstrate many insights and innovations in any sector (Afeyan and Cooney, 2020). Government and industrial sectors could rely on the publications to gain insight to help them to create innovations for their product or service (Farukh *et al.*, 2021).

This study was different from Mendenhall *et al.*'s (2017) previous study which emphasized the importance of R&D in a business and Akter's (2020) about the importance of leadership in growing a business and creating a strong organization. This study emphasized the leadership type used by the government of China, United States of America, and Indonesia in managing COVID-19 impact. Based on the research above, this study aims to observe if the topics related to the COVID-19 pandemic in China, USA, and Indonesia had a correlation to entrepreneurial leadership and what sub-topics lie behind these correlations.

## Literature review

### Scopus as the measurement for internationally published papers

Publication in a journal is a requirement for academics to build their careers (Veer, Khiste, and Deshmukh, 2018). To "publish or perish" means that if an academician doesn't publish a paper, he/she would not be known in academic society. However, publications can also provide guidance to the industrial sector and to bureaucrats to further develop their products and services. Because publications with many publishers are a record of the latest research findings and processes, repository users can utilize publications and integrate the insight into their own research papers (Barus and Mungkasi, 2019).

Each journal is ranked based on quality. One of the most well-known indexing institutions for many journals at the international level is Scopus. Scopus has grown over the last decade because of the public openness of its data (Anna, 2018). Users can search for information related to the journals and the papers that have been indexed by Scopus under Scopus Preview. But, if they want more detailed information about papers and affiliation, they can pay a subscription fee to Elsevier. Moreover, through publications, reports of research can be preserved and used for sustainable research activities (Abukhait, Bani-Melhem, and Zeffane, 2019).

### Entrepreneurial leadership during COVID-19

When COVID-19 hit the world, it caused disruption to many countries, and the disruption also affected the global economy. The effect of the COVID-19 pandemic has forced many governments to implement full lockdowns, partial lockdowns, and place limits on social activity in public and private spaces. The effect of limiting the movement of society, has caused the purchasing power in society to decrease too. Purchasing power in this case means the capability of society to buy products based on their economic power. Purchasing power is also the ability of the consumers to buy the goods they need and this always fluctuates based on some factors, which are the index of consumer's belief in a product, the index of the economy's expectation, and the condition of the real economy (Tsai, Tao, and Yuadi 2019). People's purchasing power is closely related to demand. The index of consumer belief was how far the consumers want to consume more of certain product, for example consuming more chicken from KFC because of its tastiness. The index of economy expectation was the expectation of economic growth, both by industry and society. The condition of real economy was the current condition of the economy. Those three factors could lower or increase the purchasing power of

society. The lower the purchasing power, the less people can afford to buy products at high prices and demand for products at low prices increases (Golar *et al.*, 2020).

The decrease of purchasing power since the beginning of the pandemic has led to volatility, uncertainty, complexity, and ambiguity in the business world, known as VUCA. Volatility refers to the unpredictable changes in a society which could affect the business result. Uncertainty refers to the inability to predict the present situation and the future, because of tough competition. Complexity refers to the many factors that could disrupt the business world and they were interconnected to each other. Ambiguity refers to lack of clarity from people and organizations to make sure that the business plan could be guaranteed for expecting result (Sukoco, Suprayogi, and Hidayati 2018). VUCA is the term used by Warren Bennis and Burt Nanus to explain an uncertain economy where it is difficult for business owners to anticipate the future during the pandemic, the business world has struggled to predict opportunities for good business. Moreover, strategies that were used effectively before the COVID-19 pandemic were not effective anymore because the situation was completely different (Johansen and Euchner, 2013).

Entrepreneurial leadership could match the VUCA condition, because this type of leadership allows employees to be in charge of their own job responsibilities with minimum supervision, to give them more freedom in working. Moreover, entrepreneurial leadership emphasizes the role of employees as the core of the company and encourages them to contribute to decision-making for the company or institution, instead of leaders controlling decision-making (Renko, 2017).

## Methods

### Study design

This study used secondary data in its analysis, obtained from the Scopus database. Scopus gives robust information related to publications via a paid subscription service, or Scopus Preview can be used for free although it has limited functions. Scopus meta data of all papers that have been published by journals indexed by Scopus can only be accessed through subscription. The data such as number of citation, author's name and affiliation, name of journal, h-index of journals and papers, content of papers such as title and abstract, as well as how many a journal published every year, whether in any topics or in specific topic. This study used purposive sampling in gathering data from Scopus.

### Data collection

In this study, samples were publications written by authors in China, Indonesia, and the USA. The time frame was 2020-2021 and only papers using english language were selected as samples. The studies selected were also limited to "medicine", "business", "management" and "social science". The data were collected on 25 August 2021 through Scopus using "advanced search". From "advanced search", the query formula was entered to retrieve relevant results. The formula was "TITLE-ABS-KEY ((ENTREPRENEUR\*) AND (LEADERSHIP) (COVID) AND (CHINA/INDONESIA/USA))". "TITLE-ABS-KEY" means that any topic related to "entrepreneurial leadership" and "covid" would be searched only at the sections of "title",

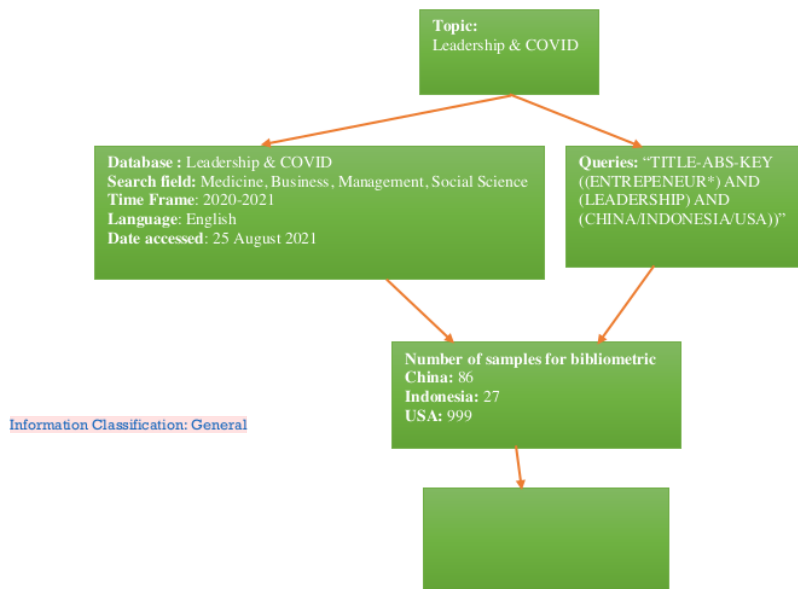
“abstract”, and “keywords” in any paper (Sa’ed and Al-Jabi, 2020). This study found out that there were 86 papers written by Chinese authors that covered the relevant topics, 27 by Indonesian authors, and 999 by American authors. These papers were all analyzed in this research, and none were excluded. The samples ranged from January 2020 to 25<sup>th</sup> August 2021.

### Data analysis

Data were collected from papers indexed in Scopus by using keywords in search feature. Those keywords were “TITLE-ABS-KEY ((ENTREPRENEUR\*) AND (LEADERSHIP) AND (CHINA/INDONESIA/USA))”, by selected purposed criteria: “citation information”, “bibliographic information”, and “abstract & keywords”. These details were exported into comma separated value file format (CSV), so that the data could be analyzed by bibliometric software. The CSV file was analyzed using VOSviewer software version 1.6.16, as this version was able to identify research trends as well as connections between the research topics and previous publications. VOSviewer was used to identify which topics were closely related to *COVID-19* and *leadership*. VOSviewer could manifest the relationship between topics into connected circles (Mafruchati and Makuwira 2021).

A literature review was also conducted to analyze the findings of the papers that were related to the topic of this study. There were three papers from China, four from Indonesia, and two from the USA. The literature review was documented in tables including topic and findings of the papers. According to the study by (Dahlawi et al. 2021), a literature review minimum consist of ten papers as a sample before conducting analysis using those papers. The result would be preserved into a table.

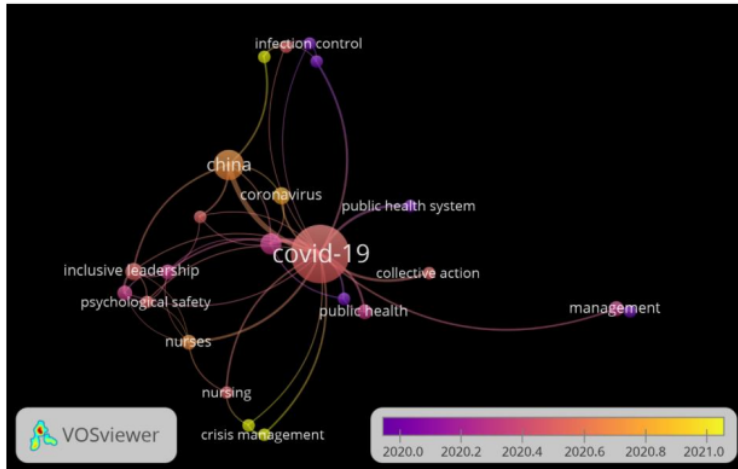
The comma separated file (CSV) that was downloaded from Scopus by using keywords “leadership” and “covid”, was then extracted into an Excel file (xls) using bibioshiy from R studio. The papers included were those with abstracts that discussed “leadership” and “covid” (Shi and Li, 2019). The screening results only included papers with abstracts that had results related to leadership and COVID-19 management. According to the study by (Toorajipour et al. 2021), to get the result of the research question, at least 10 papers have to be used for literature review. This study used 11 papers from China and Indonesian authors, and 10 from USA authors.



**Figure 1.** Flow diagram of bibliometric analysis

## Results and Discussion

### Research trends around Leadership in China during COVID-19



**Figure 2: Correlations between leadership and COVID-19 in China based on keywords**

There were 101 papers written by Chinese authors. The characteristic of these papers were more focused on health management than leadership. Figure 2 shows that the keyword “COVID-19” was connected to the keywords “inclusive leadership”. There were 101 papers which contained the keyword COVID-19, by looking CSV file with that keyword. here were three papers stated that inclusive leadership was used by Chinese government to manage impact of COVID-19. The keyword “COVID-19” was also connected to some keywords such as “public health”, “crisis management”, “nursing”, “collective action”, and “psychological safety”, which were related to the medical action associated with the COVID-19 pandemic. Interestingly, only the keyword “crisis management” appeared in papers from 2021, which is marked with the yellow colored dots. Moreover, as Figure 2 shows, there was no entrepreneurial topic at all that was closely related to the topic of COVID-19. Figure 2 above shows the list of keywords which appeared in papers published between 2020-2021, as well as the timeline of the keywords, represented by the colored bar in the bottom right of the image.

Topic	Finding
Leadership	Inclusive leadership improved career sustainability. Serial mediating effect of inclusive leadership could identify key factors of career sustainability for individual employees.



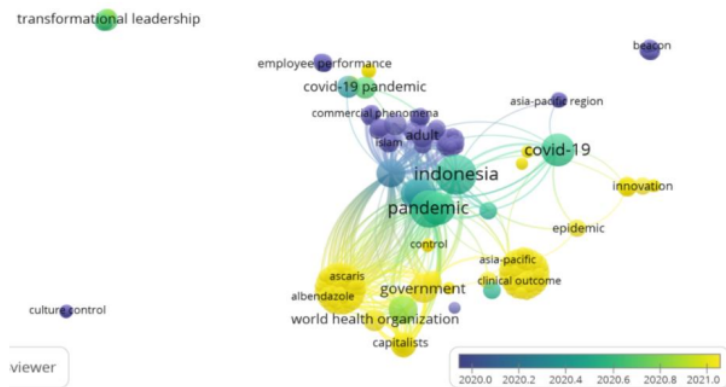
Public health	Less preparation toward public health, insufficient guidance for clinical trials, and lack of cooperation between disciplinary/authority sectors that was unprofessional caused dissemination of COVID-19 virus spread fast in short time in China.
Psychological safety	People returned to work in the office during pandemic having high awareness toward health protocols. The level of education and place of work were key in influencing people to follow health protocols.

**Table 1** Findings of correlations between 'leadership' and 'COVID' based on abstracts written by Chinese authors using a systematic search.

Based on Table 1, inclusive leadership could improve career sustainability. This is surprising because China had the second-highest GDP after the USA in 2020 and did not emphasize entrepreneurial leadership, but inclusive leadership during the pandemic (Ahmed *et al.*, 2021). Table 1 also shows that the government of China should have paid more attention to public health, so that the medical action could be implemented in a quick response after the pandemic started to spread. Lack of governmental awareness toward public health would cause loss of life and would burden the government with more expenses in order to care for infected patients (Shah *et al.*, 2020).

Surprisingly, based on Table 1, people who have been able to work in the office had the self-awareness to follow health protocols. People that want to return to their workplace need the safety guarantee by the government and institutions that the area free from virus dissemination, safe to work using standardized health protocol, and assurance that their workload won't make them sick, because sickness could make them more vulnerable to infection (Miftahussurur *et al.* 2022). Moreover, people want to make sure that when they return to work, their workplace is free from any contagious disease. As a result, people prefer working from home because it was safer (Mafruchati, 2020).

### Research trends around leadership in Indonesia during COVID-19



**Figure 3: Correlations between leadership and COVID-19 in publications from Indonesia**

Figure 3 shows that there was no correlation between topics related to COVID-19 and leadership in Indonesia. There was a topic of *transformational leadership*, but no string was attached from this dot to dots for major topics such as “pandemic”, “Indonesia”, or “covid-19”. Research trends in 2021 focus more on the management of the pandemic or medical topics such as *Indonesian* and *pandemic*, *ascaris*, *albendazole*, *World Health Organization (WHO)*, and *epidemic*. But there was a recent topic that is also connected to topics of *Indonesian* and *pandemic* which is *capitalists*. There was also the topic of *innovation* which is related to one of the key factors in entrepreneurial leadership. Other topics that may be related to leadership are *employee performance* and *commercial phenomena*.

Topic	Finding
Innovation	Remote working behavior with digital technology facilitates leaders to increase innovation in the workforce.
Capitalist	Central government take priority of regulation over economic and political interest, rather than the implementation of full health protocols. The budgeting policy by the central government also hinders regional governments in acting independently.

Employee performance	Negative emotions due to working from home can escalate and affect employee performance. The psychological well-being of employees is strongly impacted as a result of working from home.
Commercial phenomena	The supply chain around the world is disrupted because of the lockdown implementation along with the implemented health protocols. As a result, the number of available jobs were reduced in Indonesia as a result of many companies and firms suffering profit loss and sometimes bankruptcy.

**Table 2** Findings of correlations between ‘leadership’ and ‘covid’ based on abstracts written by Indonesian authors identified using a systematic search.

As shown in Table 2, the topic “innovation” found that remote work behavior can increase innovation. Rizou *et al.* (2020) stated that digital technology could facilitate leaders to encourage innovation. Digital technology equipped with the latest artificial intelligence could lead to finding more innovation and revolutionary ideas, but this does have a high monetary cost (Ratnasari, *et al.*, 2020).

Additionally, using a virtual meeting place can help to cut costs during the pandemic, because companies can save on the operational cost for preparing and using a physical room. However, working from home for long periods of time could lead to increased stress for the employees, because employees cannot interact face-to-face with each other, which creates a lack of emotional interaction (Liao and Huang, 2016). Humans are social creatures that need to communicate physically to stabilize their mental health. Lack of social interaction could lead to stress (Pei, Gunawan, and Jen, 2014). Working from home also impedes the ability to rest, because companies and institutions think that employees are available to work anytime, causing employees increased stress (Miguel-Puga *et al.*, 2020).

Under entrepreneurial leadership, the leader of the company or institution should attempt to understand the effects of the pandemic better and try to minimize the employees’ workload accordingly. Stress from a high workload can affect the immune system’s function and lead to a sudden drop in immunity against COVID-19 (Shammi *et al.*, 2020). A leader should prioritize the work according to the vision of the company and adjust the working system to suit the current situation (Strubler and Redekop 2010).

But in the case of Indonesia, the implementation of health procedures and an economic plan to combat COVID-19 were not entirely successful. Indonesian authority was impeded by many capital interests revolving around the management of the COVID-19 pandemic (Megatsari *et al.*, 2020). Rather than spending the government funds through expansionary fiscal policy to increase public health conditions and facilities, many politicians used these funds entrusted by the government for their personal interests, for example for gaining political votes (Mietzner, 2020).

The Indonesian government has benefitted from the increase in remote work and has capitalized on the essential sectors that have been vital in handling pandemics, such as increasing the cost of swabs and PCR tests, and has been weak in enacting laws against those who have engaged in *covid management* (Djalante *et al.*, 2020). These sectors included those testing tools for COVID-19 and those providing social aid in the form of groceries and funds. For example the case of Juliari Batubara, the former Indonesia Minister of Social Affairs, who

was arrested due to corruption regarding social aid during the COVID-19 pandemic, in what was the worst case of uncontrolled management of essential sectors during COVID-19 (Caesar and Naibaho, 2021).

Table 2 also shows that the supply chain has been disrupted during the pandemic, which could affect the national economy. While remote working can substitute for face-to-face meetings, it cannot be used to resolve supply chain distributions caused by transportation. In entrepreneurial leadership, a leader should recognize that a difficult situation can become an opportunity (Renko *et al.*, 2015). The government should have established proper regulations when anticipating the difficulties in distributing the supply chain during the pandemic. The lack of supply chains for necessities such as food materials will create price bubbling in the market, which could have detrimental effects and cause consumers to suffer (Muzakki, 2020).

#### Research trends around leadership in the USA during COVID-19

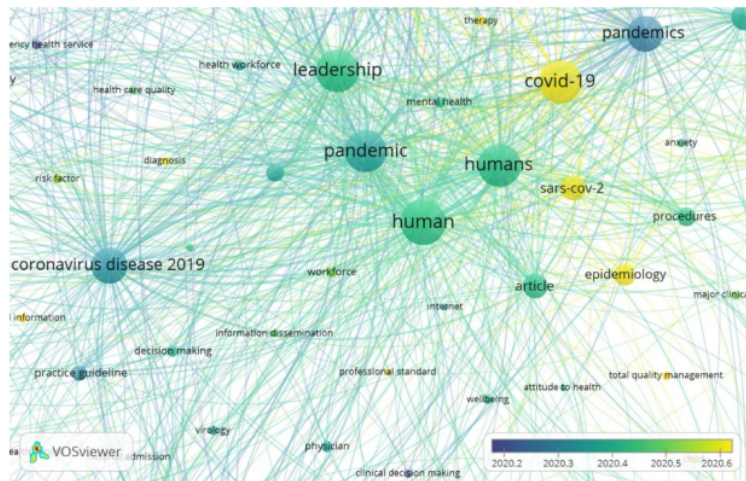


Figure 4: Correlations between leadership and COVID-19 in publications from the USA

Figure 4 shows that there was a connection between the topic of *COVID-19* and *leadership*. Another topic that might be related to leadership was “human” as the driver of *leadership*. Humans were the ones who implemented the leadership system and how good or bad the results are is based on how well humans implemented their leadership for the sake of the public’s interest (Mendenhall *et al.*, 2017)

There was also a topic of *workforce*, but the size was too small and too far from *COVID-19* dot, so it was less significant in correlation with topics of “leadership” or “covid”. There was also no entrepreneurial leadership related to COVID-19; in fact, there was no topic of

*entrepreneurial leadership* at all. It can be concluded that entrepreneurial leadership has not become popular enough to be used as a topic for research related to COVID-19.

Topic	Finding
Leadership	Local government leadership's communication has reduced the level of stress and burnout of emergency workers effectively.
Human	Understanding the mobility patterns of society, especially the direction they are going was the key to stopping the spread of COVID-19. Mobility is influenced by socioeconomic factors. Lockdown should be implemented after the mobility pattern of society in China has been mapped.
Internet	Internet was inseparable for the activities of American people during the lockdown because internet was regarded as primary needs for people who did work from home during lockdown. Moreover, leaders from public service also rely heavily on the web based platform to provide the public service to society that they could not do face to face because of the government restriction to follow health protocol.

**Table 3** Findings of correlations between 'leadership' and 'covid' based on abstracts written by US authors identified using a systematic search

Table 3 shows that based on the topic of "human", the research explained that in order to stop the spread of COVID-19 across the USA, understanding the mobility pattern of humans is key. Leaders of local and central governments in the USA have to understand humans' mobility patterns, which are influenced by socio-economic patterns. Effective leadership involves analyzing the current condition of society and taking action. This plays a crucial role in understanding the mobility pattern. Good leaders have to know the people they will lead in order to decide the most effective way of leading them. Otherwise, friction and disagreement would be created among society (Rachmat *et al.*, 2018). Based on Table 3, socio-economic factors also had to be considered before implementing the lockdown. Without considering the socioeconomic factors behind the mobility patterns of society, it would be difficult to completely map the pattern. Socio-economic factors always affect humans decisions, especially those related to their primary needs (Lahcen *et al.*, 2020).

Table 3 also showed that effective communication from the local government can reduce the stress levels of health workers. A study by Esmer and Faruk stated that the goal of entrepreneurial leadership is to inspire employees with the vision that they can work together. In the COVID-19 pandemic, it is essential for both employees and their leader to share the same vision, which is to overcome the virus and reduce the number of deaths and active cases of COVID-19 in society (Hossain 2020).

Figure 4 also showed that there were other COVID-19 related keywords in several papers which were published in the early months of 2020. Those keywords were also related to leadership, which were "decision making" and "information dissemination". Decision-making should be determined carefully by leaders (Rume and Islam, 2020) because flawed decision-making by the government can further the spread of COVID-19 and has resulted in a

great number of people dying (Sharma *et al.*, 2021). If the government does not provide a good example to society, especially to health workers in regards to implementing COVID-19 measures, the rate of positive cases will be difficult to reduce (Bender, 2020).

A study by (Kula *et al.*, 2021) stated that bureaucracy has to be directed by an entrepreneurial leader so that each employee's potential can be awakened. That leader must have the ability to strategize in difficult situations such as preventing COVID-19, as well as revitalizing the local economy. COVID-19 was a serious problem for humanity which could demolish economy growth because of the restriction to gather on the public and meet with someone to prevent virus dissemination. As a result, the supply chain of the goods would be disrupted and led to the profit loss of many companies, led to the recession. Leader of each country should have strong intuition of entrepreneurial skill to overcome this pitiful situation. He/she should not only care for the entrepreneurs of the big companies, but also SMEs (Vanderford and Marcinkowski 2015). The COVID-19 pandemic has brought misery to many sectors in Indonesia, and the government should identify any opportunity to regain economic prosperity. Leaders also have to be prepared for the risks that may come as a result of their actions (Febriyanti, Ratnasari, and Wardhana 2022).

## Conclusion

Based on the results above, there is no single relationship between entrepreneurial leadership and COVID-19 as research topics in papers indexed in Scopus. For the topic of *entrepreneurial leadership*, China has more updated papers about entrepreneurial leadership than Indonesia, while the USA did not have an exact topic of entrepreneurial leadership. Instead, the USA combined the topics of "*leadership*" and "*humans*". No entrepreneurial leadership keyword was found in the published papers by US authors.

The results above also show that the topic of *innovation* was related to the topics of *leadership* and *COVID-19* in Indonesia. China emphasized more on the topic of *ethics*, which is related to the topics of *leadership* and *COVID-19*. For the USA, they emphasized the topic of *human* which was related to the topics of *leadership* and *COVID-19*.

Results of the literature review also showed that inclusive leadership was used by the Chinese government according to the samples. Papers written by USA authors showed that local government leadership was used for COVID-19 pandemic management. Meanwhile, no leadership topic in papers were written by Indonesian authors as samples of this study. In general, leadership was more common in topics of papers written by Chinese and American authors.

This study was limited to papers on the topic of leadership available from the Scopus website written by Chinese, Indonesian, and American authors. Moreover, the systematic search as a supplement method only explained the papers that contained *leadership* and *covid* topics in their abstract. The papers in this study's sample that were identified using this systematic search method are also very limited in number, and further studies are needed to explore more about the excluded papers. This study also recommends that further research should include more sources such as Web of Science, PubMed, or Google Scholar to provide

**Commented [CJ1]:** please provide an interpretation of the results, and also discuss the generalisability of the results.



more potential content and to enrich findings related to entrepreneurial leadership during the COVID-19 pandemic.

#### Author contributions statement

A.Y.M initiated the project, and made the initial simulations. I.Y helped to the literature, R.H helped to analyze the figure, A.G.B helped to scan content quality, E.F.D simulation regarding COVID-19 issues, A.J helped to manage the manuscript, S.K.S helped to arrange the funding, A.K.W helped to finalize the manuscript, B.N helped to review the manuscript and T.W checked the robustness of the result.

#### Data Availability

##### Underlying data

Zenodo: Entrepreneurial Leadership toward Global Management of COVID-19, Is it always being used during Pandemic? A Bibliometric Study. doi.org/10.5281/zenodo.6050768

This project contains the following underlying data:

- China keyword.png [keywords of papers written by Chinese authors and correlation between them after analyzed using Vosviewer]
- China COVID Topics.csv [topics of papers written by Chinese authors and correlation between them after analyzed using Vosviewer]
- Indonesia COVID Topics.csv [topics of papers written by Indonesian authors and correlation between them after analyzed using Vosviewer]
- Indonesia keywords.png [keywords of papers written by Indonesian authors and correlation between them after analyzed using Vosviewer]
- USA COVID Topics.csv [topics of papers written by USA authors and correlation between them after analyzed using Vosviewer]
- USA keywords.png [keywords of papers written by USA authors and correlation between them after analyzed using Vosviewer]

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

#### Competing interests

No competing interests were disclosed and all author have agreed upon this.

#### Grant information

No grants awarded for this paper and all of the expenses were paid by authors' fund.

#### References

- Abukhait, Rawan Mazen, Shaker Bani-Melhem, and Rachid Zeffane. 2019. "Empowerment, Knowledge Sharing and Innovative Behaviours: Exploring Gender Differences." *International Journal of Innovation Management* 23 (01). World Scientific: 1950006.
- Afeyan, Noubar B, and Charles L Cooney. 2020. "Professor Daniel IC Wang: A Legacy of Education, Innovation, Publication, and Leadership." *Biotechnology and Bioengineering* 117 (12). Wiley-Blackwell: 3615.
- Ahmed, Fawad, Fuqiang Zhao, Naveed Ahmad Faraz, and Yuan Jian Qin. 2021. "How Inclusive Leadership Paves Way for Psychological Well-being of Employees during Trauma and Crisis: A Three-wave Longitudinal Mediation Study." *Journal of Advanced Nursing* 77 (2). Wiley Online Library: 819–31.
- Akter, Sonia. 2020. "Covid-19 and Bangladesh: Threat of Unemployment in the Economy." In 5. *International EMI Entrepreneurship and Social Sciences Congress PROCEEDINGS E-BOOK*, 280.
- Anna, Nove E Variant. 2018. "Transformation of Public Library Websites in Indonesia." *Library Hi Tech News* 35 (8). Emerald Publishing Limited: 10–14.
- Barus, Gendon, and Sudi Mungkasi. 2019. "On the Publication of Research Papers in the Area of Character Education." *International Journal of Mechanical Engineering and Technology* 10 (3).
- Bender, Lisa. 2020. "Interim Guidance for COVID-19 Prevention and Control in Schools." *UNICEF. ERIC*.
- Caesar, Ciprian, and Edward Wira Hamonangan Naibaho. 2021. "Enforcement of the Death Penalty for Corruptors Who Perform Corruption Crimes During a Pandemic (Case Study: The Enrapture of Two Ministers Related to Corruption Cases During the Covid19 Pandemic)." *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences* 4 (3): 5412–17.
- Dahlawi, Saad, Ritesh G Menezes, Mohammad Ajmal Khan, Abu Waris, and Mirza Muhammad Naseer. 2021. "Medical Negligence in Healthcare Organizations and Its Impact on Patient Safety and Public Health: A Bibliometric Study." *F1000Research* 10. Faculty of 1000 Ltd.
- Djalante, Riyanti, Jonatan Lassa, Davin Setiamarga, Choirul Mahfud, Aruminingsih Sudjatma, Mochamad Indrawan, Budi Haryanto, Muhammad Sabaruddin Sinapoy, Irina Rafliana, and Susanti Djalante. 2020. "Review and Analysis of Current Responses to COVID-19 in Indonesia: Period of January to March 2020." *Progress in Disaster Science*. Elsevier, 100091.
- Farrukh, Muhammad, Sarfaraz Javed, Ali Raza, and Jason Wai Chow Lee. 2021. "Twenty Years of Green Innovation Research: Trends and Way Forward." *World Journal of Entrepreneurship, Management and Sustainable Development*. Emerald Publishing Limited.



- Febriyanti, Annisa Rahma, Ririn Tri Ratnasari, and Akhmad Kusuma Wardhana. 2022. "The Effect of Economic Growth, Agricultural Land, and Trade Openness Moderated By Population Density on Deforestation in OIC Countries." *Quantitative Economics and Management Studies* 3 (2).
- Filipe, José António. 2021. "Covid-19, Economy and The 'drop of Honey Effect' metaphor-a Note on the Portuguese Case. Situation and Measures." *International Journal of Business and Systems Research* 15 (1). Inderscience Publishers (IEL): 1–13.
- Galanou, Aikaterini, and Dalia Abdelrahman Farrag. 2015. "Towards the Distinctive Islamic Mode of Leadership in Business." *Journal of Management Development* 34 (8). Emerald Group Publishing Limited: 882–900. doi:10.1108/JMD-09-2014-0096.
- Golar, Golar, Adam Malik, Hasriani Muis, Achmad Herman, Nurudin Nurudin, and Lukman Lukman. 2020. "The Social-Economic Impact of COVID-19 Pandemic: Implications for Potential Forest Degradation." *Heliyon* 6 (10). Elsevier: e05354.
- Hossain, Md Mahbub. 2020. "Current Status of Global Research on Novel Coronavirus Disease (Covid-19): A Bibliometric Analysis and Knowledge Mapping." *Hossain MM. Current Status of Global Research on Novel Coronavirus Disease (COVID-19): A Bibliometric Analysis and Knowledge Mapping [version 1]*.
- Johansen, Bob, and James Euchner. 2013. "Navigating the VUCA World." *Research-Technology Management* 56 (1). Taylor & Francis: 10–15.
- Kula, Agustince Neti, Stanss Levynna Hermien Verronica Joyce Lapien, Altje Lenny Tumbel, and Novi Swandari Budiarso. 2021. "Antecedents and Consequences of Entrepreneurial Leadership Behaviour in Southeast Minahasa District Government." *International Journal of Applied Business and International Management (IJABIM)* 6 (1): 110–22.
- Lahcen, B, J Brusselaers, K Vrancken, Y Dams, C Da Silva Paes, J Eyckmans, and S Rousseau. 2020. "Green Recovery Policies for the COVID-19 Crisis: Modelling the Impact on the Economy and Greenhouse Gas Emissions." *Environmental and Resource Economics* 76 (4). Springer: 731–50.
- Liao, Kun-Hsi, and I-Shung Huang. 2016. "Impact of Vision, Strategy, and Human Resource on Nonprofit Organization Service Performance." *Procedia-Social and Behavioral Sciences* 224. Elsevier: 20–27.
- Mafruchati, Maslichah. 2020. "Curcumin vs Chloroquine in Coronavirus Global Pandemic: Trend Analysis Study in Google." *Indian Journal of Forensic Medicine & Toxicology* 14 (4): 3138–43.
- Mafruchati, Maslichah, and Jonathan Makuwira. 2021. "Number of Research Papers about Agricultural Production, Meat, and Egg During COVID-19 Pandemic: Does It Changed than Before?" *Pharmacognosy Journal* 13 (4): 995–98. doi:10.5530/pj.2021.13.128.
- Megatsari, Hario, Agung Dwi Laksono, Mursyidul Ibad, Yeni Tri Herwanto, Kinanty Putri Sarweni, Rachmad Ardiansyah Pua Geno, and Estiningtyas Nugraheni. 2020. "The

- Community Psychosocial Burden during the COVID-19 Pandemic in Indonesia.” *Heliyon* 6 (10). Elsevier: e05136.
- Mendenhall, Mark E, Todd J Weber, Audur Arna Arnardottir, and Gary R Oddou. 2017. “Developing Global Leadership Competencies: A Process Model.” In *Advances in Global Leadership*. Emerald Publishing Limited.
- Mietzner, Marcus. 2020. “Populist Anti-Scientism, Religious Polarisation, and Institutionalised Corruption: How Indonesia’s Democratic Decline Shaped Its COVID-19 Response.” *Journal of Current Southeast Asian Affairs* 39 (2). SAGE Publications Sage UK: London, England: 227–49.
- Miftahussurur, Muhammad, Camilia Metadea Aji Savitri, Langgeng Agung Waskito, Yudith Annisa Ayu Rezkiha, Inge Dhamanti, Diah Indriani, Bagong Suyanto, Raissa Virgy Rianda, and Yoshio Yamaoka. 2022. “Lessons from Indonesia, a Country with Highest COVID-19 Mortality Rate in the World: Dissecting Multiple Aspects.” *F1000Research* 11 (920). F1000 Research Limited: 920.
- Miguel-Puga, José Adán, Davis Cooper-Bribiesca, Francisco José Avelar-Garnica, Luis Alejandro Sanchez-Hurtado, Tania Colin-Martínez, Eliseo Espinosa-Poblano, Juan Carlos Anda-Garay, Jorge Iván González-Díaz, Oscar Bernardo Segura-Santos, and Luz Cristina Vital-Arriaga. 2020. “Burnout, Depersonalization, and Anxiety Contribute to Post-traumatic Stress in Frontline Health Workers at COVID-19 Patient Care, a Follow-up Study.” *Brain and Behavior*. Wiley Online Library, e02007.
- Muzakki, Fadlan. 2020. “The Global Political Economy Impact of Covid-19 and The Implication to Indonesia.” *Journal of Social Political Sciences* 1 (2): 76–92.
- Nag, Biswajit, and Ashima Puniani. 2021. “Post-Covid World Economy and India-China Bilateral Trade.” *Trade and Development Review* 13 (2).
- Naz, Salma. 2019. “Impact of Globalization on Higher Education in Pakistan: Challenges and Opportunities.” *International Journal of Innovation in Teaching and Learning (IJITL)* 2 (2).
- Okudan, Gül E, and Sarah E Rzasa. 2006. “A Project-Based Approach to Entrepreneurial Leadership Education.” *Technovation* 26 (2). Elsevier: 195–210.
- Pei, Yu, Sri Gunawan, and Shieh Chieh Jen. 2014. “Correlations between Social Engagement and Quality of Life of the Elderly in China.” *Revista Internacional de Sociología* 72 (2). Instituto de Estudios Sociales Avanzados: 105–18.
- Rachmat, Fardiansyah, T A E Prasetya, D Ardyanto, and B H Notobroto. 2018. “Leadership Style Correlation with the Occurrence of Unsafe Act Fabrication Employees Pt. BSB Gresik.” *Indian Journal of Public Health Research & Development* 9 (6). Prof.(Dr) RK Sharma: 23–27.
- Ratnasari, Ririn Tri, Sri Gunawan, Imron Mawardi, and Kusuma Chandra Kirana. 2020. “Emotional Experience on Behavioral Intention for Halal Tourism.” *Journal of Islamic Marketing* 12 (4). Emerald Publishing Limited: 864–81.

Renko, Maija. 2017. "Entrepreneurial Leadership." *Forthcoming in "Nature of Leadership", 3rd Edition. Edited by David V. Day and John Antonakis. SAGE Publications.*

Renko, Maija, Ayman El Tarabishy, Alan L Carsrud, and Malin Brännback. 2015. "Understanding and Measuring Entrepreneurial Leadership Style." *Journal of Small Business Management* 53 (1). Taylor & Francis: 54–74.

Rizou, Myrto, Ioannis M Galanakis, Turki M S Aldawoud, and Charis M Galanakis. 2020. "Safety of Foods, Food Supply Chain and Environment within the COVID-19 Pandemic." *Trends in Food Science & Technology* 102. Elsevier: 293–99.

Rume, Tanjena, and S M Didar-UI Islam. 2020. "Environmental Effects of COVID-19 Pandemic and Potential Strategies of Sustainability." *Heliyon*. Elsevier, e04965.

Sa'ed, H Zyoud, and Samah W Al-Jabi. 2020. "Mapping the Situation of Research on Coronavirus Disease-19 (COVID-19): A Preliminary Bibliometric Analysis during the Early Stage of the Outbreak." *BMC Infectious Diseases* 20 (1). Springer: 1–8. doi:10.1186/s12879-020-05293-z.

Saunila, Minna. 2014. "Innovation Capability for SME Success: Perspectives of Financial and Operational Performance." *Journal of Advances in Management Research* 11 (2). Emerald Group Publishing Limited: 163–75.

Septiarini, Dina Fitriasia, Dian Filianti, and Noven Suprayogi. 2020. "IMPACT OF DISRUPTION ERA ON ORGANIZATION PERFORMANCE SUSTAINABILITY: A CASE STUDY." *Journal of Security & Sustainability Issues* 9.

Shah, Kaushal, Gaurav Chaudhari, Dhvani Kamrai, Amindeep Lail, and Rikinkumar S Patel. 2020. "How Essential Is to Focus on Physician's Health and Burnout in Coronavirus (COVID-19) Pandemic?" *Cureus* 12 (4). Cureus Inc.

Shammi, Mashura, Md Bodrud-Doza, Abu Reza Md Towfiqul Islam, and Md Mostafizur Rahman. 2020. "COVID-19 Pandemic, Socioeconomic Crisis and Human Stress in Resource-Limited Settings: A Case from Bangladesh." *Heliyon* 6 (5). Elsevier: e04063.

Sharma, Gagan Deep, Aviral Kumar Tiwari, Mansi Jain, Anshita Yadav, and Burak Erkut. 2021. "Unconditional and Conditional Analysis between Covid-19 Cases, Temperature, Exchange Rate and Stock Markets Using Wavelet Coherence and Wavelet Partial Coherence Approaches." *Heliyon* 7 (2). Elsevier: e06181.

Shi, Yin, and Xiaoni Li. 2019. "A Bibliometric Study on Intelligent Techniques of Bankruptcy Prediction for Corporate Firms." *Heliyon* 5 (12). Elsevier. doi:10.1016/j.heliyon.2019.e02997.

Strubler, David C, and Benjamin W Redekop. 2010. "Entrepreneurial Human Resource Leadership: A Conversation with Dwight Carlson." *Human Resource Management* 49 (4). Wiley Online Library: 793–804.

Sukoco, Badri Munir, Noven Suprayogi, and Nur Aini Hidayati. 2018. "The Effects of Market Orientation on Environmental Social Responsibility Programmes: The

Moderating Effects of Institutional Pressures.” *Pertanika Journal of Social Sciences & Humanities* 26 (18): 185–202.

Toorajipour, Reza, Vahid Sohrabpour, Ali Nazarpour, Pejvak Oghazi, and Maria Fischl. 2021. “Artificial Intelligence in Supply Chain Management: A Systematic Literature Review.” *Journal of Business Research* 122. Elsevier: 502–17.

Tsai, Min-Jen, Yu-Han Tao, and Imam Yuadi. 2019. “Deep Learning for Printed Document Source Identification.” *Signal Processing: Image Communication* 70. Elsevier: 184–98.

Vanderford, Nathan L, and Elizabeth Marcinkowski. 2015. “A Case Study of the Impediments to the Commercialization of Research at the University of Kentucky.” *F1000Research* 4. Faculty of 1000 Ltd.

Veer, D K, Gajanan P Khiste, and Rahul K Deshmukh. 2018. “Publication Productivity of ‘Information Literacy’ in Scopus during 2007 to 2016.” *Asian Journal of Research in Social Sciences and Humanities* 8 (2). Asian Research Consortium: 171–83.

# Entrepreneurial leadership and global management of COVID-19: A bibliometric study

## ORIGINALITY REPORT

6%

SIMILARITY INDEX

5%

INTERNET SOURCES

3%

PUBLICATIONS

2%

STUDENT PAPERS

## PRIMARY SOURCES

1

[project-wre.eng.chula.ac.th](http://project-wre.eng.chula.ac.th)

Internet Source

1%

2

[f1000researchdata.s3.amazonaws.com](http://f1000researchdata.s3.amazonaws.com)

Internet Source

<1%

3

[www.mdpi.com](http://www.mdpi.com)

Internet Source

<1%

4

[daten-quadrat.de](http://daten-quadrat.de)

Internet Source

<1%

5

Submitted to University of Hull

Student Paper

<1%

6

[www.aldringoghelse.no](http://www.aldringoghelse.no)

Internet Source

<1%

7

[zenodo.org](http://zenodo.org)

Internet Source

<1%

8

[portal.bu.edu.sa](http://portal.bu.edu.sa)

Internet Source

<1%

9

- Hadriana, - Mahdum, - Isjoni, Dedi Futra, Indra Primahardani. "Online Learning

<1%

Management in the Era of Covid-19 Pandemic at Junior High Schools in Indonesia", Journal of Information Technology Education: Research, 2021

Publication

10

Qiang Wang, Rui Huang, Rongrong Li.  
"Towards smart energy systems – A survey about the impact of COVID-19 pandemic on renewable energy research", Energy Strategy Reviews, 2022

Publication

<1 %

11

[journals.rcni.com](https://journals.rcni.com)

Internet Source

<1 %

12

[publish.kne-publishing.com](https://publish.kne-publishing.com)

Internet Source

<1 %

13

[www.journal.iapa.or.id](http://www.journal.iapa.or.id)

Internet Source

<1 %

14

Noora Hasan Ismail Alhosani, Haitham Nobanee. "Board gender diversity and corporate social responsibility: A bibliometric analysis", Heliyon, 2023

Publication

<1 %

15

Wiwik Widiyawati, Helmi Ardiansyah Arby.  
"Positif Correlation of Online Game Addiction and Depression Level of Adolescent", Jurnal Ners dan Kebidanan (Journal of Ners and Midwifery), 2022

Publication

<1 %

16	<a href="http://jurnal.ahmar.id">jurnal.ahmar.id</a> Internet Source	<1 %
17	<a href="http://kgk.uni-obuda.hu">kgk.uni-obuda.hu</a> Internet Source	<1 %
18	<a href="http://mail.palarch.nl">mail.palarch.nl</a> Internet Source	<1 %
19	<a href="http://mosser.scot">mosser.scot</a> Internet Source	<1 %
20	<a href="http://platcovid.com">platcovid.com</a> Internet Source	<1 %
21	<a href="http://www.bircu-journal.com">www.bircu-journal.com</a> Internet Source	<1 %
22	<a href="http://www.ijphrd.com">www.ijphrd.com</a> Internet Source	<1 %
23	Danial Khojasteh, Ehsan Davani, Abbas Shamsipour, Milad Haghani, William Glamore. "Climate change and COVID-19: Interdisciplinary perspectives from two global crises", Science of The Total Environment, 2022 Publication	<1 %
24	Merete Jorgensen, Hanne Thorsen, Volkert Siersma, Christine Bang. "Application of the DanOBS questionnaire combined with a patient-centered consultation video for	<1 %

# measuring teaching efficacy in a general practice course", MedEdPublish, 2022

Publication

---

---

Exclude quotes      Off

Exclude matches      Off

Exclude bibliography      On



# Entrepreneurial leadership and global management of COVID-19: A bibliometric study

GRADEMARK REPORT

FINAL GRADE

/0

GENERAL COMMENTS

Instructor

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

PAGE 14

PAGE 15

PAGE 16

PAGE 17

PAGE 18

PAGE 19