Vietnam's Scientific Publications in the Period of COVID-19

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***Abstract:** The COVID-19 pandemic is considered a global disaster that affects all areas of the world; however, it is also seen as a motivation for domestic and foreign scientists to focus on researching solutions to reduce its damage. This article aims to explore the correlation of scientific publications of countries in Southeast Asia, among research fields in Vietnam and among topics published by Vietnamese educational institutions in the context of a pandemic. 1392 Southeast Asian countries' publications related to COVID-19 were referenced from the Scopus database, including 123 articles from Vietnam (up to August 27th, 2020). Statistics show that Vietnam ranks fifth in the number of scientific publications with research cooperation of researchers from 20 different countries. Regarding the research fields of Vietnam, medicine is the main research topic, social science ranks third following environmental science. In the field of social science, articles focus on four key topics: epidemic prevention, reduction of pandemic effects on life and socioeconomics, factors related to online learning of students, healthcare for the elderly. From the analysis results, the authors recommend that researchers should pay attention to other topics in the social sciences that have not been published, such as psychological effects of infected or suspected nCovi, the impact of COVID-19 to disadvantaged groups in society...*

***Keywords:** bibliometrics, scientific publication, social science, COVID-19, Vietnam.*

I. INTRODUCTION

The Covid-19 pandemic is considered a global disaster with a comprehensive and far-reaching impact, causing damage to all areas in the world. The global economy fell into a serious recession. The fluctuation of COVID-19 has prompted many domestic scientists to explore, research and publish publications on changing fields and occupations in the pandemic context.

"Handbook of COVID-19 Prevention and Treatment" was developed by Jack Ma Foundation, Alibaba Foundation and Zhejiang Medical University Hospital (FAHZU). The book is intended to share clinical experiences, advice and is great significance references to doctors and medical staff in the treatment and prevention of COVID-19.

Poon et al (2020) proposed *"ISUOG Interim Guidance on 2019 novel coronavirus infection during pregnancy and puerperium: information for healthcare professionals"* for the purpose of issuing guidelines of managing pregnant women under the main topics: (1) prenatal care in outpatient clinics; (2) the Obstetrics category management; (3) management in labor; and (4) the postpartum period and neonatal care. Also, this guide details treatment for pregnant women infected with COVID-19 for health care workers. This is a valued reference for all subjects and stakeholders.

Saad Awan et al. (2020) studied *"COVID-19: Medical Education Transformation"* that the emergence of the new coronavirus (COVID-19) pandemic has caused a global emergency, posing unprecedented challenges to all functions of modern society, especially business and education. Although online education is an affordable alternative to live classes for many schools and institutions of higher education, such an option might not meet all of the requirements of medical education that its results depend on team-based work over a short period of time. Students have been struggling to minimize the delays and disruptions of the pandemic to their professional development while lecturers are trying to adapt to the changes without losing their education.

Research by Shalini Shah et al. (20202), *"The Technological Impact of COVID-19 on the Future of Education and Health Care Delivery"* aimed to provide solutions to address objective changes in medical education, continuing medical education (CME), interne and scholarship programs, and telemedicine, and to consider the value of several profound transitions to "business as usual" in the healthcare sector. COVID-19 clearly changed interne and scholarship programs by limiting the amount of practice time that a doctor can spend on a patient. Telemedicine was introduced prior to the COVID-19 crisis but barriers are rapidly being used and patients seem to accept this, even healthcare systems had negative effects on network security and patient privacy. Regulatory guidance may be needed to develop safe, secure, and patient-friendly remote health applications.

Maria Nicola et al (2020) with the study *"The socio-economic implications of the coronavirus pandemic (COVID-19): A review"* provides a general picture of the impact of the covid-19 epidemic on economy all over the world. The authors focus on the key areas including industries related to the exploitation of raw materials (agriculture and oil), the areas of secondary related to the production of finished products (manufacturing products belonging to businesses) and tertiary sectors encompass all service delivery industries (education; finance; healthcare and pharmaceutical industries; hotels, tourism and aviation; real estate and housing; sports; information technology, media, research and development; food sector).

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From the research on the status of impacts of economic sectors and fields by COVID-19, the authors have synthesized some immediate solutions from countries around the world to reduce damage to industries and areas in this study.

Titan Alon et al. (2020) with their study on "*The impact of COVID-19 on gender equality"* showed that the economic depression caused by the current COVID-19 outbreak has important implications for gender equality, both during the depression and its subsequent recovery. Compared with the "regular" recession which affects men's employment more heavily than women's employment, job decline related to measures of social distancing has a major impact on the sectors with high proportions of female employment. In addition, the closure of schools and childcare centers has increased a number of childcare needs, having a particularly big impact on working mothers. The impact of the crisis on working mothers is likely to be persistent because the more working experience will give more benefits.

Tran Trung et al (2020) studied on *"Toward Sustainable Learning during School Suspension: Socioeconomic, Occupational Aspirations, and Learning Behavior of Vietnamese Students during COVID-19"*. The research objective was to investigate students' behaviors while studying at home during the time in isolation due to COVID-19. This work showed the different learning habits of students with different socioeconomic backgrounds and career aspirations during an outbreak. In particular, the authors highlighted differences in students' learning behaviors between private and public schools, as well as between students planning to follow STEM-related careers and social science related careers. The empirical evidence of this study could be used by local authorities to increase the sustainability of upcoming policies and regulations to promote student effectiveness. These results could also be the foundation for future investigations on how to enhance students' learning habits towards Sustainable Development Goal 4 (SDG4) - Quality Education - especially in special situations such as the disruption of normal school operations.

There are also many other studies being interested by scientists around the world, researching and publishing when the context of the COVID-19 pandemic occurs and adversely affects the entire global socio-economy. Through research, it is found that most of the researches published during this period are those related to the fields of health, medicine, education, technology and other fields related to socio-economy development.

To get an overview of Vietnam's studies at this stage, bibliometrics method was first mentioned in the article of Pritchard (1969), applied to overview research topics in in different sectors, for example: health (Tran BX et al., 2020), education (Aria & Cuccurullo, 2017; Pham Thi Thuy Hong et al., 2020). In this paper scope, the statical method describing the number of annual publications by the field of research and by the field of social science in Vietnam was applied to clarify the followings:

- Number of publications of Southeast Asian countries related to COVID-19 and correlation of Vietnam;
- Correlation of the number of publications of Vietnam related to COVID-19 by research fields;
- The research field of social science about COVID-19 of Vietnam.

II. RESEARCH METHODS

Before conducting the data collection, the authors selected the Scopus database as the database source. There are three reasons to choose that: i) the popularity of the Scopus database in Vietnam (Nguyen T.T et al., 2020); ii) overall, the Scopus database has greater coverage than Web of Science database (Hallinger & Nguyen, 2020); iii) Scopus provides comprehensive information to support the bibliometrics method. Therefore, Scopus is a suitable source of data collection for this study.

For the purpose of collecting all published outputs of Vietnam and relating to COVID-19, the two keywords used for searching are "COVID-19" combined with "Vietnam" in the title, abstract, keyword and author's institution address (Affiliation field in the Scopus database). Publication data of Southeast Asian countries was collected in the same way to investigate the correlation of the number of publications related to COVID-19 during this period. The total number of documents published by 11 Southeast Asian countries is 1392 publications (cited at 15:00 on August 27th, 2020). In the collected data, Vietnam has published 123 articles and all published in 2020. To correlated compare the number of publications among countries as well as the number of publications among research areas in Vietnam, the descriptive statistical method was performed on the collected data set. The R statistics software is used to summarize the number of publications of each country, the amount and the number of citations of Vietnam's publications, and the amount and the number of citations of Vietnam's research areas. The list of countries, journals, and universities is sorted in descending order by the number of publications and the number of citation.

III. RESULTS AND DISCUSSION

The number of publications by Southeast Asian countries related to COVID-19 and correlation of Vietnam

The number of publications related to COVID-19 of Southeast Asian countries is listed in Table 1 below. According to this data, Singapore is the country with the most publications related to COVID-19, 614 documents and equivalent to 44.11% of the total publications in the region. Vietnam ranks fifth in the total number of publications related to the COVID-19 context with 123 documents, equivalent to 8.84%. Malaysia and Thailand are the 2nd and 3rd ranked countries, about 2 times higher; Indonesia only has more than 63 published products compared to Vietnam. East Timor is a country that has no products to publish. Brunei, Myanmar, Laos and Cambodia all have very little or insignificant publications on the COVID-19 situation. Thus, Vietnam is quite far from Singapore in the number of publications on impacts/ effects of COVID-19, and compared with other countries, the number of research related this epidemic situation is not too big gap.

Table 1. The number of publication by Southeast Asian countries

No.	Country	All areas	Social science (Ranking)	Percentage of country	Percentage of social science
1	Singapore	614	55 (1)	44.11	8.96
2	Malaysia	263	21 (2)	18.89	7.98
3	Thailand	231	10 (6)	16.59	4.33
4	Indonesia	186	14 (3)	13.36	7.53
5	Vietnam	123	14 (3)	8.84	11.38
6	Philippines	93	13 (5)	6.68	13.98
7	Brunei	19	2 (7)	1.36	10.53
8	Myanmar	8	1 (9)	0.57	12.50
9	Laos	4	0 (-)	0.29	0.00
10	Cambodia	3	0 (-)	0.22	0.00
11	East Timor	0	0 (-)	-	-

Regarding the number of publications in the field of social science, Singapore is also the leading country in the region with 55 products, 2.6 times higher than Malaysia and 3.9 times higher than Indonesia and Vietnam. In this field, Thailand ranks sixth with only 10 products, following the Philippines with 13 products. In addition, according to the calculation of *the proportion of publications in the field of social sciencecompared to the total number of publications of the countries* in this period, the Philippines ranked first with about 14%, Myanmar ranked second with about 12.5%, Vietnam ranked third with 11.4%; in which Singapore, Malaysia, Indonesia or Thailand only reached about 9%, 8%, 7.5% and 4.3% respectively. Thus, the field of social sciences is one of the fields that domestic authors are interested in researching and publishing in this period.

The number of publications by countries that have research cooperation with educational institutions in Vietnam is shown in Figure 1. The chart shows that there are 20 countries that have research cooperation with Vietnam, in which France, Singapore, the US and China are the four countries with the highest number of authors collaborated to publish with about 32 - 38 research works respectively. Next, UK, Iran, India, Sweden, Australia, Indonesia, Italy, Japan, Korea, Canada are the groups of countries that authors combine to publish work with Vietnamese authors in the range of 10 - 20 studies. The lowest is the authors from Belgium, Brazil, Germany, Thailand, Malaysia and Pakistan with the combined number of publications ranging from 6 - 8 studies. Within Southeast Asia, there are four countries having research cooperation with Vietnam: Singapore (ranked #1, number of publications: 37), Indonesia (#2, 12), Thailand (#3, 7), and Malaysia (#4, 6).

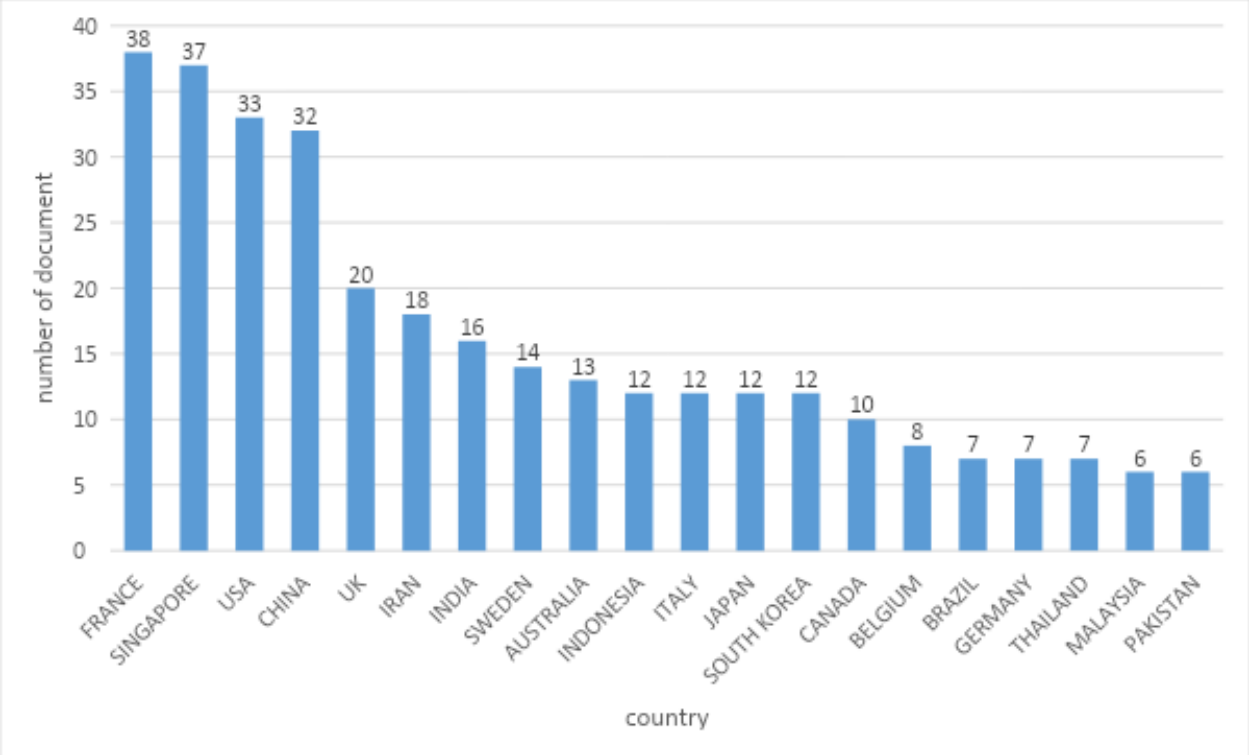

Figure 1. Number of publications of countries doing research cooperation with educational institutions in Vietnam

It can be said that in this period, Vietnam published 123 documents, accounting for 8.84% of the total number of documents in Southeast Asia. Compared to Singapore, the leading country in Southeast Asia, Vietnam still has a big gap. However, Vietnam has had research cooperation with many countries around the world as well as in the region.

Correlation of social science with other research fields in Vietnam

According to collected data, educational institutions in Vietnam have published 123 documents in 7 forms, mainly Article (ranked #1, 84 documents, rate 68.29%) (see Table 2). Followed by Letter (#2, 20, 16.26%), Data paper (#3, 6), Editorial (#4, 4), Review (#4, 4), Note (#6, 3), and Short survey. (#7, 2).

The first two forms of documents, Article and Letter, accounted for 84.55% of the total number of publications in Vietnam during this period. It can be seen that the research works of Vietnam are mainly published in the form of article.

Table 2. Number of Vietnam's documents based on form

No.	Form of document	Number	Percentage
1	Article	84	68.29
2	Letter	20	16.26
3	Data Paper	6	4.78
4	Editorial	4	3.25
5	Review	4	3.25
6	Note	3	2.43
7	Short Survey	2	1.62
Total		123	100

Correlation of the number of publications among 22 subject areas in Vietnam is shown in Figure 2, in which medicine is the main research area with 65 documents, the rate of 32.99%. Environmental Science ranks second (18 documents, 9.14%), with large differences (47 documents) from the subject of medicine. The subject of social science ranked third with 14 documents, the rate of 7.11%. Next, the subject of mathematics, the subject of engineering and immunology and microbiology with the same number of publications, and the subject of computer science accounted for 6.1%, 5.6% and 5.1% respectively. The remaining 15 subject areas had less than 10 documents (the rate <5% of the total publications). Thus, the field of medicine is focused to be studied in this period, and additionally, the field of social sciences also receives the scientists' attention.

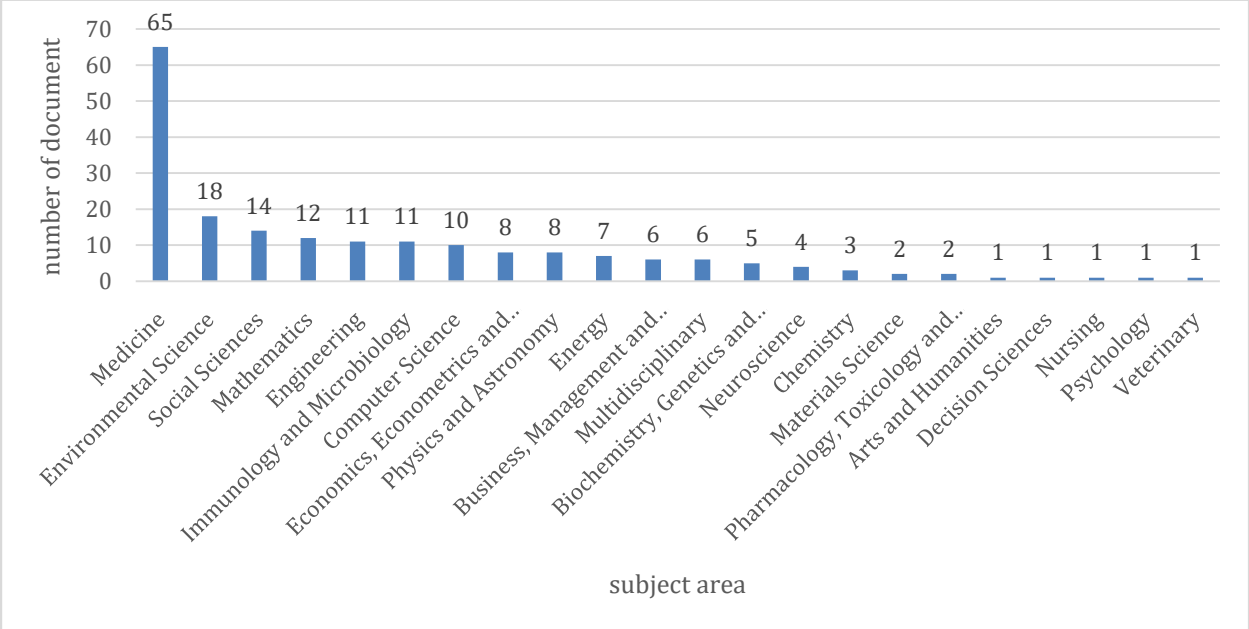

Figure 2. Number of Vietnam's documents based on subject areas

In general, the latest publications have mainly belonged to the medical and healthcare sectors. Because the impact of the COVID-19 pandemic directly affects people health in society, the studies focuse on these areas. The studies in the field of social science are still limited, but it also ranks third in the fields of research and publishing in Vietnam. Therefore, this subject area is considered that many scientists are interested in. The list of 20 journals (out of 75 journals) that publish the most Vietnam's documents is listed in Table 3 below. The list of journals sorted by decreased number of publications. According to Bradford's principle (1977), 10 journals were identified as core sources out of a total of 75 published journals in Vietnam (see Table 3). Top of the list is *Data in Brief* (ranked #1, number of documents: 6, total number of citations: 5). This is followed by *International Journal Of Environmental Research And Public Health* (#2, 5, 13), *Science Of The Total Environment* (#2, 5, 1), *Journal Of Global Health* (#2, 5, 116). The remaining journals belong to the group of core sources with the number of publications from 3 to 4 documents, with order from 5 to 10 on the list (see Table 3). 10 core sources published 42 documents, accounting for 34.14% of the total number of publications in Vietnam. According to the data in Table 3, 20 journals published a total of 65 documents, accounting for 52.84%. According to the title of the journal, it could be seen that publications related to the fields of health, medicine, environment, and disease. Considering the total number of citations, there are no journals in the list of top 3. These journals have only one Vietnam's publication but have the most citations. Specifically, *International Journal Of Antimicrobial Agents* (ranked #1, 873 citations), *New England Journal Of Medicine* (#2, 238), and *Tropical Medicine And International Health* (#3, 162). According to the 2019 journal ranking, the number of journals in group Q1 was the most with 9 journals, the number of journals in groups Q2, Q3 and Q4 was 7, 3, and 1 respectively (see Table 3).

The number of journals in groups Q1 and Q2 accounts for the majority, with 16/20 journals. The only journal of group Q4 on the list is *Data in Brief*, specializing in data description.

Table 3. List of top 20 journals with Vietnam's publications in the field of social science

No.	Journal	Publishing House	h_index	Total citations (ranking)	Total documents (ranking)	Ranking (Scopus)
1	Data In Brief (*)	Elsevier BV	1	5 (15)	6 (1)	Q4
2	International Journal Of Environmental Research And Public Health (*)	MDPI	2	13 (11)	5 (2)	Q2
3	Science Of The Total Environment (*)	Elsevier	1	1 (31)	5 (2)	Q1
4	Travel Medicine And Infectious Disease (*)	Elsevier USA	3	116 (5)	5 (2)	Q2
5	Chaos, Solitons And Fractals (*)	Elsevier Ltd.	1	2 (21)	4 (5)	Q1
6	Finance Research Letters (*)	Elsevier BV	3	23 (6)	4 (5)	Q1
7	Sustainability (Switzerland) (*)	MDPI AG	2	17 (9)	4 (5)	Q2
8	Brain, Behavior, And Immunity (*)	Academic Press Inc.	3	125 (4)	3 (8)	Q1
9	International Journal Of Infectious Diseases (*)	Elsevier	1	9 (13)	3 (8)	Q1
10	Journal Of Global Health (*)	Edinburgh University Global Health Society	1	2 (21)	3 (8)	Q1
11	Journal Of Medical Virology	Wiley-Liss Inc.	1	4 (17)	3 (8)	Q2
12	Safety Science	Elsevier	1	4 (17)	3 (8)	Q1
13	The Lancet Infectious Diseases	Lancet Publishing Group	3	20 (8)	3 (8)	Q1
14	Advances In Difference Equations	Springer Publishing Company	0	0 (-)	2 (14)	Q2
15	Applied Soft Computing Journal	Elsevier BV	0	0 (-)	2 (14)	Q1
16	Asian Pacific Journal Of Tropical Medicine	Wolters Kluwer Medknow Publications	1	10 (13)	2 (14)	Q2
17	Disaster Medicine And Public Health Preparedness	Cambridge University Press	0	0 (-)	2 (14)	Q3
18	Electronic Journal Of General Medicine	Modestum Ltd.	1	5 (15)	2 (14)	Q3
19	Entropy	MDPI	1	2 (21)	2 (14)	Q3
20	Infection Ecology And Epidemiology	Taylor and Francis Ltd.	1	22 (7)	2 (14)	Q2

*Note: * Core source from Bradford's Law*

In summary, Vietnam's publications related to COVID-19 are mainly articles, focusing on the field of medicine. The journals related to health, medicine, environment, and disease are most interested in. Vietnam's publications are targeted towards journals belonging to the group of high quality. Besides, articles about sharing data are most interested in this period.

The research areas related to COVID-19 in the field of social science in Vietnam

In the field of social sciences, a total of 14 documents have been published, including 13 articles and 1 letter (Tung, L.T., 2020). The documents are published in 9 journals, of which 2 are in group Q1, 5 in group Q2, and 2 in group Q4 (see Appendix 1). According to statistics, there are 20 educational institutions participating in publishing research in Vietnam, including 16 universities and educational institutions in Vietnam and 6 universities outside of Vietnam (see Appendix 2). In term of authors, 14 documents were published with the participation of 55 authors, of which 2 authors had the same number of 3 documents, namely Tran T. (Vietnam Academy for Ethnic Minorities) and Vuong QH (Phenikaa University) (see Appendix 3).

Information of 14 Vietnam's documents in the field of social sciences published in the period COVID-19 is listed in Table 4 below. Out of a total of 14 documents, 7 were non-funded and 7 funded (Vingroup Innovation Foundation, National Natural Science Foundation Of China, Nafosted, Industrial University Of Ho Chi Minh City, University Of Economics Ho Chi Minh City, Hanoi University Of Science And Technology) (see Table 4). Regarding the total number of citations, there were 8 articles with at least one citation, top of the list is an article of La VP et al (2020) with 13 times. The author is Vietnamese who published 12/14 documents in the position of first author. There are 4 authors publishing articles as independent authors, including 3 Vietnamese.

When analyzing according to the article contents, the authors identified 4 main groups of topics. The first is a group of research papers on epidemic prevention in Vietnam, in particular government propaganda (La VP et al., 2020), Vietnam's response to the pandemic (Ivic S, 2020), awareness and tackle of local authorities (Xuan Tran B et al., 2020), description of the epidemic prevention in Ho Chi Minh City (Thoi PT, 2020). The second is the research group on solutions to limit the impact of COVID-19 on the life and socio-economy. Tran BX et al (2020) proposed a solution to control COVID-19 occurrence in industrial zones. Zeng Z et al. (2020) proposed to apply artificial intelligence and robotics in the travel and tourism industry to improve service quality, while reducing the impact of COVID-19 on this industry. Long NN and Khoi BH (2020) studied the relationship between risk perception and consumer behavior. The third is the research group related to education such as assessing the mental health of students in an online learning environment (Lan HTQ et al., 2020), exploring the relationship between students' backgrounds and digital skills (Tran T et al., 2020), exploring students' career aspirations during an outbreak epidemic (Tran T et al., 2020b). The fourth is the research group on healthcare for the elderly in this period (Giang TL et al., 2020; Tung LT, 2020).

In general, in the field of social science, although the number of publications in Vietnam related to COVID-19 is not much, it has focused on outstanding social issues, such as epidemic prevention, minimizing the impact of the epidemic on the life and socio-economy, factors related to online learning of students, health care for the elderly. In addition, many other problems arise due to the effects of COVID-19 that have not been published yet, such as psychological effects of infected or suspected nCovi, effects of COVID-19 on vulnerable group in society…

Table 4. List of 14 Vietnam registered publications in the field of social science

No.	Author	Title	Journal	Total citations	Funding	Year
1	La VP; Pham TH; Ho MT; Nguyen MH; Nguyen KLP; Vuong TT; Nguyen HKT; Tran T; Khuc Q; Ho MT; Vuong QH	Policy Response, Social Media And Science Journalism For The Sustainability Of The Public Health System Amid The Covid-19 Outbreak: The Vietnam Lessons	Sustainability (Switzerland)	13		2020
2	Tran BX; Vu GT; Latkin CA; Pham HQ; Phan HT; Le HT; Ho RCM	Characterize Health And Economic Vulnerabilities Of Workers To Control The Emergence Of Covid-19 In An Industrial Zone In Vietnam	Safety Science	4	Vingroup Innovation Foundation	2020
3	Zeng Z; Chen PJ *); Lew AA	From High-Touch To High-Tech: Covid-19 Drives Robotics Adoption	Tourism Geographies	2	National Natural Science Foundation Of China	2020
4	Tran T; Hoang AD; Nguyen YC; Nguyen LC; Ta NT; Pham QH; Pham CX; Le QA; Dinh VH; Nguyen TT	Toward Sustainable Learning During School Suspension: Socioeconomic, Occupational Aspirations, And Learning Behavior Of Vietnamese Students During Covid-19	Sustainability (Switzerland)	2	Nafosted	2020

5	Long NN; Khoi BH	An Empirical Study About The Intention To Hoard Food During Covid-19 Pandemic	Eurasia Journal Of Mathematics, Science And Technology Education	2	Industrial University Of Ho Chi Minh City	2020
6	Ivic S	Vietnams Response To The Covid-19 Outbreak	Asian Bioethics Review	1		2020
7	Giang TL; Vo DT; Vuong QH	Covid-19: A Relook At Healthcare Systems And Aged Populations	Sustainability (Switzerland)	1		2020
8	Tran T; Ho MT; Pham TH; Nguyen MH; Nguyen KLP; Vuong TT; Nguyen THT; Nguyen TD; Nguyen TL; Khuc Q; La VP; Vuong QH	How Digital Natives Learn And Thrive In The Digital Age: Evidence From An Emerging Economy	Sustainability (Switzerland)	1		2020
9	Huynh TLD	Does Culture Matter Social Distancing Under The Covid-19 Pandemic?	Safety Science	0	University Of Economics Ho Chi Minh City	2020
10	Xuan Tran B; Thi Nguyen H; Quang Pham H; Thi Le H; Thu Vu G; Latkin CA; Ho CSH; Ho RCM	Capacity Of Local Authority And Community On Epidemic Response In Vietnam: Implication For Covid-19 Preparedness	Safety Science	0	Vingroup Innovation Foundation	2020
11	Nguyen HV; Tran HX; Van Huy L; Nguyen XN; Do MT; Nguyen N	Online Book Shopping In Vietnam: The Impact Of The Covid-19 Pandemic Situation	Publishing Research Quarterly	0		2020
12	Thoi PT	Ho Chi Minh City- The Front Line Against Covid-19 In Vietnam	City And Society	0		2020
13	Tung LT	Social Responses For Older People In Covid-19 Pandemic: Experience From Vietnam	Journal Of Gerontological Social Work	0		2020
14	Lan HTQ; Long NT; Van Hanh N	Validation Of Depression, Anxiety And Stress Scales (Dass-21): Immediate Psychological Responses Of Students In The E-Learning Environment	International Journal Of Higher Education	0	Hanoi University Of Science And Technology	2020

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IV. CONCLUSION

This paper attempts to give an overview of Vietnam's scientific publications during the pandemic of COVID-19, in which the correlation of the number of Vietnam's publications with Southeast Asian countries' ones, the correlation the number of documents among Vietnamese research areas, and interested research subjects in the field of social science. The limitation in this article is that collected information was from a single data source - Scopus. The data analysis shows that the studies with the most publications belonged to medicine and health, so the absence of data from the MedPub database does not show complete and really accurate data in these fields. On the other hand, the delay in updating Scopus document data causes the number of documents searched in this article to be incomplete, for example documents by Bui TH et al (2020) published on August 5th 2020 but it was not found in Scopus database at the time of data collection.

Subsequent studies should integrate multiple data sources, especially Medpub, at different time of data collection (possibly identified by infection waves), for an accurate and complete viewpoint on Vietnam research, as well as for considering research issue changes of each period.

APPENDIX

Appendix 1. List of journals publishing social science documents of Vietnam's educational institutions

No.	Journal	Publishing House	Ranking (Scopus)
1	Asian Bioethics Review	Springer	Q4
2	City And Society	Wiley-Blackwell	Q2
3	Eurasia Journal Of Mathematics, Science And Technology Education	Modestum Ltd	Q2
4	International Journal Of Higher Education	Sciedu Press	Q4
5	Journal Of Gerontological Social Work	Routledge	Q2
6	Publishing Research Quarterly	Springer	Q2
7	Safety Science	Elsevier B.V.	Q1
8	Sustainability (Switzerland)	MDPI AG	Q2
9	Tourism Geographies	Routledge	Q1

Appendix 2. List of universities/ educational institutions issuing social science documents in Vietnam

No.	University/ Educational institution	Total publications	Country
1	Duy Tan University	8	Vietnam
2	Nguyen Tat Thanh University	5	Vietnam
3	Phenikaa University	5	Vietnam
4	National University Of Singapore	3	Singapore
5	Thuongmai University	3	Vietnam
6	Universit Libre De Bruxelles	3	Belgium
7	Vietnam Academy For Ethnic Minorities	3	Vietnam
8	Hanoi Medical University	2	Vietnam
9	Hanoi University	2	Vietnam
10	Johns Hopkins University	2	United States
11	National University Hospital	2	Singapore
12	Northern Arizona University	2	United States
13	RMIT Vietnam University	2	Vietnam
14	Sciences Po Paris	2	France
15	Ton Duc Thang University	2	Vietnam

16	Vuong And Associates (*)	2	Vietnam
17	Edlab Asia Educational Research And Development Centre	1	Vietnam
18	Foreign Trade University	1	Vietnam
19	Hanoi University Of Science And Technology	1	Vietnam
20	Ho Chi Minh City Open University	1	Vietnam

*Note: * Vuong QH's research team*

Appendix 3. List of top 20 authors with Vietnam's documents in the field of social science

No.	Author	University/ Educational institution	Country	h_index	Total citations (ranking)	Total publications
1	Tran T	Vietnam Academy for Ethnic Minorities	Vietnam	2	16	3
2	Vuong QH	Phenikaa University	Vietnam	1	15	3
3	Ho MT	Phenikaa University	Vietnam	1	14	2
4	Khuc Q	Phenikaa University	Vietnam	1	14	2
5	La VP	Phenikaa University	Vietnam	1	14	2
6	Nguyen KLP	Phenikaa University	Vietnam	1	14	2
7	Nguyen MH	Phenikaa University	Vietnam	1	14	2
8	Pham TH	Phenikaa University	Vietnam	1	14	2
9	Vuong TT	Phenikaa University	Vietnam	1	14	2
10	Ho RCM	Nguyen Tat Thanh University	Vietnam	1	4	2
11	Latkin CA	Johns Hopkins University	United States	1	4	2
12	Nguyen HKT	Phenikaa University	Vietnam	1	13	1
13	Le HT	Hanoi Medical University	Vietnam	1	4	1
14	Pham HQ	Duy Tan University	Vietnam	1	4	1
15	Phan HT	Duy Tan University	Vietnam	1	4	1
16	Tran BX	Hanoi Medical University	Vietnam	1	4	1
17	Vu GT	Nguyen Tat Thanh University	Vietnam	1	4	1
18	Chen PJ	Northern Arizona University	United States	1	2	1
19	Dinh VH	University of Labour and Social Affairs	Vietnam	1	2	1
20	Hoang AD	EdLab Asia Educational Research and Development Centre	Vietnam	1	2	1

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