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## Article

# A twenty years bibliometric analysis (2002-2021) of business economics research in ASEAN

Cogent Business & Management

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*Suggested Citation:* Harsanto, Budi; Firmansyah, Egi Arvian (2023) : A twenty years bibliometric analysis (2002-2021) of business economics research in ASEAN, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 10, Iss. 1, pp. 1-20, <https://doi.org/10.1080/23311975.2023.2194467>

This Version is available at:

<https://hdl.handle.net/10419/294356>

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## A twenty years bibliometric analysis (2002 – 2021) of business economics research in ASEAN

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**To cite this article:** Budi Harsanto & Egi Arvian Firmansyah (2023) A twenty years bibliometric analysis (2002 – 2021) of business economics research in ASEAN, Cogent Business & Management, 10:1, 2194467, DOI: [10.1080/23311975.2023.2194467](https://doi.org/10.1080/23311975.2023.2194467)

**To link to this article:** <https://doi.org/10.1080/23311975.2023.2194467>



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Published online: 01 Apr 2023.



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Received: 19 April 2022  
Accepted: 20 March 2023

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Reviewing editor:  
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## MANAGEMENT | REVIEW ARTICLE

# A twenty years bibliometric analysis (2002 – 2021) of business economics research in ASEAN

Budi Harsanto<sup>1\*</sup> and Egi Arvian Firmansyah<sup>1,2</sup>

**Abstract:** ASEAN is predicted to be the world's largest single market by 2030, after the US, China, and the EU. This study aims to discover research performance in all ASEAN countries, including identifying output levels, research focus, and influential authors in the region. The approach used in this study is a bibliometric analysis of publications indexed in the WoS database for the past two decades (2002–2021). Of the more than 20,000 documents analyzed, it was indicated that each ASEAN country has exclusive and non-exclusive keywords. Singapore has the highest number of citations among the other ASEAN countries.

**Subjects:** Asian Business; International Business

**Keywords:** ASEAN; business economics; research performance; bibliometric; Web of Science

## 1. Introduction

Business economics is an area in the social sciences representing economic activities on a micro and macro level. The development of business economics in practice is crucial in everyday life. Business economics is one of the research areas in the Web of Science (WoS) academic database's classification of social sciences (Jesenko & Schlögl, 2021). WoS includes more than 100 research areas, including business economics. Research and publications on business economics rely significantly on a country's commercial and economic development, researcher capabilities, research facilities, and government research support.

The issue above applies to the Association of Southeast Asian Nations (ASEAN) members, consisting of 10 members, including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam. The region represents a large market and has a population of about 650 million people, or the most populous region in the world after China and India. ASEAN is predicted to be the world's largest single market by 2030, after the US, China, and the EU (Enterprise Singapore, 2019). The region has experienced consistent growth over the last two decades owing to a combination of variables, including fundamental solid growth,

## ABOUT THE AUTHORS

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favorable demographics in quantity and quality, ample natural resources, and improving regional integration (Enterprise Singapore, 2019; Harsanto & Permana, 2019). The integration is, for example, reflected in the ASEAN Economic Community (AEC), which regulates trade policy between ASEAN member countries, with almost 100% of traded goods tariff-free so that the flow of goods and capital can occur smoothly.

According to the categorization and recent data from the World Bank, the economic level of ASEAN countries differs despite being geographically close to one another and improving economic integration efforts (World Bank, 2022). Singapore and Brunei Darussalam are the two countries classified as high-income economies with a GDP per capita of USD 12,696 or more, despite becoming the two smallest countries in terms of population. Malaysia and Thailand have a GDP per capita of USD 4,096 to USD 12,695 or upper-middle-income economies. Most countries with lower-middle-income economies in the region are Indonesia, the Philippines, Vietnam, Myanmar, Laos, and Cambodia, with incomes per capita between USD 1,046 to USD 4,095. Indonesia experienced an increase to an upper-middle-income economy in 2019 but turned back to becoming a lower-middle-income economy the following year, especially as a profound impact of the COVID-19 pandemic on the economy. No ASEAN country includes low-income economies (less than USD 1,045). With that background, it is interesting to elaborate on how research publications are performing in business economics in the ASEAN region.

This study aims to discover research performance in business economics of all ASEAN countries, including identifying output levels, research focus, and influential authors in the region in the last twenty years (2002–2021). The twenty-year period was chosen considering many publications have been accumulated worth researching. In addition, many studies use twenty years in business economics research (Ladhari, 2009; Quoc Bui et al., 2021) and other areas (e.g., Naylor et al., 2021).

The approach used in this study is a bibliometric analysis of the business economics publications indexed in the WoS database for the past two decades. This bibliometric analysis is one of the manners of the domain-based systematic review (Harsanto, 2021; Thomas & Gupta, 2021). Other types of review papers include, for instance, framework-based reviews, a review of a theory in a specific field, and theme-based systematic literature reviews with directions for future research (Paul & Rowley, 2020).

A bibliometric approach to business economics has been used in previous studies, but they were global in scope (Merigó et al., 2016). Besides, bibliometric studies on the ASEAN region have been conducted previously in various disciplines or topics, such as schistosomiasis (Tantengco & Rojo, 2022), polycystic ovary syndrome (Ilagan-Vega et al., 2022), ICT-based knowledge sharing (Vorraakkatham et al., 2022), COVID-19 research (Tantengco, 2021), Natural Language Processing (Roxas et al., 2021), corruption research (Quoc Bui et al., 2021), computer science (Hew et al., 2021), sustainable manufacturing (Qureshi et al., 2020), STEM education (Ha et al., 2020), and plant biotechnology (Payumo & Sutton, 2015). However, based on our observation, none focused on business and management topics. Therefore, this research fills the gap in the literature and provides information for ASEAN scholars working on business and management research areas, suggesting essential business and management topics that may have been overlooked. This study can help policymakers understand the research topics that have evolved in each country and direct policy related to business economics research and business economics practices in general.

The remainder of the paper is structured as follows. The methodology is discussed in detail in the following section, particularly the study procedure and how data is obtained and analyzed. The subsequent sections present the results and discussions of the findings. Subsequently, there is a section on implications, both theoretical and practical. The last two sections are about future research directions and the conclusion.

## 2. Methodology

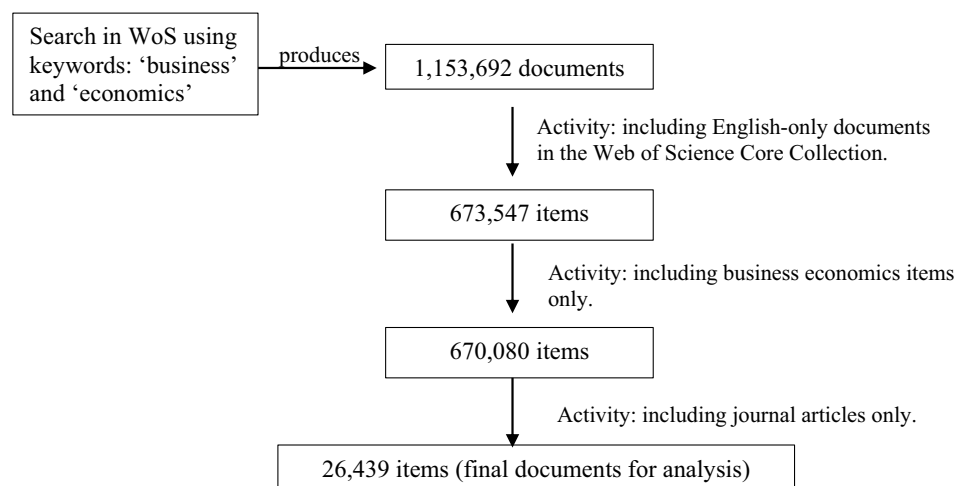
Bibliometric analysis has been widely used by researchers in numerous fields or topics, such as computer science (Iqbal et al., 2019), accounting (Ardianto & Anridho, 2018), medicine (Nafade et al., 2018), women's studies (Tsay & Li, 2017), career studies (Lee et al., 2014), and *takaful* (Islamic Insurance) (Hassan et al., 2020). In addition to observing specific topics through bibliometric analysis, some researchers also evaluate the performance of particular journals in specific periods in order to gain insight into the progress or performances of those journals (for instance, Abdi et al., 2018; Firmansyah and Faisal (2020); Harsanto (2020); and Wei (2019). This study employs bibliometric analysis to determine the performance of all ASEAN countries in producing business and economic research primarily indexed in the Web of Science (WoS) database.

The data used in this study were obtained from the Web of Science index. This index is believed to have an advantage over other popular indexing bodies in terms of enormous coverage, and most of its journals are written in English (Joshi, 2016). We searched the documents on January 5<sup>th</sup>, 2022, with the keywords “business” and “economics” by confining the search to ten ASEAN countries (Brunei, Cambodia, Indonesia, Lao, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam). The publication period is limited to twenty years or from 2002 to 2021.

Our initial search for the two-decade period in the WoS results in 1,153,692 documents. We then filtered the search by including English-only documents in the Web of Science Core Collection, producing 673,547 items. After obtaining the results from the first step, the subsequent filtering is based on the research area using refinement tools in WoS by clicking on the “Business Economics” research area. The result was 670,080 items. It means around 3,000 items that mention the words “business” and “economics” in the keywords but are not included in the research area of business economics in WoS. They were excluded.

Further filter was applied to business economics, resulting in 670,080 documents, including journal articles, conference proceedings, and book chapters. We then refined the search by only including journal articles, producing 26,439 articles published in various journals. This type of document is selected because it is the one that undergoes rigorous procedures or peer review prior to publication. Therefore, we expected the quality of journal articles to be above other types of documents and selected them as the object of analysis in this research. The procedure of document selection in this study can be illustrated in Figure 1 as follows.

**Figure 1. Document selection.**



### 3. Results and discussion

The results of this study include the publication number, trend, and citation of each ASEAN country. Furthermore, author performance and keywords documented by each ASEAN country are also presented. Assessment of country performance and other features are an essential element of a bibliometric study, as documented, for example, in a recent bibliometric study by Khan et al. (2022).

#### 3.1. Publications per country

Over the past 20 years, the number of journal articles published by the ten ASEAN countries observed in this study is 26,439 documents. We selected the authors' addresses showing the country origins to measure publication per country of those total articles. Since one document can contain various authors from different ASEAN countries, the total counting is beyond the total number of documents. There is a gap of 867 between those two numbers. It means 867 documents were authored by more than one author from ASEAN countries.

Of the total journal articles studied, the countries showed varied publications, with Singapore with the most documents consisting of 7,887, slightly followed by Malaysia in the second rank with 7,389 documents. Indonesia stood in the third position with 4,097 journal articles. These three ASEAN countries are the top three countries in the number of publications in business economics. Myanmar, Cambodia, and Laos have the smallest number of documents, while Vietnam, Thailand, the Philippines, and Brunei can be considered in the middle regarding the number of documents. Table 1 compares documents for each ASEAN country in the past 20 years.

Various factors influence the number of publications published by ASEAN countries. Those factors include the country's spending on research and development (R&D) for creating high-quality research outputs (Meo et al., 2013). The number of world-class universities is another factor contributing to the publication output. For instance, the two best universities in Singapore are the National University of Singapore (NUS) and Nanyang Technological University (NTU). Based on data from QS Top Universities, these two campuses are ranked 11 and 12 globally, respectively. Singapore has abundant resources needed for research, and English has been used by students from primary to university level, removing academic barriers and increasing research productivity of the researchers (Altbach & Salmi, 2011). Malaysia also has one world-class university ranked 65 globally, i.e., the University of Malaya (UM) (QuacquarelliSymonds, 2022).

In addition to publication frequency shown in Table 1, it can also be seen that the trend of annual publication in each country varies, not accumulative, as shown in Figure 2. Singapore (colored dark blue) shows a steadily increasing trend, with an annual publication average of 394 papers and a standard deviation of 215. This trend is different from both Malaysia (colored red) and Indonesia (colored green), where the number of publications skyrocketed in 2016; meanwhile, Vietnam (colored purple) was even more recent in 2020. It was found that even though Malaysia, Indonesia, and Vietnam had lower publication averages, their standard deviations were higher than Singapore, with values of 467, 250, and 315, respectively. It means the dispersion of publication performance in the last two decades in Malaysia, Indonesia, and Vietnam is relatively high. Besides, it can be understood that these three countries might have realized the significance of publication recently compared to Singapore. Other ASEAN countries have a smaller publication average and standard deviation than the four nations aforementioned earlier.

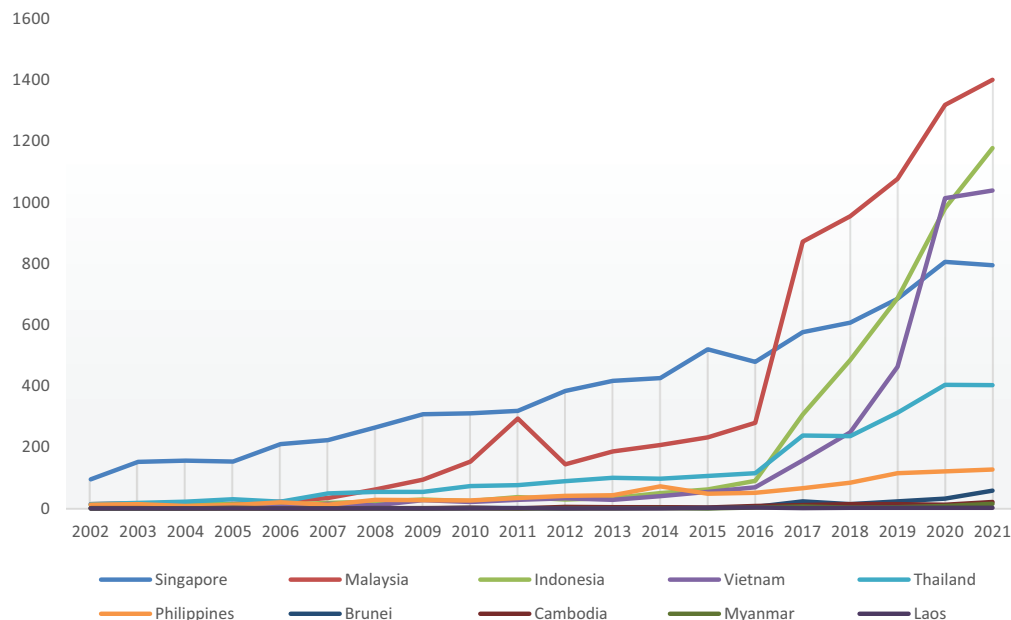
Such rapid increases in publications for some sample countries, for example, Malaysia in 2016 and Vietnam in 2019, can be caused by monetary or non-monetary factors. Monetarily, as an example, Malaysia, in the 2014–2018 period, financially invested significantly in their Gross Expenditure on R&D (GERD) from 8 billion USD in 2014 to 12 Billion USD in 2018 or an increase of 50% (Cheng et al., 2018). Malaysia also looks welcoming and attractive to international research talent, which helps to boost research and publication performance (Cheng et al., 2018). On a non-monetary basis, for instance, in Vietnam, the rapid increase can result from the higher education

**Table 1. Publication counts over the past two decades among ASEAN countries**

Year	Singapore	Malaysia	Indonesia	Vietnam	Thailand	Philippines	Brunei	Cambodia	Myanmar	Laos	Total per year
2002	95	14	11	1	14	12	-	1	-	-	148
2003	152	17	12	4	18	14	-	1	-	-	218
2004	156	11	16	3	22	8	-	-	-	-	216
2005	153	15	13	6	30	11	2	-	-	-	230
2006	210	22	12	6	22	20	-	-	-	-	292
2007	223	34	18	15	49	12	-	-	-	-	351
2008	265	62	22	10	54	28	1	1	-	-	443
2009	308	94	29	27	54	27	-	1	-	-	540
2010	311	153	24	21	73	26	2	2	-	-	612
2011	319	294	37	28	76	34	1	-	-	1	790
2012	384	144	29	33	89	41	1	5	-	-	726
2013	417	186	34	28	100	43	3	4	-	-	815
2014	426	207	50	40	97	72	3	4	1	-	900
2015	520	232	62	54	106	48	1	3	-	2	1,028
2016	479	280	90	69	115	51	5	8	3	3	1,103
2017	576	872	307	157	238	66	23	11	6	1	2,257
2018	607	955	485	249	236	84	14	14	3	2	2,649
2019	685	1,077	687	463	313	115	23	14	4	2	3,383
2020	806	1,319	981	1,014	404	121	32	12	8	2	4,699
2021	795	1,401	1,178	1,039	403	127	58	21	15	2	5,039
<b>Total</b>	7,887	7,389	4,097	3,267	2,513	960	169	102	40	15	26,439
<b>Percentage</b>	29.83%	27.95%	15.50%	12.36%	9.50%	3.63%	0.64%	0.39%	0.15%	0.06%	100%



**Figure 2. Trends of annual publication in ASEAN countries (not an accumulation).**



requirements for publications, especially at the doctoral degree, stimulating publication in reputable international journals (Mai, 2017).

### 3.2. Citations per country

The citation data received by each ASEAN country is shown in Table 2. This table illustrates that Singapore obtained the most citations, with more than a 58 percent score for all documents observed in this study. The second and third ranks go to Malaysia and Indonesia, with around 18 percent and 6 percent, respectively. The relationship between total publications and the number of citations earned is very strong (82 percent), as also documented in a previous study (Hew et al., 2021), indicating that the number of citations is highly dependent on the number of published documents (Waltman, 2016).

### 3.3. Keyword analysis

The author's keyword analysis from ASEAN countries can be seen in Table 3, processed from data obtained through VOSViewer software. Data processing is done by performing relative measurements by dividing the number of author keywords by the entire document in each country. The top five author keywords with the largest percentage in each country are selected. The greater the proportion, the more frequently the keywords are used in a particular country.

Table 3 then leads to Table 4, which provides some interesting insights. First, some keywords are exclusive to certain countries and are not found as top keywords in other ASEAN countries. It can mean that authors in a particular country place a research focus on a specific area represented by those keywords. Keywords "game," "optimization," "price," and "problem" were associated only with Singapore, while "attitude," "efficiency," and "growth" were associated with Malaysia. Furthermore, "service quality" and "trust" were associated with Indonesia, while "bank" and "volatility" were associated with Vietnam. Other terms, such as "corporate social responsibility," was associated with Thailand, while "infrastructure," "innovation," "philippines," and "rice" were associated with the Philippines. For Brunei Darussalam, the following terms are only found in this country: "brunei darussalam," "financial development," and "malaysia." Subsequently, "china," "climate change," "country," and "governance" were associated with Cambodia, while "agriculture," "ethiopia," "trade," and "value chain" were associated with Myanmar. Finally, "asia," "laos," "supplier," and "total quality management" were associated with Laos.



Table 2. Citations and h-index										
	Singapore	Malaysia	Indonesia	Vietnam	Thailand	Philippines	Brunei	Cambodia	Myanmar	Laos
Total publications	7,887	7,389	4,097	3,267	2,513	960	169	102	40	15
Percentage of citations earned (%)	58.22%	18.31%	5.95%	5.68%	7.79%	3.28%	0.21%	0.37%	0.04%	0.15%
h-index	190	97	59	57	72	49	15	20	6	14

**Table 3. Author keywords analysis**

Author keywords	Singapore	Malaysia	Indonesia	Vietnam	Thailand	Philippines	Brunei	Cambodia	Myanmar	Laos
agriculture	-	-	-	-	-	-	-	-	10,00%	-
Asia	-	-	-	-	-	-	-	-	-	20.00%
attitude	-	1.43%	-	-	-	-	-	-	-	-
bank	-	-	-	2.51%	-	-	-	-	-	-
Brunei Darussalam	-	-	-	-	-	-	5.33%	-	-	-
china	-	-	-	-	-	-	-	2.94%	-	-
climate change	-	-	-	-	-	-	-	3.92%	-	-
corporate governance	1.22%	2.17%	-	-	2.55%	-	-	-	-	-
corporate social responsibility	-	-	-	-	1.71%	-	-	-	-	-
country	-	-	-	-	-	-	-	2.94%	-	-
covid	-	-	-	2.82%	-	-	3.55%	-	-	-
economic growth	-	2.71%	-	2.97%	-	-	-	2.94%	-	-
efficiency	-	1.99%	-	-	-	-	-	-	-	-
Ethiopia	-	-	-	-	-	-	-	-	7.50%	-
financial development	-	-	-	-	-	-	3.55%	-	-	-
game	1.34%	-	-	-	-	-	-	-	-	-
governance	-	-	-	-	-	-	-	2.94%	-	-
growth	-	1.37%	-	-	-	-	-	-	-	-
infrastructure	-	-	-	-	-	1.88%	-	-	-	-

(Continued)

**Table 3. (Continued)**

Author keywords	Singapore	Malaysia	Indonesia	Vietnam	Thailand	Philippines	Brunei	Cambodia	Myanmar	Laos
innovation	-	-	-	-	-	2.60%	-	-	-	-
intention	-	-	3.42%	2.27%	1.95%	-	-	-	-	-
Laos	-	-	-	-	-	-	-	-	-	40.00%
leadership	-	-	2.49%	-	1.63%	-	-	-	-	20.00%
malaysia	-	-	-	-	-	-	5.92%	-	-	-
market	-	-	-	-	-	3.85%	7.69%	-	7.50%	-
optimization	1.04%	-	-	-	-	-	-	-	-	-
Philippines	-	-	-	-	-	5.52%	-	-	-	-
price	1.13%	-	-	-	-	-	-	-	-	-
problem	1.41%	-	-	-	-	-	-	-	-	-
rice	-	-	-	-	-	2.60%	-	-	-	-
satisfaction	-	-	2.32%	-	1.91%	-	-	-	-	-
service quality	-	-	2.10%	-	-	-	-	-	-	-
supplier	-	-	-	-	-	-	-	-	-	20.00%
total quality management	-	-	-	-	-	-	-	-	-	20.00%
trade	-	-	-	-	-	-	-	-	7.50%	-
trust	-	-	2.54%	-	-	-	-	-	-	-
value chain	-	-	-	-	-	-	-	-	7.50%	-
volatility	-	-	-	1.90%	-	-	-	-	-	-

**Table 4. Exclusive and non-exclusive author keywords per country**

Countries	Exclusive	Non-exclusive
Singapore	game, optimization, price, problem	corporate governance (S, M, T) economic growth (M, V, C) intention (I, V, T) leadership (I, T, L) market (P, B, My) covid (V, B) satisfaction (I, T)
Malaysia	attitude, efficiency, growth	
Indonesia	service quality, trust	
Vietnam	bank, volatility	
Thailand	corporate social responsibility	
Philippines	infrastructure, innovation, philippines, rice	
Brunei	brunei darussalam, financial development, malaysia	
Cambodia	china, climate change, country, governance	
Myanmar	agriculture, ethiopia, trade, value chain	
Laos	asia, laos, supplier, total quality management	

Some keywords seem unrelated but are related to the business economics research area. For example, the “game” keyword reflects “game theory,” which, for example, is found in Ignatius et al. (2018) study regarding the analysis of game theory at ports in two ASEAN countries, Malaysia and Singapore, or in Najma et al. (2020), who investigate employer-labor conflicts using game theory. Other keywords such as “problem” reflect various types of problems in business economics, especially those related to optimization, such as the routing problem, which for example, was researched by Vu et al. (2022), or the agency problem studied by D. V. Tran et al. (2021). The keyword “intention,” for example, relates to studies that use theories such as the theory of planned behavior examining consumer purchase intentions, such as studies from Chong et al. (2021) or Ekasari and Zaini (2020). Similarly, other keywords that appear unrelated to business economics are related.

Second, there are top keywords not exclusive to one particular country but are found in two or more countries in ASEAN. These are pretty general keywords that indicate the share of interest among ASEAN countries during the last two decades, including “corporate governance,” one of the top keywords in Singapore, Malaysia, and Thailand. The keyword “economic growth” is found in Malaysia, Vietnam, and Cambodia, while “intention” is found in Indonesia, Vietnam, and Thailand. Furthermore, the keyword “leadership” is found in Indonesia, Thailand, and Laos. The word “market” is found in the Philippines, Brunei Darussalam, and Myanmar. The word “covid” is found in Vietnam and Brunei Darussalam, and “satisfaction” is found in Indonesia and Thailand. Of the 7 top keywords, six are traditional concepts that have been around for a long time, while one keyword, “covid,” shows current topics that emerged after the COVID-19 pandemic.

Third, the emergence of the keyword “covid” as one of the top keywords in Table 3 shows interesting evidence of the high level of publications using this term, especially in Vietnam and Brunei Darussalam. As we all know, covid is a phenomenon that has only emerged in the last two years or at the beginning of 2020. However, this keyword can offset other topics that emerged about twenty years earlier. It shows that a pandemic is an extraordinary event that is not only a health crisis but also has a major impact on business economics, including in ASEAN countries.

Each ASEAN country has a different focus on research on business economics. Among the striking ones are the unique topics becoming the focus in Singapore, which are characteristically different from other ASEAN countries because targeting more specific problems such as “game” and “price” than more general topics such as “service quality,” “economic growth” and “corporate social responsibility.” Another evidence found as one of the top keywords in Singapore is “optimization,” which is identical to quantitative studies to find the optimal solution for a particular problem, compared to other keywords in other ASEAN countries, such as “leadership” or “innovation” that can be approached through quantitative or qualitative approaches or mixed methods.

The keywords that are unique in Malaysia and Indonesia have similarities, namely “attitude,” “service quality,” and “trust,” which indicate a concern that is sedated between the two, so it is not surprising that both have a publication count level that is not much different. It is in line with the prior review, which shows that these keywords are indeed the top keywords in management research in Indonesia (Harsanto & Firmansyah, 2021). The similarities of exclusive keywords are also seen in “Philippines” and “Brunei Darussalam,” which possess a concern with “infrastructure” and “financial development,” marking close attention of these countries to infrastructure improvement and economic development. The three countries with the most leveraged publications are Cambodia, Myanmar, and Laos, which share the top keyword of “economic growth.” Some exclusive and non-exclusive author keywords seem not closely related to business economics, even though they are. In Malaysia, for example, “attitude” refers to consumer attitudes toward specific products or processes, such as the halal certification process or attitudes towards environmental issues in business economics (Le et al., 2021; Othman et al., 2017).

Table 5 shows the most influential authors in ASEAN countries in business economics studies sorted by publication count recorded in WoS. In addition to the publication count, there is an H-index, sums of times cited, citing articles, and impact percentile with all data obtained from WoS to provide an overview of each author’s influence and impact. Quite a lot of top authors have more than one affiliate. If that happens, the affiliate column lists the current affiliation and other affiliates in ASEAN countries. For example, Philips, PCB, which has the most times cited in WoS in the region (30,387 citations), is affiliated with Yale University and Singapore Management University. Most researchers with more than one affiliation coming from emerging economies have other affiliations with universities or research institutions in advanced economies within the region, such as Singapore (e.g., National University of Singapore), or outside the region, such as the USA (e.g., Yale University, Pennsylvania State University, University of New Mexico) or the two largest countries in Oceania namely Australia and New Zealand (e.g., Massey University and Central Queensland University).

From Table 5, the top 5 authors in Singapore have a level of citation that is massively different from other ASEAN countries, including the second and third, namely Malaysia and Indonesia. It is also seen from the H-index, which reveals a vast difference between the top authors in Singapore and other ASEAN Countries. It signifies the high productivity and influence of authors in Singapore, which can be due to various factors, such as the ability of authors to research newer research topics and to explore knowledge in new areas that have not been explored before. Besides, the support of qualified facilities and infrastructure and a strong network with other authors are also factors that may affect the productivity of researchers in Singapore.

Indonesia, more specifically, appears to have lower citations than the three countries with fewer publications: Vietnam, Thailand, and the Philippines. Another interesting element observed from the data is the top authors from the Philippines, who are almost entirely not from universities but from the Asian Development Bank (ADB). It may be a marker that the productivity of authors from ADB is higher than those of universities due to facilities, access to resources, and more robust networks. The same thing is seen in Cambodia, Myanmar, and Laos.

**Table 5. Top productive and influential authors per country**

Authors	Affiliation	Publ. in WoS	H-Index	Sums of Times Cited	Citing Articles	Impact Percentile
<b>Singapore</b>						
Phillips, PCB	Yale University; Singapore Management U.	266	59	30387	18799	78 <sup>th</sup>
Meng, Q	National University of Singapore	230	51	8033	4685	83 <sup>rd</sup>
Agarwal, S	National University of Singapore	104	27	2574	2086	75 <sup>th</sup>
Su, B	National University of Singapore	90	42	5776	3374	96 <sup>th</sup>
Zhang, J	Nanyang Technological University	46	16	1180	1029	72 <sup>nd</sup>
<b>Malaysia</b>						
Ramayah, T	Universiti Sains Malaysia	363	36	5783	5008	67 <sup>th</sup>
Rasihah, R	University of Malaya	149	19	1191	965	51 <sup>st</sup>
Lean, HH	Universiti Sains Malaysia	117	32	3973	3103	72 <sup>nd</sup>
Baharumshah, AZ	Universiti Putra Malaysia	80	16	912	775	51 <sup>st</sup>
Law, SH	Universiti Putra Malaysia	15	4	33	33	67 <sup>th</sup>
<b>Indonesia</b>						
Rajjiani, I	Universitas Lambung Mangkurat	63	7	135	91	56 <sup>th</sup>
Maryudi, A	Universitas Gadjah Mada	46	22	1084	542	92 <sup>nd</sup>
Harymawan, I	Airlangga University	32	5	77	63	53 <sup>rd</sup>

(Continued)

**Table 5. (Continued)**

<b>Authors</b>	<b>Affiliation</b>	<b>Publ. in WoS</b>	<b>H-Index</b>	<b>Sums of Times Cited</b>	<b>Citing Articles</b>	<b>Impact Percentile</b>
Trinugroho, I	Universitas Sebelas Maret	25	6	139	126	60 <sup>th</sup>
Udin	Universitas Muhammadiyah Yogyakarta	23	6	96	90	47 <sup>th</sup>
<b>Vietnam</b>						
Vo, XV	Ho Chi Minh City University Economics	195	24	1892	1355	81 <sup>st</sup>
Vo, DH	Ho Chi Minh City Open University	45	9	186	151	61 <sup>st</sup>
Nguyen, TT	Massey University; Can Tho University	7	2	27	25	16 <sup>th</sup>
Nguyen, HT	Vietnam Institute of Industrial Chemistry	43	14	6555	5925	59 <sup>th</sup>
Nguyen, CV	National Economics University	8	6	100	94	46 <sup>th</sup>
<b>Thailand</b>						
Jiraporn, P	Pennsylvania State U.; Chulalongkorn U.	109	21	2142	1639	79 <sup>th</sup>
Treepongkaruna, S	Chulalongkorn University	61	10	469	420	60 <sup>th</sup>
Hayakawa, K	Institute of Developing Economies	49	9	317	286	51 <sup>st</sup>
Chintrakarn, P	Mahidol University	37	13	566	490	74 <sup>th</sup>
Zikos, V	Chulalongkorn University	33	9	235	176	57 <sup>th</sup>
<b>Philippines</b>						
Park, D	Asian Development Bank	114	15	1039	975	54 <sup>th</sup>

(Continued)



Table 5. (Continued)

Authors	Affiliation	Publ. in WoS	H-Index	Sums of Times Cited	Citing Articles	Impact Percentile
Wan, GH	University of New Mexico; ADB	112	19	1594	1273	57 <sup>th</sup>
Felipe, J	Asian Development Bank	73	17	652	545	44 <sup>th</sup>
Park, CY	Asian Development Bank	35	11	302	287	61 <sup>st</sup>
Tian, S	Asian Development Bank	17	4	40	38	54 <sup>th</sup>
<b>Brunei</b>						
Wasizzaman, S	Universiti Teknologi Brunei	34	10	246	229	60 <sup>th</sup>
Anshari, M	Universiti Brunei Darussalam	18	4	24	24	55 <sup>th</sup>
Abduh, M	Universiti Brunei Darussalam	13	3	80	77	40 <sup>th</sup>
Premaratne, G	Universiti Brunei Darussalam	11	5	64	64	61 <sup>st</sup>
Rashid, M	Central Queensland U; U. Brunei Darussalam	6	1	2	1	NA
<b>Cambodia</b>						
Durdyev, S	Ara Institute of Canterbury	50	16	694	478	85 <sup>th</sup>
Flores, G	Southwestern University; Miguel Lillo Found.	25	9	553	495	70 <sup>th</sup>
Carter, S	World Resources Institute	20	13	761	727	88 <sup>th</sup>
Oum, S	Royal University of Phnom Penh	9	4	58	56	59 <sup>th</sup>

(Continued)

**Table 5. (Continued)**

Authors	Affiliation	Publ. in WoS	H-Index	Sums of Times Cited	Citing Articles	Impact Percentile
Ehara, M	Forestry & Forest Products Research Institute	7	4	49	47	48 <sup>th</sup>
<b>Myanmar</b>						
Minten, B	IFPRI Myanmar Office	87	31	3086	2445	87 <sup>th</sup>
Akter, S	NUS; IRRI Myanmar	36	16	1024	916	74 <sup>th</sup>
Lambrecht, I	IFPRI Myanmar Office	17	9	390	369	83 <sup>rd</sup>
Tamru, S	IFPRI Myanmar Office	14	8	170	153	88 <sup>th</sup>
Paez, GN	Myanmar Development Institute	5	0	0	0	0 <sup>th</sup>
<b>Laos</b>						
Menon, J	ISEAS; Laos Off Reg Econ Integrat. ADB	53	11	362	319	54 <sup>th</sup>
Akkhavong, K	Lao Tropical & Public Health Institute	38	19	2461	2187	70 <sup>th</sup>
Kyophilavong, P	National University Laos	35	11	379	361	36 <sup>th</sup>
Nolintha, V	National Economics Research Institute Laos	3	3	11	9	49 <sup>th</sup>
Rasphone, S	National Economics Research Institute Laos	2	1	6	6	39 <sup>th</sup>

Table 5 also shows the percentile impact, which is the new data that WoS added to their database in 2021 in the form of a beamplot author impact. This data was introduced to complement and improve the various metrics that exist today and address the concerns of various parties regarding the limitations of various existing metrics. Author impact is used as a concept that measures publications and their impact at a given period. This concept differs from the h-index, which measures the entire period and is usually more in favor of more senior researchers, especially in natural sciences. In beamplot author impact, citation calculations are normalized considering similar publications of the same discipline and displayed in percentile form. For example, the highest percentile found from the data is Su, B with a 96<sup>th</sup> percentile, which means that the author is in the top 4% of authors with the highest publication citation in that year with the type of publication of articles or reviews in the subject area of business economics. For the record, beamplot calculation only includes the article and review document type; each document is compared to similar publications from the same year, document type, and category as the document, and this data is updated monthly by WoS.

#### 4. Implications

##### 4.1. Theoretical implications

This study has several theoretical implications. First, although there has been a growing body of bibliometric studies, our study contributes to the bibliometric study in business economics settings by utilizing an emerging region, i.e., ASEAN. This more specific context will enhance the understanding of the nature of business economics research in developing economies compared to more general results involving developed nations (Merigó et al., 2016). Second, our study contributes to the bibliometric literature by responding to a recent suggestion of Singh et al. (2021), using Asia-Pacific countries in their bibliometric study on innovation implementation. Third, this present study evaluates the performance of ASEAN countries in producing reputable research outcomes, generating citations, and primarily setting their research directions, as can be found in the exclusive and non-exclusive author keywords per country shown in Table 4. This table illustrates the research topics preferred by researchers in ASEAN countries and the shared topics that are commonly researched, thus providing the uniqueness of each country in producing business economics studies.

##### 4.2. Practical implications

The findings of this study are also expected to help readers and practitioners to understand the output level, research focus, and influential authors in business economics fields in ASEAN countries. This information will be helpful for practitioners to apprehend better the economic conditions in ASEAN, which represents one of the largest markets in the world with a population of around 650 million people. Even though all ASEAN countries are in the same region, they have a different research focus, which can reflect the unique characteristics of real business economic activity in each country. For example, the study findings suggest that specific topics such as game and optimization tend to be researched in advanced economies such as Singapore. In contrast, topics such as infrastructure, growth, and governance are researched in developing countries such as the Philippines, Malaysia, Cambodia, and other majority countries in ASEAN. Further, practitioners can comprehend the impact and influence of top authors in each country who can collaborate with industry to develop the economy in a particular country or ASEAN as a region.

#### 5. Future research directions

Based on the results outlined earlier, this study presents several directions for future research. First, researchers in business economics fields in ASEAN regions could consider focusing less on standard or non-exclusive topics, such as “corporate governance,” “economic growth,” “intention,” and “satisfaction.” In addition to being over-researched, boosting research on these topics might not facilitate the creation of new knowledge amidst the rapid-changing business landscape globally. Besides, it might not attract citations, primarily from scholars in advanced economies who usually publish the papers in highly reputable journals.

Second, based on the first suggestion aforementioned earlier, researchers in ASEAN countries are encouraged to study various topics or keywords as published by authors from Singapore (shown in Table 4) because they seem not to follow the ASEAN trends but the world trends. For instance, researchers in Singapore already research “game” and “optimization” topics that may relate to the current global trends in business. Combining current trends and comparisons between ASEAN countries with similar characteristics, such as Indonesia and the Philippines, which are archipelagic countries with long coastlines, could be an interesting thing to do in the future (Agustini et al., 2021; Gumbira & Harsanto, 2019).

Third, in addition to following the world’s trends, ASEAN researchers may boost the research on the topics highlighted by the business association. For instance, International Association for Business and Society (IABS) which was founded in 1990 and has more than 300 members worldwide, emphasizes the essence of studying various aspects related to management and dynamics of society, including corporate social responsibility, emerging social issues for business, business ethics, environmental affairs, and business-government relations. For example, issues such as corporate social responsibility are currently receiving attention in ASEAN and are predicted to receive great attention in the future with research from various angles (Lin et al., 2019; N. P. Tran et al., 2020; Nguyen & Trinh, 2020). Also included are topics about sustainability and innovation that have been researched in numerous domains, as well as specific perspectives such as sustainability innovation (e.g., Harsanto & Permana, 2021; Harsanto et al., 2018; Wilderer, 2007) or open innovation (e.g., Engelsberger et al., 2022; Harsanto et al., 2022).

Fourth, further studies may explore other review techniques in business economics research, such as combining the bibliometric with text mining approach (e.g., Zeng et al., 2021), using the TCCM framework (theory, context, characteristics, and methodology) (e.g., Ning et al., 2021), and using the ADO framework (antecedents, decisions, and outcomes) (e.g., Singh et al., 2021). Reviewing business economics papers using those techniques might enrich the findings of this study and add to the review research literature.

## 6. Conclusion

This paper aims to discover business economics research performance in the ASEAN. More than 26 thousand documents were analyzed, showing that even though the ASEAN countries are geographically close, their performance levels differ. The output level of each country shows that Singapore, Malaysia, and Indonesia are the top three countries with the highest productivity in the region. Research focus from various countries is different where there are keywords that are not exclusive to certain countries, such as “corporate governance,” “economic growth,” “intention,” “leadership,” “market,” “covid,” and “satisfaction,” but there are also keywords that are exclusive to certain countries which shows the focus so far from these countries. The most influential authors were identified by publication count, h-index, citations, and impact.

Like other studies, this paper has several limitations. First, the focus of the analysis is ASEAN countries, so the implications of the findings are limited to these regions. Future studies can analyze other regions and compare the findings with the present study. Second, the analysis was carried out using a bibliometric technique that provides advantages in quantitatively analyzing metadata obtained from the database. However, the analysis of the publications’ content is limited to article keywords and not the article content. Third, one of our analyses is on authors’ productivity and influence by evaluating the number of citations. We know that citations could be meaningless without an in-depth analysis of other aspects. In this research, we did not delve into citation analysis further as we focused more on the region’s output level, research focus, and influential authors. Future studies can conduct an in-depth analysis of citation aspects, publication impact, and assessment of self-citation by each country or institutional level. Fourth, future studies can be carried out with approaches such as a systematic literature review to explore the content of articles qualitatively in more depth. Third, the study was conducted on the Web of Science

academic database, recognized as a database with the highest quality scrutiny. Future studies can also consider searching other databases to anticipate studies not covered in the present study.

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#### Disclosure statement

No potential conflict of interest was reported by the authors.

#### Citation information

Cite this article as: A twenty years bibliometric analysis (2002 – 2021) of business economics research in ASEAN, Budi Harsanto & Egi Arvian Firmansyah, *Cogent Business & Management* (2023), 10: 2194467.

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