REVIEW ARTICLE

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Big data visualisation in regional comprehensive economic partnership: a systematic review

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The Regional Comprehensive Economic Partnership (RCEP) is an agreement that transformed the world economy and entered into force in January 2022 with the participation of fifteen nations. In the study, the visualisation analysis was 301 articles in Web of Science (WoS) on the subjects of "RCEP," or "The Regional Comprehensive Economic Partnership," from January 2012 to January 2023, using CiteSpace. The results of a comparative analysis of the number of journals co-citation and keyword co-occurrence indicate that further studies of "RCEP" will not be limited to the scope of traditional economics, but more and further fields are waiting for scholars to develop.

Introduction

The Regional Comprehensive Economic Partnership (RCEP), initiated in 2012, entered into force in January 2022 with the participation of fifteen nations. The RCEP has the most promising potential to benefit the recovery of the global economy (Tian et al. 2022). The RCEP, according to Zreik (2022), is an agreement that will transform the world economy. Trade liberalisation and facilitation are the RCEP's core principles (Shi 2023). Post-pandemic, this is the most significant and essential hope for the global economy to receive a boost (Jung, 2021).

After 2022, more scholars in each discipline transferred their research attention to the RCEP (Cong et al. 2023; Stehrer and Vujanovic 2022; Zhao and Mun 2023). The RCEP research topic is not limited to the initial domains, such as economics and commerce. In addition to the green, education, environment, service, and sustainable development research fields, more fields are included. Thus, RCEP's most recent perspectives and research from recent scholars are available to future researchers (Zreik 2022).

Journal co-citation analysis is a bibliometric technique for examining the interconnections and connections between academic publications focused on citation patterns (Hu et al. 2010). The journal co-citation analysis can identify the intellectual structure of the field, including core journals and subject fields (Kim 2013; Liu et al. 2016). Journal co-citation analysis studies are less prevalent than other co-citation analyses (such as author co-citation and literature co-citation). However, numerous researchers use journal co-citation analysis to finish field studies. For instance, a study with corporate governance topics identifies the core journals and subject fields with journal co-citation analysis (Ellili 2022). This study's journal co-citation analysis is sufficient to support intellectual structure research in the RCEP field.

Keyword co-occurrence analysis is one of the standard methods used in bibliometrics analysis (Gorzeń-Mitka et al. 2020). With keyword co-occurrence analysis, researchers can provide insights into the structure and trends of identified research data sets. For instance, a study on healthy eating could use keyword co-occurrence analysis to discover the knowledge structure and

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Table 1 Data Retrieval Result.

No.	Year	Retrieval results	Citations	No.	Year	Retrieval results	Citations
1	2012	1	0	7	2018	32	108
2	2013	11	0	8	2019	26	138
3	2014	9	12	9	2020	22	133
4	2015	20	24	10	2021	62	245
5	2016	24	46	11	2022	63	445
6	2017	29	69	12	2023	2	7

future trends (Fang et al. 2023). Another study, through keyword co-occurrence analysis, identified research hotspots and food safety management trends among RCEP members (Li, 2023). Currently, keyword co-occurrence analysis is utilised in numerous research disciplines, including solar cell technology (Yoon et al. 2010), information retrieval (Lou and Qiu 2014), efficiency analysis (Lozano et al. 2019), digital economy (Kruljac 2021), biliary dilatation (Chen et al. 2023), organic agriculture (Kato et al. 2023), morphological awareness (Gu and Liu 2023), and e-leadership (Krisnafitriana et al. 2023). Thus, this study uses keyword co-occurrence to identify the research frontier and analyse trends.

This article examines journal co-citations and keyword co-occurrence of RCEP articles published in Web of Science (WoS) by CiteSpace to aid academics in better understanding the knowledge map of RCEP research and discovering the potential for establishing frontiers. The remaining sections of the study are organised as follows. In part 2, the research techniques and data sources are introduced. In Part 3, the findings of the analysis of the knowledge map are reported. In Part 4, the principal knowledge map analysis topics are concluded.

Methods and data sources

Methods. In the study, the researchers used a bibliometric approach to visual analysis. Researchers selected visual analysis with CiteSpace from many visual analysis software programs. Initially, a new visual analysis with the knowledge domain co-citation network was developed by Chen (2004). In 2006 CiteSpace II introduced Burst detection, citation tree-ring, and time zone views (Chen 2006). Since 2010, an increasing number of analyses have been refined with the gradual evolution of CiteSpace software, including cluster labelling (Chen et al. 2010), structural variation analysis (Chen 2012), cascading citation expansion (Chen and Song 2019), and citation contexts and uncertainties (Chen 2020). Currently, CiteSpace is due to more extensive features, more steady operation, and better suitability for the study (Chen 2020). Thus, CiteSpace was frequently utilised for analysing studies in each domain, both natural and social science research (Ge et al. 2022; Li et al. 2022b; Li and Luo 2021; Ma et al. 2022). By the recommendation of Chen (2006), co-citation analysis, co-occurrence analysis, burst detection, and cluster analysis are all employed to analyse this RCEP research. The research frontier and trend can be detected by the researcher.

Data Sources. The word "RCEP" was a guiding principle throughout the study. The topic = "RCEP" or topic = "The Regional Comprehensive Economic Partnership" was used to search the WoS database for English-language publications published between January 2012 and January 2023. Table 1 and Fig. 1 illustrate the results of this search. Three hundred and one results were obtained. Between 2012 and 2022, the number of publications and articles cited in other papers increased. Especially for the years 2021 and 2022, the figure exhibited an incredible pace of expansion.
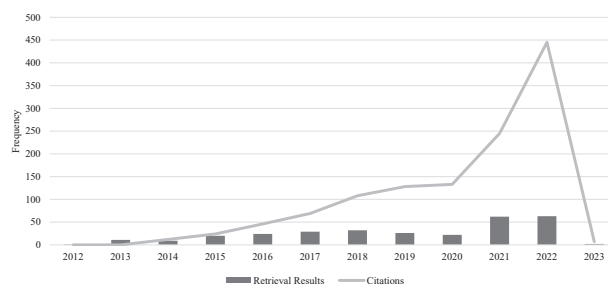

Fig. 1 Total number of WoS indexed articles between 2012 and 2023. The retrieval results and citations in WoS between 2012 and 2023.

Data pre-processing. In this study, the data pre-processing is completed in two stages. The initial stage is deduplication in CiteSpace (Tang et al. 2023). Duplicated data were not found. The data clean-up and summaries are the next stage. Before keyword co-occurrence analysis, a clean keyword summary facilitates researchers to distil the research frontier and trend analysis better.

Results

Intellectual structure of RCEP: journal co-citation analysis. This part addressed the journal co-citation analysis of several different publications. An examination of journal co-citations reveals the intellectual structure of the field in RCEP research (Kim 2013; Liu et al. 2016). That is a list of the most renowned and cutting-edge publications that publish articles and papers on RCEP research. Not only can particular areas of the present study be specified to assist researchers in identifying future research opportunities, but they can also act as a guide for assessing future research prospects. This can be accomplished by describing ongoing research areas. In addition, this can aid researchers in selecting a journal to publish their findings.

As shown in Table 2, all the periodicals are indexed by ISI (nine SSCI journals and one SCIE journal). The five most prestigious journals in economics are the American Economic Review, Economic Modelling, Journal of Cleaner Production, Econometrica, and Journal of International Economic Law. Comparing the journals to the top 10 published journals, the researcher discovered five additional journals were also in the top 10 (i.e., Sustainability, World Economy, Journal of Internation Economic Law, Journal of World Trade, Economic Modelling).

Journal cluster analysis. The clustering pattern of the journal co-citation network is presented in Fig. 2. As depicted in Fig. 2, the network comprises seven clusters. The seven most significant clusters are presented in Table 3. The largest cluster (RCEP economies) contains 17 members, with a silhouette value of 0.98. Zhang and Wang (2022)'s paper is the most frequently cited for cluster 0 RCEP economies. The second-largest cluster (States-CHINA trade) has fourteen members and a silhouette value of 0.94. The most frequently cited article in the cluster is Ravenhill (2016). China is cluster 2, the third largest cluster, with a silhouette value of 0.951 and thirteen members. In addition, it is designated as having a silhouette

Table 2 Top 10 Journals by Citation.

Top 10 by citation	Total citation	Centrality	Top 10 by citation	Total citation	Centrality
World Economy	72	0.65	Econometrica	33	0.33
American Economic Review	55	0.30	Journal of International Economic Law	33	0.19
Economic Modelling	45	0.93	Sustainability	29	0.07
Journal of International Economics	40	0.74	Journal of Asian Economics	28	0.71
Journal of World Trade	36	0.12	Journal of Cleaner Production	26	0.21

CiteSpace, v. 6.1.R6 (64–bit) Basic
January 12, 2023 at 12:26:15 AM CST
WoS: /Users/lichichi/output
Timespan: 2012–2023 (Slice Length=2)
Selection Criteria: g-index (k=5), LRF=3.0, L/N=10, LBY=5, e=1.0
Network: N=101, E=112 (Density=0.0222)
Largest CC: 78 (77%)
Nodes Labeled: 1.0%
Pruning: Pathfinder
Modularity Q=0.8335
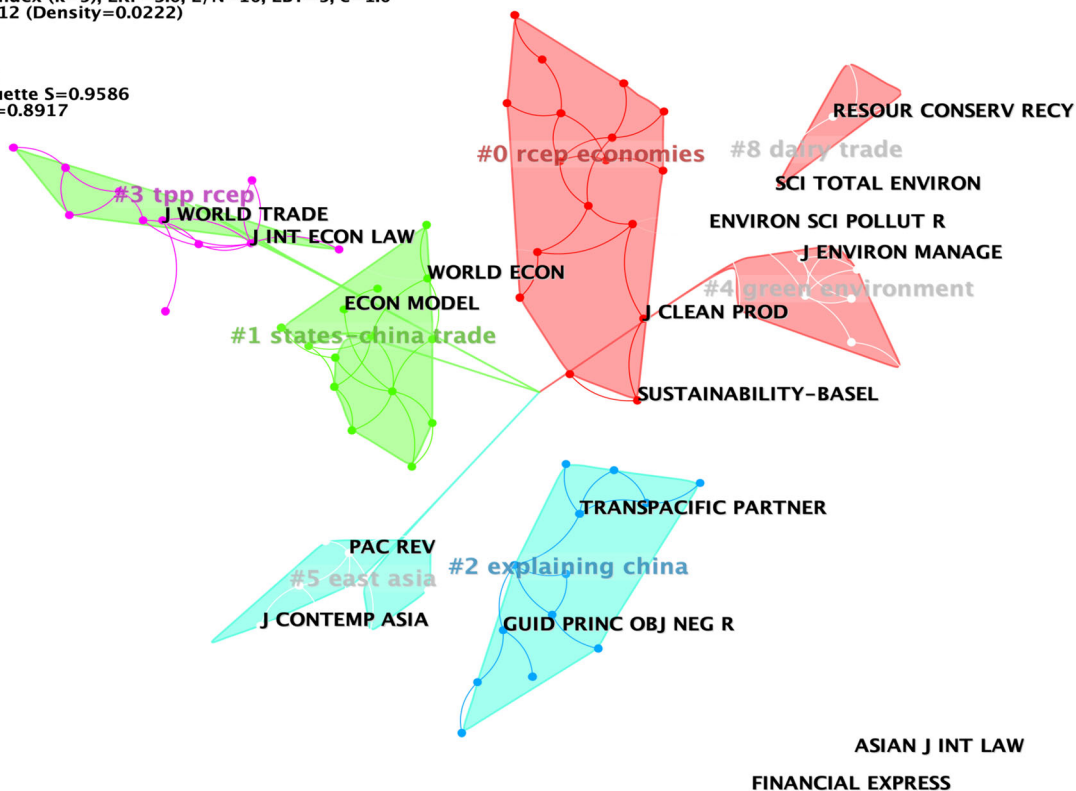Weighted Mean Silhouette S=0.9586
Harmonic Mean(Q, S)=0.8917

Fig. 2 Journal co-citation network clustering diagram. The network diagram of the journal co-citation clusters reveals the journals of RCEP research.

Table 3 Summary of the largest 7 clusters.

Cluster ID	Size	Silhouette	Label (LSI)	Label (LLR)	Label (MI)	Average Year
0	17	0.988	RCEP Economies	RCEP Economies	Advanced Research Method	2019
1	14	0.940	Regional Comprehensive Economic Partnership	States-China Trade	US-China Trade War	2013
2	13	0.951	Tripartite Strategy	Explaining China	Asian Perspective	2013
3	11	0.915	Asian Pacific	TPP RCEP	Good Faith Requirement	2015
4	9	0.931	RCEP Economies	Green Environment	Three-Stage SBM-DEA Model	2019
5	9	1	East Asia	East Asia	Asian Centrality	2013
8	5	1	Global Carbon Emission Pressure	Dairy Trade	Global Value Chains Participation	2019

value of 0.951. Most of the 2 clusters' citations are to the essay by Du (2015). All silhouettes are more than 0.9, indicating an acceptable clustering (Chen 2017). Notably, after 2019, publications focused on RCEP economies, advanced research methods, green environments, CO2 emissions (global carbon emissions pressure and three-stage SBM-DEA model), dairy trade, and global value chain participation.

Journal bursts analysis. Table 4 shows the top 10 ranked journals by bursts. Cluster 2's Transpacific Partner (2015) has 7.67 total bursts, making it the item with the highest bursts ranking. Guiding Principles and Objectives for Negotiating the Regional Comprehensive Economic Partnership is the second contender in Cluster 2 and has bursts of 5.86. (2012). The third publication is the Journal of

Contemporary Asia (2015), located in Cluster 5, with five bursts. Diplomat (2016), placed in Cluster 5 and having bursts of 5.00, ranks fourth. Cluster 5's The Pacific Review (2010) ranks fifth, with average bursts of 4.76. The East Asia Forum (2012), located in Cluster 5 and has bursts of 4.57, occupies the sixth slot. The seventh position is held by New Directions Asiap (2014), which is located in

Cluster 1 and has 4.57 bursts. The eighth-ranked publication in the Journal of Asian Economics (2011) is in Cluster 1 and has bursts of 4.35. The Financial Times (2014), located in Cluster 5 and has bursts of 4.17, occupies the ninth position. The Journal of Cleaner Production (2017) is tenth in Cluster 0 and has 3.55 bursts.

Figure 3 displays the top 25 cited journals with the most significant citation growth over the past few years. Figure 3 displays the most vital reference from Transpacific Partner (2015). This is the identical citation that appears in Table 4. Not the most recent three years, but between 2015 and 2019 is the most significant end year for a citation. Six journals (non-economics and nontrade) in the top 25 cited journals merit the attention of researchers. One is the Pacific Review (2010), the bursts between 2014 and 2019. Another is the Vanderbilt Journal of Transnational Law (2017), which bursts between 2018 and 2019. The Journal of Cleaner Production (2017) is the most significant citation in the past three years. In addition, Environmental Science and Pollution Research (2020), Science of the Total Environment (2020), and Energy Economics (2018) are the other three journals with a high number of citations during the past three years. Thus, in the last three years, the hot fields of RCEP research have overlaid green, sustainable science, technology, engineering, environmental, environmental sciences and economics.

Table 4 The top 10 ranked journal by bursts.

Bursts	References	Cluster ID
7.67	Transpacific Partner (2015)	2
5.86	Guiding Principles and Objectives for Negotiating the Regional Comprehensive Economic Partnership (2012) ("Expert Roundtable for Regional Comprehensive Economic Partnership")	2
5.00	Journal of Contemporary Asia (2015)	5
5.00	The Diplomat (2016)	5
4.76	The Pacific Review (2010)	5
4.57	East Asia Forum (2012)	5
4.57	New Directions Asiap (2014)	1
4.35	Journal of Asian Economics (2011)	1
4.17	Financial Times (2014)	5
3.55	Journal of Cleaner Production (2017)	0

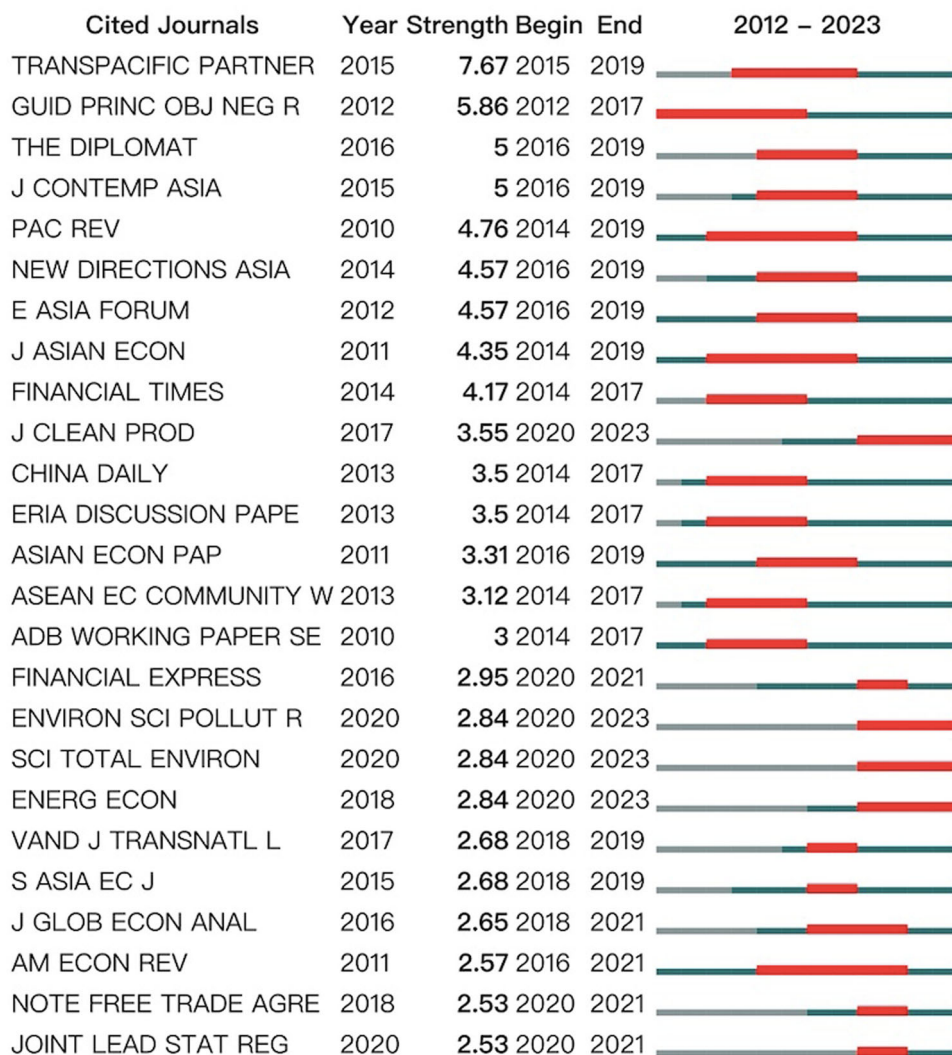| Cited Journals	Year	Strength	Begin	End	2012 – 2023
TRANSPACIFIC PARTNER	2015	7.67	2015	2019	
GUID PRINC OBJ NEG R	2012	5.86	2012	2017	
THE DIPLOMAT	2016	5	2016	2019	
J CONTEMP ASIA	2015	5	2016	2019	
PAC REV	2010	4.76	2014	2019	
NEW DIRECTIONS ASIA	2014	4.57	2016	2019	
E ASIA FORUM	2012	4.57	2016	2019	
J ASIAN ECON	2011	4.35	2014	2019	
FINANCIAL TIMES	2014	4.17	2014	2017	
J CLEAN PROD	2017	3.55	2020	2023	
CHINA DAILY	2013	3.5	2014	2017	
ERIA DISCUSSION PAPE	2013	3.5	2014	2017	
ASIAN ECON PAP	2011	3.31	2016	2019	
ASEAN EC COMMUNITY W	2013	3.12	2014	2017	
ADB WORKING PAPER SE	2010	3	2014	2017	
FINANCIAL EXPRESS	2016	2.95	2020	2021	
ENVIRON SCI POLLUT R	2020	2.84	2020	2023	
SCI TOTAL ENVIRON	2020	2.84	2020	2023	
ENERG ECON	2018	2.84	2020	2023	
VAND J TRANSNATL L	2017	2.68	2018	2019	
S ASIA EC J	2015	2.68	2018	2019	
J GLOB ECON ANAL	2016	2.65	2018	2021	
AM ECON REV	2011	2.57	2016	2021	
NOTE FREE TRADE AGRE	2018	2.53	2020	2021	
JOINT LEAD STAT REG	2020	2.53	2020	2021	

Fig. 3 Top 25 cited journals with the strongest citation bursts. The strongest citation bursts reveal the hot fields of RCEP research.

Table 5 Top 10 ranked journal by degree.

Degree	References	Cluster ID	Field
7	Journal of Asian Economics (2011)	1	Economics
6	Renewable and Sustainable Energy Reviews (2017)	4	Green, Sustainable Science, Technology, Energy, and Fuels
5	Pacific Review (2010)	5	International Relations, and Area Studies
5	Environmental Science and Pollution Research (2020)	4	Environmental Sciences
5	World Economy (2014)	1	Business, Finance, Economics, and International Relations
5	Journal of International Economic Law (2013)	3	Law
5	America's Threat to Trans-Pacific Trade (2011)	2	Economics
4	Transpacific Partner (2015)	2	Economics, Politics, and Public Policy
4	Financial Times (2014)	5	Economics
4	ERIA Discussion Paper (2013)	1	Economics

Table 6 Top 10 ranked journal by centrality.

Centrality	References	Cluster ID	Field
0.75	World Economy (2014)	1	Business, Finance, Economics, and International Relations
0.61	Journal of Asian Economics (2011)	1	Economics
0.58	Empirical Economics (2021)	0	Economics, Social Sciences, and Mathematical Methods
0.52	Financial Times (2014)	5	Financial and Economics
0.49	Strategic Analysis (2014)	1	International Relations
0.43	Energy Economics (2018)	0	Economics
0.36	Environmental Science and Pollution Research (2020)	4	Environmental Sciences
0.33	America's Threat to Trans-Pacific Trade (2011)	2	Economics
0.32	ERIA Discussion Paper (2013)	1	Economics
0.27	Energy Policy (2019)	0	Economics, Environmental Studies, Environmental Sciences, Energy, and Fuels

Journal degree analysis. Table 5 presents the top ten most prestigious periodicals by degree. The Journal of Asian Economics (2011) in Cluster 1 has a degree of 7, making it the highest-ranking journal in the degree analysis. Cluster 4 contains Renewable and Sustainable Energy Reviews (2017), which gets a grade of 6. Pacific Review (2010), which belongs to Cluster 5 and has a grade of 5, is ranked third. Environmental Science and Pollution Research (2020), which belongs to Cluster 4 and has a grade of 5, is ranked fourth. Cluster 1 places The World Economy (2014), which has a grade of 5, in fifth place. The Journal of International Economic Law (2013), included in Cluster 3 and has a grade of 5, placed sixth. America's Threat to Trans-Pacific Trade (2011) in Cluster 2 occupies the seventh position with a degree of five. The eighth position is held by Transpacific Partner (2015), a Cluster 2 member with a degree of 4. The Financial Times (2014), which belongs to Cluster 5 and has a grade of 4, occupies the ninth position. The ERIA Discussion Paper (2013) ranks tenth with a grade of four and is in Cluster 1. In fact, besides the hot field of RCEP research, journals around more fields, such as business, finance, law, politics, public policy, international relations, and area studies.

Journal centrality analysis. Table 6 displays the top ten journals by centrality. Cluster 1's item with the highest centrality is The World Economy (2014), with 0.75. Cluster 1's second journal is the Journal of Asian Economics (2011), with a centrality of 0.61. Third in Cluster 0 is Empirical Economics (2021), with a centrality of 0.58. Financial Times (2014) ranks fourth in Cluster 5, with a centrality of 0.52. The fifth in Cluster 1 is Strategic Analysis (2014), with 0.49 centrality. Sixth in Cluster 0 is Energy Economics (2018), with 0.43 centrality. Environmental Science and Pollution Research (2020) ranks seventh in Cluster 4 with a 0.36 centrality score. In Cluster 2, the eighth is America's Threat to Trans-Pacific Trade (2011), with

0.33 centrality. The ninth ERIA Discussion Paper (2013) in Cluster 1 has a 0.32 centrality. The tenth in Cluster 0 is Energy Policy (2019), with a centrality of 0.27. Interestingly, the journals of Economics are more central than the environmental studies, environmental sciences, energy, and fuel fields. In other words, the new fields of RCEP research are environmental studies, environmental sciences, energy, and fuels. In addition, the hot fields of green, sustainable science, technology, and engineering are the newest fields of RCEP research.

Overall, the researchers determined that the intellectual structure of RCEP research covers a wide range. Green, sustainable science, technology, engineering, environmental (sciences), and economics are RCEP's hottest research fields. RCEP's new research fields include environmental studies, environmental sciences, energy, and fuels. In contrast, the hot disciplines of green, sustainable science, technology, and engineering represent the newest fields of RCEP research.

Research frontier and trend: keyword co-occurrence analysis. This part analyses the keyword co-occurrence analysis of 301 publications. An evaluation of keyword co-occurrence reveals the research frontier and trend of RCEP research (Fang et al. 2023). Specifically, keyword cluster and bursts analysis detect the research frontier and trend.

Keyword cluster analysis. In this part, the researcher analyses the co-occurrence of keywords. In this study, CiteSpace is utilised for the keyword co-occurrence analysis of RCEP research. The keyword co-occurrence network is depicted in Fig. 4. Table 7 displays the top ten co-occurrences of terms. Trans-Pacific Partnership (TPP), Free Trade Agreement (FTA), commerce, RCEP, China, economic growth, impact, CO_2 emissions, economic integration,
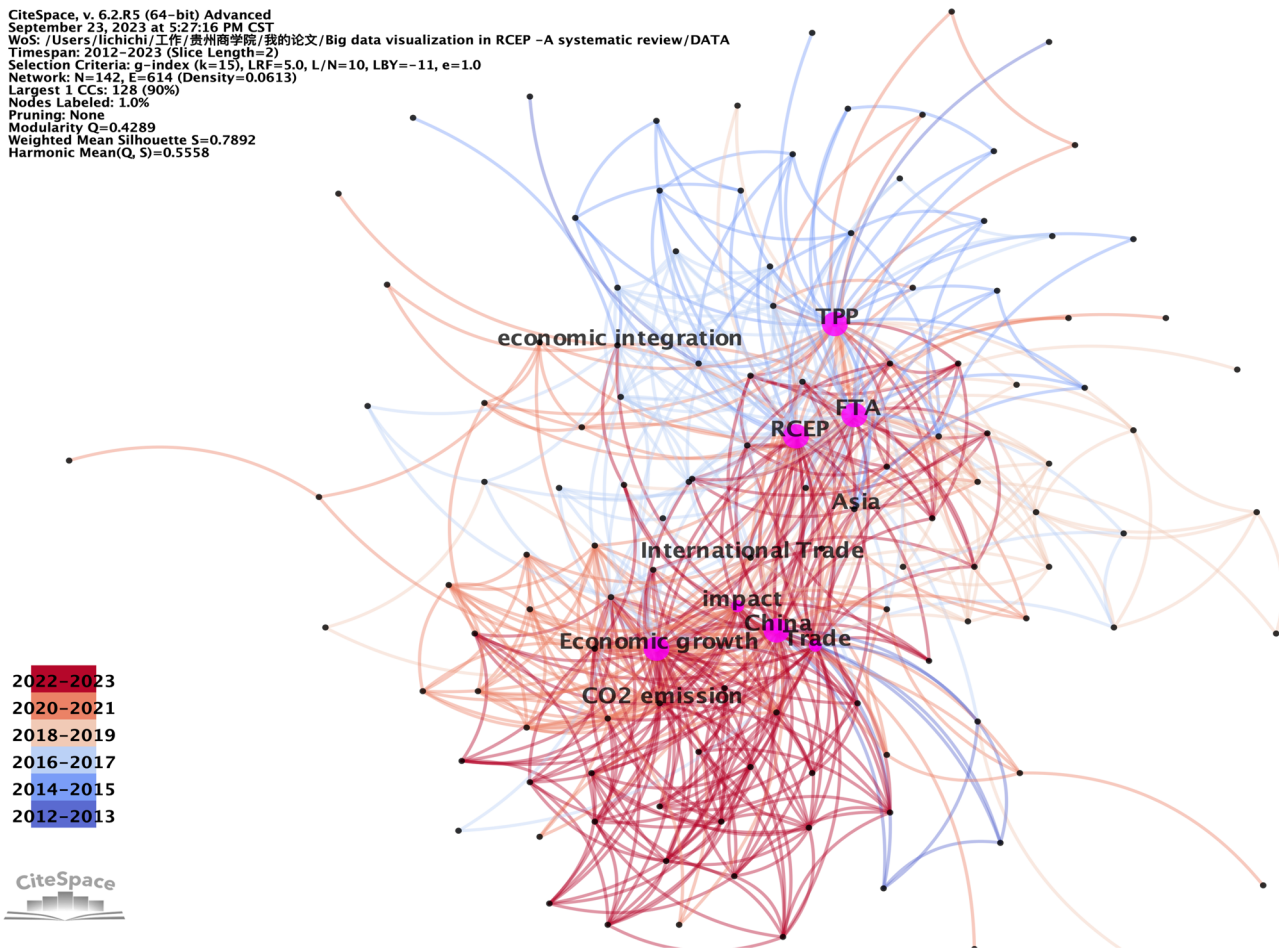
Fig. 4 Keyword co-occurrence network diagram. The network diagram of the keyword co-occurrence reveals the most popular keywords of RCEP research.

Table 7 Top 10 keywords co-occurrence.

Citation counts	Keyword	Citation counts	Keyword
41	Trans-Pacific Partnership (TPP)	22	Economic Growth
36	FTA	18	Impact
26	Trade	14	CO2 Emission
25	RCEP	12	Economic Integration
23	China	12	International Trade

and international trade are among scholars' top 10 most popular keywords. China, international trade, impact, trade, economic growth, and CO2 emissions are closely associated with RCEP between 2022 and 2023.

In this study, 6 clusters were identified by keyword co-occurrence analysis. Figure 5 shows all 6 clusters. The six most significant clusters are presented in Table 8. The largest cluster (0) contains 36 articles, with a silhouette value of 0.766. Dong et al. (2021)'s article is the most frequently cited for cluster 0. The second-largest cluster (1) has 31 articles and a silhouette value of 0.809. The most frequently cited article in Cluster 1 is Mahadevan and Nugroho (2019). The third largest cluster is cluster 2, with a silhouette value of 0.789 and 26 articles. Most of cluster 2's citations are to the essay by Solís and Wilson (2017). All silhouettes are over 0.75, indicating reasonable clustering (Chen 2017). Thus, with keyword co-occurrence analysis, the research

frontier of RECP research is around labels such as energy efficiency, RCEP economies, and foreign direct investment.

Keyword bursts analysis. Figure 6 depicts the top 25 most common keywords co-occurring that have shown the most substantial growth in co-occurrence over the previous few years. The most substantial explosion represents the development and trend of RCEP research. The keyword bursts analysis presents three distinct periods of development. The first period is from 2012 to 2017. The RCEP research originated in the context of Asia-Pacific economic integration. Building trade agreements is one of the essential points in Asia-Pacific economic integration (Wilson 2014). Over this period, most research revolves around the TPP, China-Japan-Korea FTA, FTA, and free trade. The main topic in the second period between 2018 and 2019 is the TPP. Many topics outside typical trade measures, such as public health,
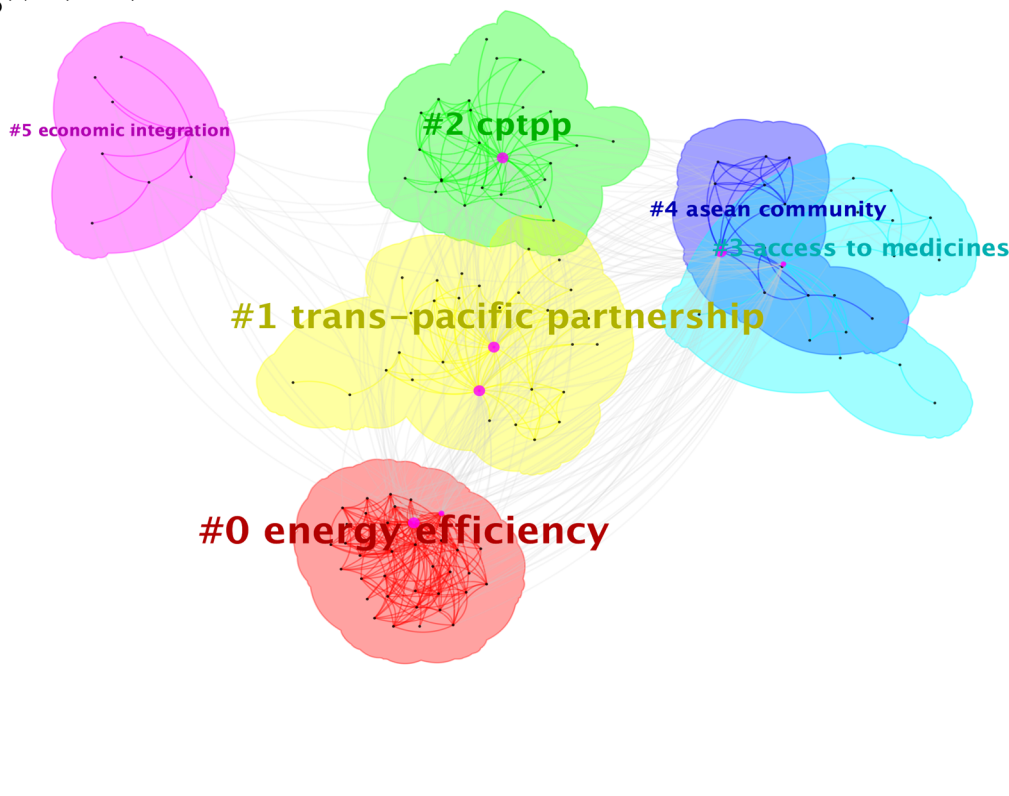
Fig. 5 Keyword co-occurrence network clustering diagram. The network diagram of the keyword co-occurrence cluster reveals the most keyword significant clusters of RCEP research.

Table 8 Summary of the 6 keyword co-occurrence clusters.

ClusterID	Size	Silhouette	Label (Keywords)	Label (LSI)	Label (LLR)	Label (MI)	Average Year
0	36	0.766	Energy Efficiency	RCEP Economies	RCEP Economies	Foreign Direct Investment	2021
1	31	0.809	Trans-Pacific Partnership	Emerging Integration Project	Strategic Rivalry	Trade Partnership	2017
2	26	0.789	CPTPP	Asia-pacific Trade Architecture	Asia-Pacific Trade Architecture	Cross-Border Data Flow	2017
3	15	0.818	Access to Medicines	RCEP	Asia-Pacific Regionalism	Regional International Organization	2016
4	12	0.875	ASEAN community	Asian Political Distance Network	Using Event Data	Tobit Model	2020
5	8	0.821	Economic Integration	Economic Integration	Economic Integration	RCEP Member Countries Good	2017

politics, and policy (Labonté et al. 2016; Petri and Plummer 2016), are the bursts of keywords in this period. The third period starts in 2020. With the successful signing of the RCEP, the emphasis of RCEP research turned progressively to green and sustainable (CO_2 emission, energy consumption, and sustainable development), economic (panel data), trade (rules of origin), and manufacture (productivity) (Bhat et al. 2022; Dong et al. 2021; Guo and Mai 2023; Hassan et al. 2021; Park et al. 2021; Tian et al. 2022).

Generally, with the keyword co-occurrence analysis of RCEP research, the researcher identifies three distinct periods (2012 to 2017, 2018 to 2019, and after 2019) and the research frontier of RCEP research. Moreover, within the realm of RCEP research, the identified research frontiers encapsulate several critical thematic areas that have garnered substantial scholarly attention. These frontiers encompass not only the economic aspects of the agreement but also delve into the intricacies of international trade dynamics. Additionally, a discernible focus is on promoting green and sustainable development, reflecting the increasing emphasis on environmental considerations in global economic partnerships. Last, the field of manufacturing within the context of the RCEP has emerged as a notable frontier, indicating the role of this trade agreement in shaping manufacturing strategies and supply chain dynamics among member nations. These multifaceted research frontiers underscore the complex and evolving nature of RCEP as a subject of academic enquiry. In RCEP research, scholars have increasingly concentrated on various fields, not just economics and trade.

Conclusion

Using the WoS database, the researcher conducts thorough visual evaluations of RCEP articles from 2012 to 2023. These analyses included journal co-citation analysis, comprising journal cluster

Keywords	Year	Strength	Begin	End	2012 - 2023
Asia-pacific economic integration	2013	2.16	2013	2017	
FTA	2013	0.53	2013	2015	
China-Japan-Korea FTA	2015	1.73	2015	2017	
cge model	2014	1.22	2014	2015	
economic integration	2015	0.81	2015	2017	
partnership	2016	1.64	2016	2017	
free trade	2016	1.59	2016	2019	
liberalization	2016	1.19	2016	2017	
states	2016	1.09	2016	2017	
japan	2016	1.09	2016	2017	
access to medicines	2016	0.91	2016	2019	
trade agreement	2016	0.79	2016	2017	
regionalism	2016	0.79	2016	2017	
International Trade	2017	0.46	2017	2019	
TPP	2013	4.07	2018	2019	
policy	2015	2.11	2018	2021	
Asia	2014	1.65	2018	2021	
politics	2018	1.27	2018	2021	
access	2018	1.1	2018	2019	
world	2018	1.1	2018	2019	
gravity model	2018	0.66	2018	2019	
CO2 emission	2021	2.56	2021	2023	
energy consumption	2021	1.26	2021	2023	
challenge	2020	1.24	2020	2021	
evolution	2020	1.24	2020	2021	
East Asia	2016	1.22	2020	2021	
sustainable development	2021	1.07	2021	2023	
preferential trade agreements	2020	0.82	2020	2021	
regional integration	2020	0.82	2020	2021	
economic determinant	2020	0.82	2020	2021	
panel data	2021	0.71	2021	2023	
rules of origin	2021	0.71	2021	2023	
productivity	2020	0.47	2020	2023	

Fig. 6 Top 33 keywords co-occurrence with the strongest bursts. The strongest bursts reveal the development and trend of RCEP research.

analysis, journal bursts analysis, journal degree analysis, and journal centrality analysis. The researcher also conducts keyword co-occurrence analysis, which includes keyword cluster analysis and keyword bursts analysis. Using this comprehensive approach, it is possible to acquire significant insights into the dynamics and trends of the RCEP research scene during the past eleven years.

First, the researcher identifies three distinct periods of RCEP research with a comprehensive review of previously conducted research. (1) The period from 2012 to 2017 is the first period of RCEP research. In this period, different countries developed multiple potential FTAs (such as the TPP and the China-Japan-Korea FTA) based on Asia-Pacific economic integration (Das 2015; Huy 2013; Korhonen 2013; Townsend et al. 2016; Urata 2014; Zahid 2018). References to relationships appear in economic and trade periodicals at a higher rate throughout this period. (2) In 2018-2019, the fields of RCEP research are exceeded. More scholars with a broader scope of enquiry joined the RCEP research. During this period, scholars shifted to fields such as public health, politics, and policy (Labonté et al. 2016; Petri and Plummer 2016), focusing on RCEP research (Liu et al. 2018). (3) After 2019, RCEP research will be expedited. Relevant scholars have gradually redirected the focus from the original RCEP

research to related disciplines such as green, sustainable development, and manufacturing (Bashir et al. 2022; Dong et al. 2021; Latif et al. 2023; Li et al. 2022a; Meng 2020; Qian et al. 2022; Qiu and Gong 2021; Shingal, 2022).

In addition, concerning the existing RCEP research fields, only economics, trade, public health, politics, policy, green, sustainable development, and manufacturing are included, which has significant limits. With the economic changes from the RCEP, the scope of the RCEP's impact will extend to many more trade-related fields (such as services, human resources, and education). More excellent academics will join RCEP research.

This study utilised solely data from the WoS. A single source of information will eventually result in limitations. Therefore, more excellent publishing sources may have been used to prevent study limitations.

Data availability

The data that support the findings of this study are available from the Web of Science, but restrictions apply to the availability of these data, which were used under license for the current study, and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of the Web of Science.

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