

# The Effects of Country-of-Origin Research: A Bibliometric Analysis

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## ABSTRACT

**Aim:** This research aimed to analyse the evolution and scholarly contributions related to the concept of country-of-origin (COO) by systematically reviewing peer-reviewed literature over the past five decades. **Materials:** The study reviewed 7,468 articles published from 1973 to 2024 using specific search terms to extract data from the Web of Science Core Collection Database and Scopus. **Methodology:** The study utilised the Bibliomerix R package and the web-based Biblioshiny, along with VOS viewer for performing quantitative bibliometric assessments and mapping scientific networks. These tools helped dissect the literature concerning Country-of-Origin (COO) through a metadata survey and by integrating text mining to trace the evolution of theoretical approaches and analytical tools. **Results:** The findings indicate that the United States leads in scholarly output, followed by China, the United Kingdom, and Australia. Hong Kong Polytechnic University emerged as the leading institution, with a total of 77 publications. Among individual contributors, Kim S was identified as the most prolific, with a contribution of 52 articles, whereas Diamantopoulos A garnered the highest citation count with 4,678 citations. The analysis also highlighted the Theory of Planned Behaviour as the most commonly applied theoretical approach and Structural Equation Modelling as the prevalent analytical tool. **Conclusions:** This bibliometric analysis systematically reports the primary papers, countries, affiliations, authors and key trends of publications. It also identifies the prevalent analytical tools and theoretical approaches in COO literature, providing insights into future opportunities that could reshape the dynamics of scientific COO research.

**Keywords:** Analytical methods, Country of origin, R tool, Text analysis, Theoretical approach.

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## INTRODUCTION

### Overview

Under the stipulations of the General Agreement on Tariffs and Trade (GATT), "the country of origin of goods" is classified as the nation where goods are either produced or manufactured. This categorization critically influences consumer preferences, a phenomenon rigorously documented by Schooler in 1965, who provided empirical evidence on how perceptions and buying choices of consumers are shaped by the origin of products. Since this pivotal study, the scholarly field has witnessed an extensive influx of research publications addressing COO, which now denote a mature and developed body of literature. This expansion has enriched the discourse with newer dimensions such as the perception of country image (Martin and Eroğlu, 1993) and the

origins of brands (Liu and Johnson, 2005). Furthermore, the extant research has explored a variety of antecedents (Luo and Zhou, 2020), while incorporating mediators, as noted by Laroche *et al.* in 2005 and moderators (Roth and Diamantopoulos, 2009) alongside rigorous control mechanisms. The theoretical framework has been broadened to include interdisciplinary theories like the planned behavior theory from psychology (Ajzen, 1991), offering profound insights that guide numerous conceptual models, research contexts and methodological designs (Calleja *et al.*, 2022; Chailan and Ille, 2015; Kaynak *et al.*, 2000).

The concept of the COO significantly influences consumer behavior, as perceptions of a country's image can strongly affect the marketability of products emanating from that nation (Fan, 2019). Products from a country perceived positively are often preferred by consumers, enhancing the sales and brand evaluation of these goods. For instance, items manufactured in Japan are widely acclaimed for their longevity (Luo and Zhou, 2020) and those produced in Germany are frequently associated with meticulous precision and superior craftsmanship (Polfuß and Sönmez, 2020). The perception of a nation's image shapes



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consumer beliefs and directly impacts their purchasing decisions (Wang *et al.*, 2012). Despite the importance of COO in shaping consumer preferences, the academic literature lacks a clear, consistent definition of the concept, resulting in varied findings from studies that employ different theoretical perspectives and research methodologies (Diamantopoulos *et al.*, 2011; Bhattacharya *et al.*, 2023).

Despite the longstanding exploration of COO effects, the progression of theoretical approaches and methodological tools in this domain necessitates further examination. To facilitate and enhance research accessibility, the study utilizes the Bibliometrix R package alongside Biblioshiny, a tool for open-source software. This approach integrates data from Web of Science (Clarivate Analytics <http://www.webofknowledge.com>) and Scopus (<http://www.scopus.com>), converting them into plain text files for analysis. The bibliometric analysis addresses the COO effect by examining key fields, including the noteworthy contributions from various authors, their affiliations and the involved countries. Additionally, the research delves into the methodological strategies and data analysis tools utilized by researchers.

This research contributes significantly to the scholarly landscape in several ways. Firstly, it appears to be the inaugural study to perform a full-scale bibliometric analysis within the COO field. To the best of current knowledge, no previous research has provided such a detailed quantitative exploration of this domain, thus positioning this study as a pioneering comprehensive assessment in this area. Secondly, the objectives of the study guide the meticulous investigation of specific clusters through textual analysis. This methodological approach provides robust pathways to substantially enhance the depth and expand the breadth of research concerning the influence of COO on purchase intentions within the marketing domain. Moreover, the use of the Bibliometrix R package enables advanced text mining capabilities, facilitating an in-depth exploration of both theoretical and methodological approaches prevalent in this field. This analytical tool allows for a thorough examination of the conceptual and practical aspects of research related to COO.

The initial sections of this manuscript delineate the theoretical foundation of the COO and chronicle the conceptual refinements within this academic domain. The structure of the document proceeds as follows. The section on data collection and methodologies outlines the research design, specifies the criteria for gathering data and describes the analytical techniques utilized. Following this, the section on analysis and results presents the findings from basic statistical evaluations and bibliographic analyses. In parallel, a detailed examination of theoretical approaches and analytical tools is conducted through rigorous text analysis. The concluding part of the paper encompasses the discussion and the synthesis of findings.

## DATA COLLECTION AND METHODS

In order to ensure rigorous transparency in reporting and to fulfill the objectives of this systematic review, the study meticulously followed a structured five-step methodology, as illustrated in Figure 1 through a comprehensive flowchart detailing the bibliometric review process. Initially, the investigation involved retrieving relevant scholarly articles from the Scopus and WOS databases utilizing a meticulously selected array of keywords. Prior to the extraction of bibliometric records, stringent inclusion and exclusion criteria were applied, as explicitly detailed in Table 1 for both databases. Bibliographic data from Scopus were extracted in BibTeX format, encompassing a wide range of information including citation details, bibliographic entries, abstracts, keywords, funding particulars and additional relevant data. In contrast, data from WOS were obtained in plain text format. The search strategy encompassed the following query across both platforms: "COO effect\*" OR "country of origin\*" OR "COO image\*". The preliminary search outcomes revealed a total of 59,349 entries from Scopus and 1,366 entries from WOS, upon which the inclusion and exclusion criteria were stringently enforced.

Secondly, the data were refined and filtered. The Bibliometrix package in R offers various functionalities that facilitate the integration of datasets from Scopus and WOS. In this process, data from both sources were consolidated using Bibliometrix in R. During this integration, any duplicates and redundant blank entries were identified and removed. Specifically, 316 duplicate records were successfully purged using R scripts.

In the third stage of this study, the Bibliometrix R package and the web-based Biblioshiny applications were utilized to facilitate bibliometric coupling and the creation of scientific graph mappings. This was followed by a comprehensive text mining exercise that analysed the texts relating to theoretical approaches and analytical tools discussed in the literature. The culmination of this research involved the summarization of the findings and a discussion of their implications.

In Table 1 under the SCOPUS section, the search strategy employing the keywords "country of origin image," "COOI," or "COO image" yielded an initial total of 59,349 entries. Among these, 8,503 were not in English and 22,600 were categorized as non-article types, which included formats such as book chapters, conference papers, conference reviews and retracted items. Additionally, 886 entries were preliminary and not in their final form for publication. A substantial number, specifically 49,151 entries, were deemed irrelevant to the search keywords, as they covered a broad spectrum of unrelated disciplines including medicine, physics and astronomy, materials science, energy, agricultural and biological sciences, environmental science and chemistry. After implementing stringent screening based on the

inclusion and exclusion criteria, the corpus of records relevant to the study from the Scopus database was refined to a total of 7,416.

For the WOS data, the absence of filters for publication stages required the implementation of three distinct inclusion and exclusion criteria detailed in Table 1 for the WOS entries. This filtering process led to the exclusion of 233 records that were presented in non-article formats such as meeting papers, dissertations and case reports. The analysis initially encompassed 1,327 records primarily in English, while specifically excluding entries in languages such as Korean, Spanish, Chinese and French. The dataset strategically included research areas like social sciences and the arts and humanities, but deliberately excluded domains related to science and technology, life sciences and biomedicine, physical sciences and technology. These exclusion criteria underscore the interdisciplinary nature and domain overlap of the retained documents, often extending across more than two academic fields. As a result, only 368 documents pertinent to the study of the COO were selected from WOS. After merging these with data from Scopus, the collective dataset initially totalled 7,784 documents. However, during the integration process executed within the R programming environment, 316 duplicate entries were automatically identified and removed, culminating in a refined sample size of 7,468 documents.

## ANALYSIS AND RESULTS

This study's bibliometric analysis draws on journal articles sourced from the Scopus and WOS databases, selected for their extensive and reliable coverage of peer-reviewed scholarly journals. The statistical summary of the bibliometric data is systematically presented in Table 2. The analysis encompasses a

dataset of 7,468 articles, spanning from 1973 to 2024. The annual publication trends show a gradual increase, beginning with a solitary article in 1973 and escalating to a peak of 789 articles in 2022. This progression is indicative of a steady annual growth rate of 6.83%, coupled with an average citation rate of 3.6 citations per document each year, detailed in Table 2 and illustrated in Figure 2 (a) and (b). The years from 2020 to 2023 are particularly notable for their high publication volume, each contributing over 700 articles, which collectively represent 40% of the total publications within this four-year period, highlighting a significant surge in research activity in recent years.

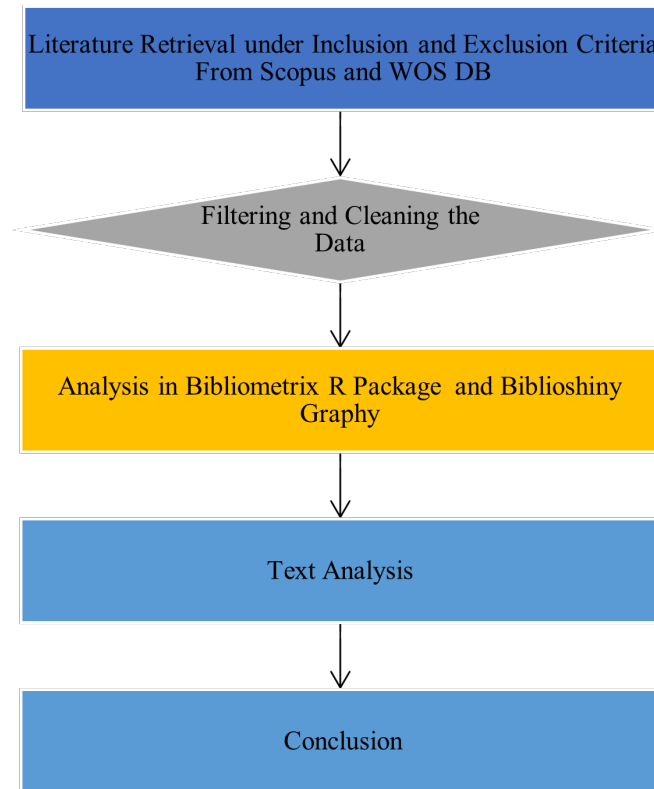
The data retrieval for this bibliometric study was finalized on December 31, 2023. The analysis partially utilized the Biblioshiny application, a web-based tool freely accessible at <https://bibliometrix.org/>. For the extraction and exportation of data, the WOS database enabled the exportation of search results in plain text format, utilizing the option "Full Record and References Cited". Meanwhile, Scopus adhered to the demands of the Bibliometrix R-tool by providing the necessary data in BibTeX format, which facilitates subsequent analysis and integration within the statistical software.

Presented in Figure 3 is an elaborate three-field diagram that methodically maps the intricate relationships among the twenty most prolific authors, their institutional affiliations and the scholarly journals where their work is published. This diagram employs a network of gray connectors to articulate the dynamic interconnections between these three critical elements. The visualization initiates with the academic institutions, proceeds to link to the respective authors and finally connects each author to the journals where their contributions have been documented.

**Table 1: Inclusion and Exclusion Criteria for the Systematic Bibliometric Review in Database.**

Database	Retrieval keywords	Inclusion criteria and records NO.	Exclusion criteria and records NO.	Records included in review NO.
SCOPUS	ALL (country AND of AND origin AND image* OR COO AND effect* OR COO AND image*).	Document is located in SCOPUS (59349); Document type is an article (30152); Documents in their final publication state (58463); Document in the relevant subject area (11198).	Document is not written in English (8503); Document source type is not from a journal (22600); Documents in press (886) Document not in the relevant subject area (49151).	7416
WOS	country of origin* OR COO image* OR COO effect*.	Document is located in WOS database (1366); Document is an article (1133); Document has the referred keywords (459)	Document is not written in English (39); Document type is not a journal article (233); The document does not relate to the keywords (909).	368

Note: Numbers in parenthesis are the records NO. Scopus retrieval employs the Scopus advanced search; The relevant subject area pertains to Business, management and accounting. In addition, the Cited Reference of Scopus database could be downloaded only available in the old retrieval version. WOS database of the Web of Science core collection Retrieval keywords with WOS basic research and documents of referred keywords are included in the Research Area of Business Economics.



**Figure 1:** Flow diagram of the bibliometric review process.

The rectangles' dimensions within each categorical list are proportionally scaled to reflect the quantity of research articles associated with each entity. Notably, the diagram highlights the contributions of Diamantopoulos A from the University of Vienna, whose extensive publications in the *Journal of Business Research* make it the most prominent journal featured in this plot. The journal's distinction as a prolific publication venue is underscored by its frequent citations and numerous contributions from various authors on the topic of COO, positioning it as a leading source of scholarly content.

The subsequent sections of this session will be dedicated to a comprehensive examination of countries, their respective affiliations and authors. This will be followed by a detailed text analysis, which will incorporate a review of the theoretical approaches and analytical tools that are pivotal in understanding the keywords within this study. The session will conclude with an in-depth exploration of various sub-themes identified through textual content in the field of marketing.

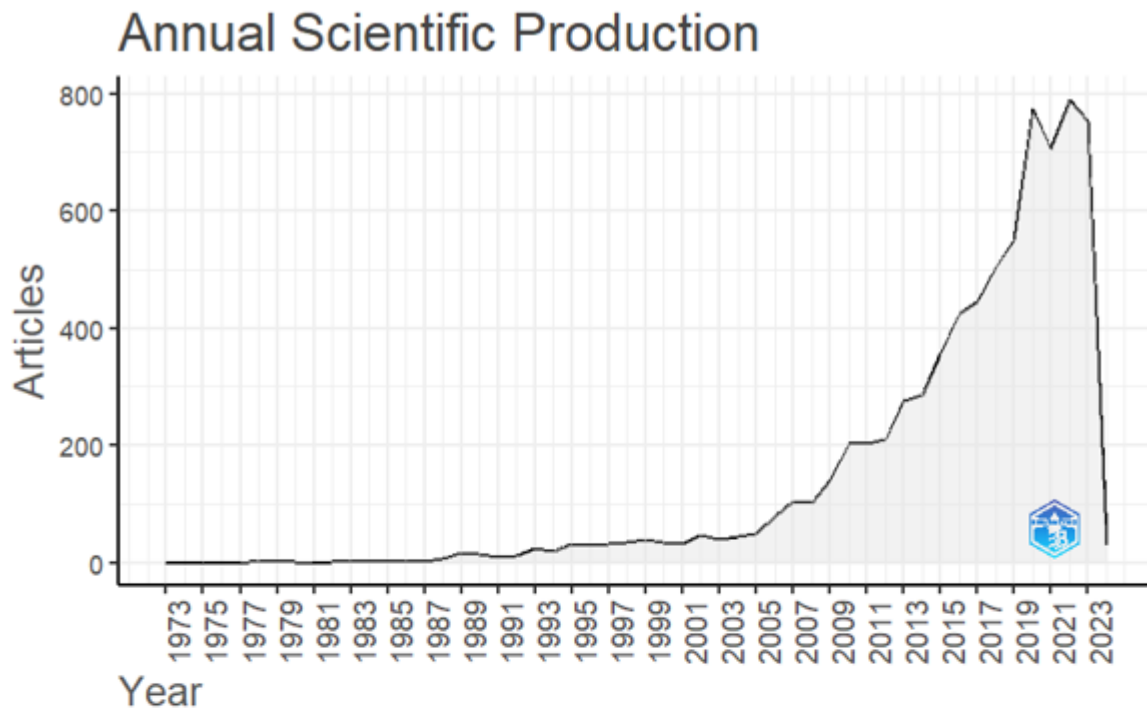
## Publication descriptives

### Countries

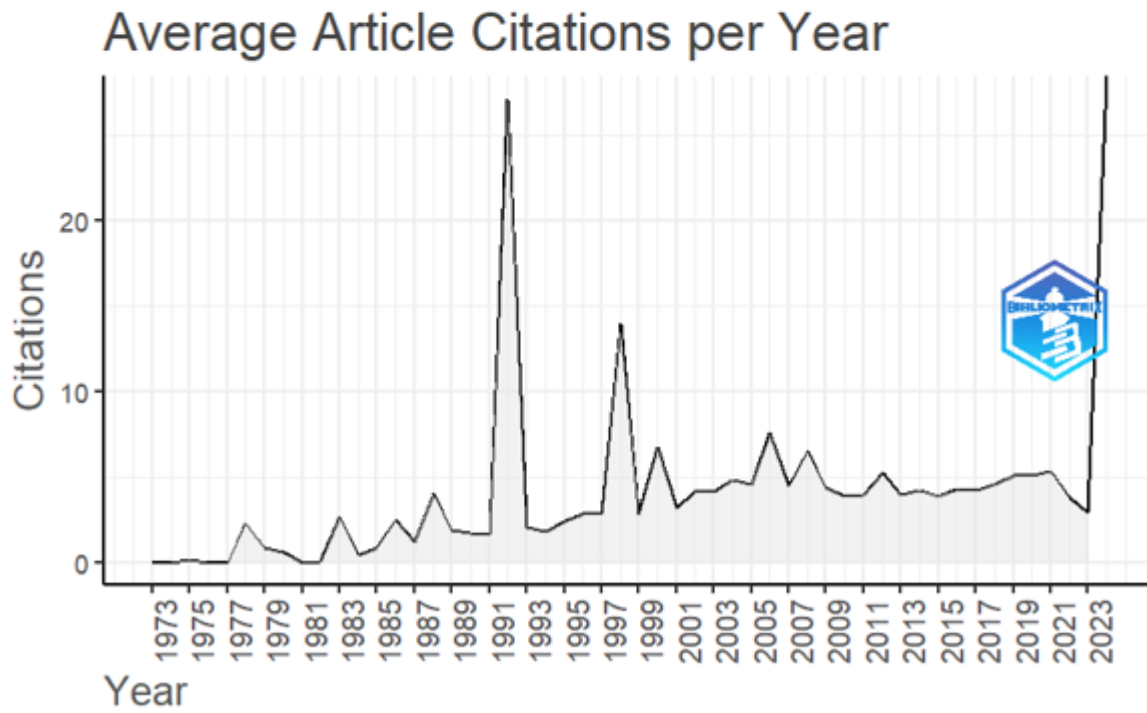
The initial segment of this analysis provides a foundational overview of the COO theme, encapsulating insights related to

authors and their affiliations. Depicted in Figure 4, an analysis identifies the United States, China and the United Kingdom as the foremost countries in terms of research output, ranking from the highest to the third highest. The illustration employs a red hue to represent the Multi-Country Publishing (MCP) indicating publications that span multiple countries, whereas Single Country Publications (SCP) are highlighted in green, emphasizing research confined to a single nation. Figure 5, on the other hand, aligns with Figure 6 by displaying the distribution of publications based on the corresponding authors' countries, maintaining a consistent order in country ranking. The temporal production trends outlined in Figure 6 reveal a significant escalation in research outputs over the past decade, with the United States leading, followed sequentially by China, the United Kingdom and Australia. Post-2020, data indicate that China has not only caught up with but also surpassed the United Kingdom in terms of research contributions. Furthermore, Figures 4 and 5 illustrate the dynamics of author collaboration, with the United States emerging as the predominant country in multi-country collaborations, followed by the United Kingdom and China.

Table 3 illustrates that nations with high productivity in scholarly publications, such as the USA, UK, China and Australia, are also among those achieving the highest total citation counts.



(a)



(b)

**Figure 2:** (a) Distribution of annual scientific publications. (b) Average article citation per year.

In contrast, when considering citations per published article, Canada emerges as the leading nation with an average citation rate of 61.27 per article.

**Affiliation**

To ascertain the most significant affiliations from among the 5,477 entities involved in COO research, an affiliation clarification methodology was applied. This analysis, detailed in Figure 7,

**Table 2: Summary statistics of the articles collected.**

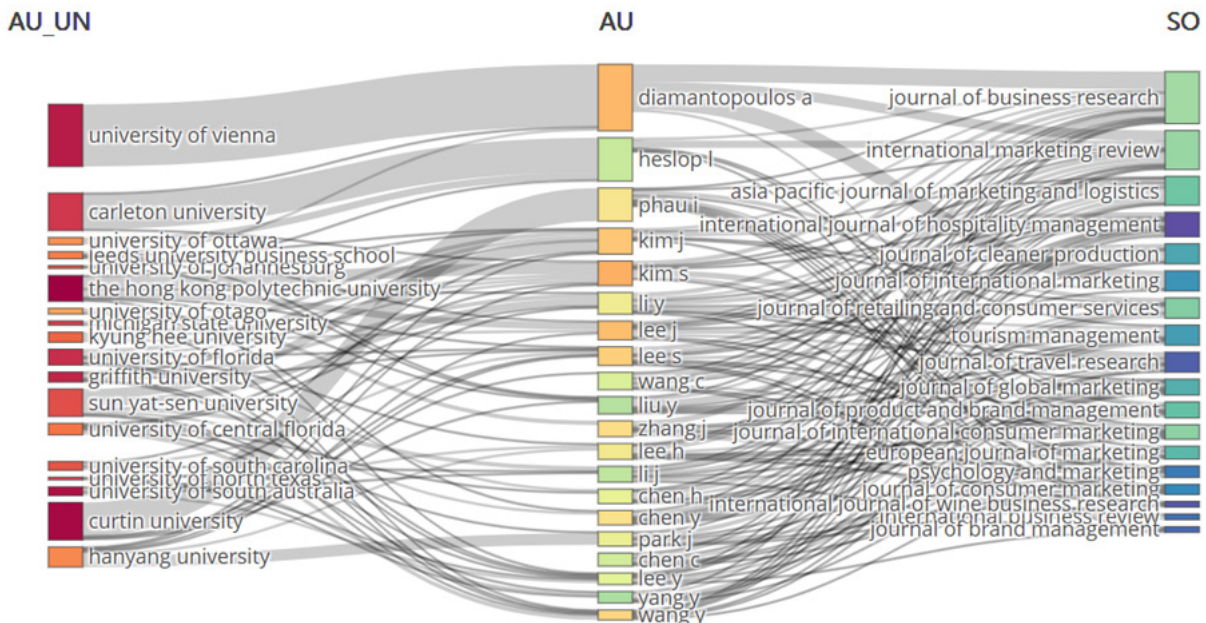
Description	Results
Timespan	1973:2024
Sources (e.g., journals, books, etc.)	995
Documents	7468
Annual Growth Rate %	6.83
Document Average Age	7.72
Average citations per documents	35.14
Average citations per year per doc	3.6
References	521669
Keywords Plus	4175
Author's Keywords	16247
Authors	13262
Author Appearances	19,091
Authors of multi-authored documents	12306
Single-authored documents	1071
Documents per Author	0.56
Co-Authors per Doc	2.78
International co-authorships %	0.42

pinpointed key institutions, with The Hong Kong Polytechnic University standing out as the top contributor. This university accounted for 77 research publications, prominently represented by a yellow bubble in Figure 8, which indicates their extensive collaborative efforts. Such visualizations underscore the pivotal role of leading academic institutions in advancing the discourse on this topic, as measured by the co-authorship index.

In the visualization presented in Figure 8, an intricate social structure and connectivity among 49 pivotal institutions are depicted, arranged into six distinct clusters, each represented by a different color. This arrangement demonstrates the concept of bibliometric coupling, which occurs when articles published by researchers from two separate institutions cite a third institution's work. Specifically, a cluster highlighted in yellow underscores the central role of The Hong Kong Polytechnic University, not just as the most prolific but also as a highly influential entity in COO research. Within this prominent cluster, Griffith University stands out due to its significant volume of publications, along with other institutions like the University of South Australia, Sun Yat-Sen University, Washington State University, Qatar University and North-West University, all of which exhibit diverse roles in international collaborations and share strong research ties with The Hong Kong Polytechnic University.

**Author**

In the realm of scholarly research, bibliographic coupling is determined by authors referencing the same works within their articles, creating a linkage based on shared citations. Conversely, co-citation occurs when authors cite both the articles under analysis, establishing a connection through these shared references. The method of bibliographic coupling, as discussed



**Figure 3:** Illustration of three elements, consisting of a list of top 20 on affiliations (AU\_UN), authors (AU), and journal names (SO) from left to right respectively.

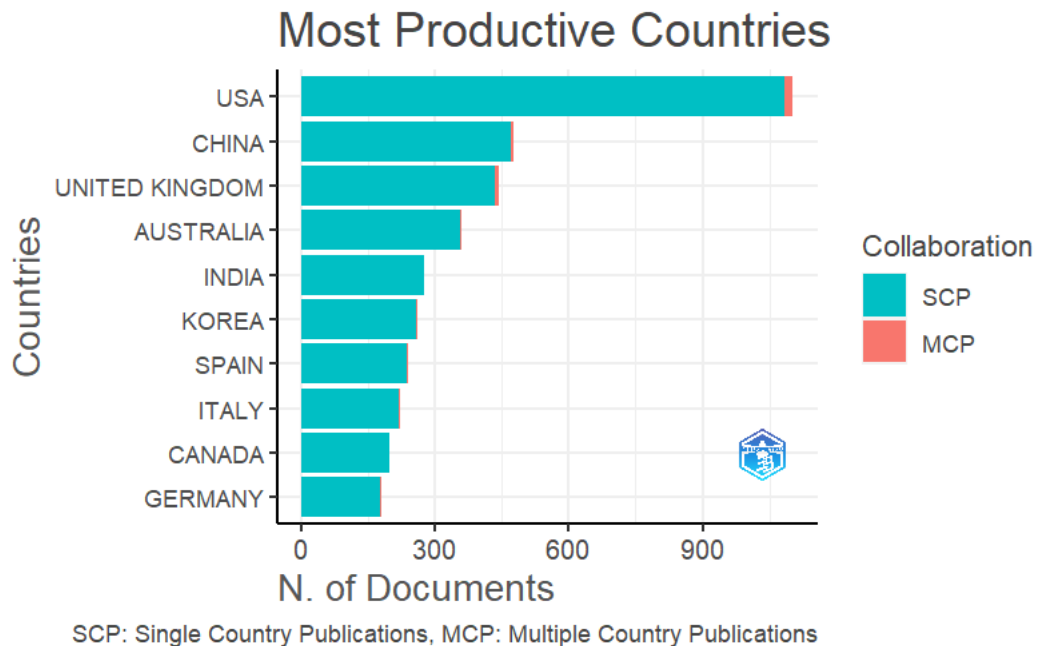
in reference (Kessler, 1963), focuses on the documents that cite others, whereas co-citation analysis, detailed in reference (Small, 1973), examines the documents that are being cited. Bibliographic coupling is instrumental in revealing linkages among research groups (Aria and Cuccurullo, 2017) and co-citation analysis is adept at uncovering evolving research trends and paradigm shifts over time.

This study involving COO research encompasses contributions from 13,262 authors, culminating in a total of 7,468 published articles. Displayed in Table 4 are the ten most prolific authors, their respective H-indices and other relevant performance indicators that evaluate their academic impact and productivity based on the citations their publications have garnered. Among these, Kim S is the standout contributor with a robust portfolio

of 52 publications. Following closely is Diamantopoulos A, who has authored 46 articles and has accumulated the highest citation count in this group, reaching a total of 4,678 citations. Significantly, this author tops all three-performance metrics, marking them as a highly influential and promising figure within the COO research community. Figure 9 tracks the publication output of these distinguished authors spanning from 1973 to 2023. It highlights that the substantial body of work by Kim S and Diamantopoulos A, particularly between 2017 and 2022, demonstrates a concentrated effort in their scholarly contributions during this period. This pattern indicates that the majority of seminal works by top-tier authors have been produced in the most recent decades. Additionally, the analysis underscores an emergent trend where esteemed scholars, such as Wang Y, have markedly increased their contributions, as evidenced by

**Table 3: Contributions of the top 10 countries to the total citations on COO research.**

Country	Article	Total Citations	Average Article Citations
USA	1103	47282	42.87
United Kingdom	444	20045	45.15
China	476	14966	31.44
Australia	360	13833	38.42
Canada	198	12132	61.27
Spain	238	9623	40.43
Korea	259	6267	24.2
Germany	178	5584	31.37
India	275	5037	18.32
Italy	222	4979	22.43



**Figure 4: Most productive countries.**

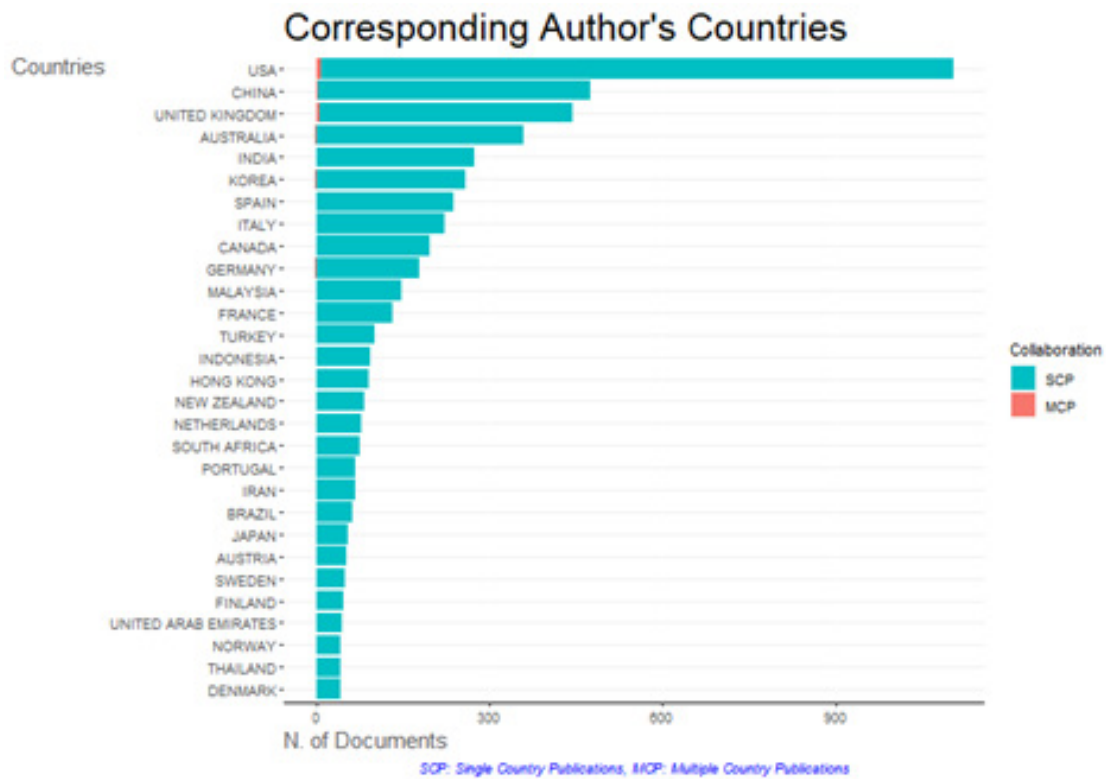


Figure 5: Countries of leading corresponding authors.

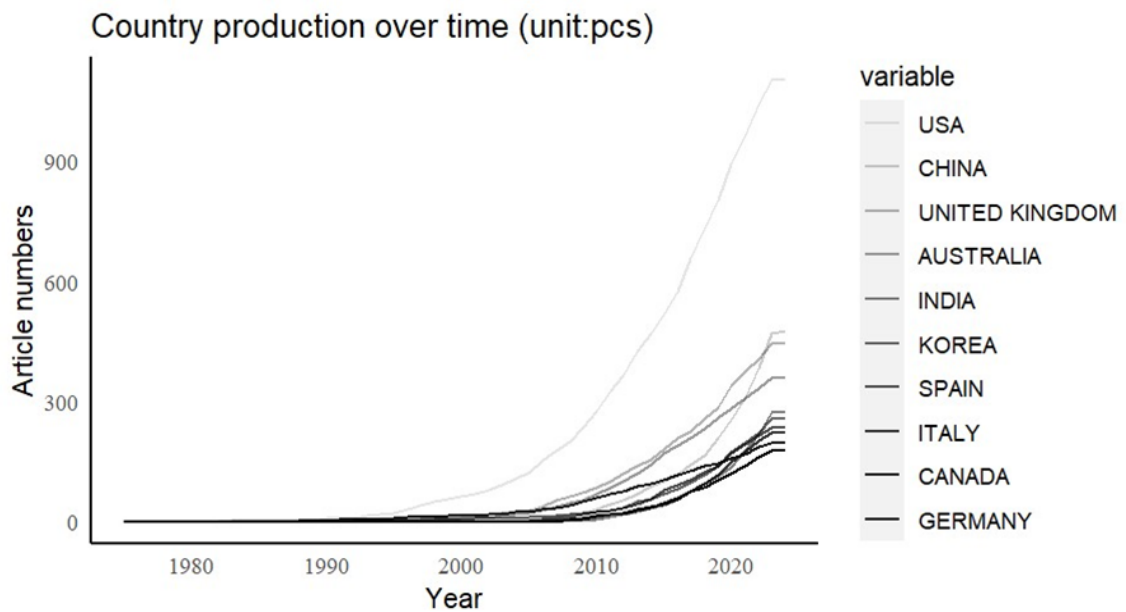


Figure 6: Country production over time.

Note: Country of affiliation for the first author as the computed source of country production over time.

the publication of eight articles in the year 2023 alone, further enriching the field's academic diversity and depth.

Additionally, analysis of co-authorship reveals the collaborative networks that form among scholars through joint publications, as indicated in reference (Zupic and Čater, 2015). This exploration of author connections occurs when papers are produced

collaboratively. Utilizing the Biblioshiny tool, the examination focused on 45 authors, each credited with over five joint publications. Among these, the notably high-performing author, Kim S, has established a significant collaborative relationship with Lee J, which is clearly visualized in a yellow bubble in the supplementary materials (Figure 10).



**Text analysis**

Abafe (2022) posits that while Keywords Plus (ID) generally surpass author keywords (DE) in breadth of coverage, they are somewhat less conducive to granular content analysis (Abafe et al., 2022). In light of these considerations, the analysis will incorporate both DE and ID keywords as per the limitations set by the full text of the papers reviewed. Illustrated in Figure 11, the analysis of ID surfaces the most prevalent terms, with "consumption behavior" appearing 182 times and "marketing" 162 times, reflecting the focus areas derived from the COO query terms. Moreover, this thermodynamic diagram of keyword frequency quantifies the yearly occurrences and notes a peak co-occurrence value of 250. Figure 12, the Keywords cloud thus offers an aesthetically pleasing method of presenting complex data. Extracted from the titles, author keywords, or abstracts of cited works, Keywords Plus serve a pivotal role in pinpointing essential themes and contrasting their representations across various sources. These keywords are particularly valuable within WOS and Scopus databases for delineating content and elucidating scientific concepts articulated in the literature. The treemap displayed in Figure 13 breaks down the 51 foremost Keywords Plus terms, with "Tourist Destination" leading at

7%, closely followed by "Consumer Behavior" and "Marketing", each at 6%, delineating a dynamic growth curve over time with respective occurrence counts of 216, 182 and 162.

While the frequency and expansion of keywords do not directly reflect the trajectory or thematic trends of the research, the thematic map displayed in Figure 14 offers insights into the evolution of topics. It does so by situating each topic within a specific quadrant that assesses both the density and centrality of the topic relative to the keyword DE. Centrality measures the level of interaction between one cluster and others, indicating its influence across the network. Density, on the other hand, gauges the internal strength and unity of the topics within a cluster. These metrics prove useful for classifying the various clusters identified (Cobo et al., 2011). The quadrants are categorized into motor themes, niche themes, emerging or declining themes and basic themes, each illustrating different aspects of research focus. Motor themes, characterized by high centrality and density, indicate topics that have garnered consistent and sustained interest among researchers for prolonged periods. Examples of topics within the motor quadrant, such as "purchase intention", "brand equity" and "country image", have seen a notable uptick in related publications in recent years.

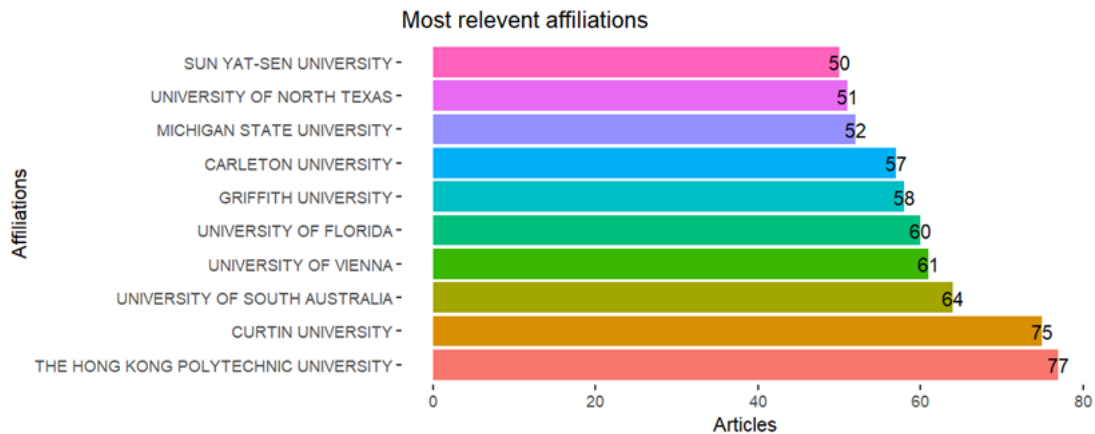


Figure 7: Most relevant affiliations.

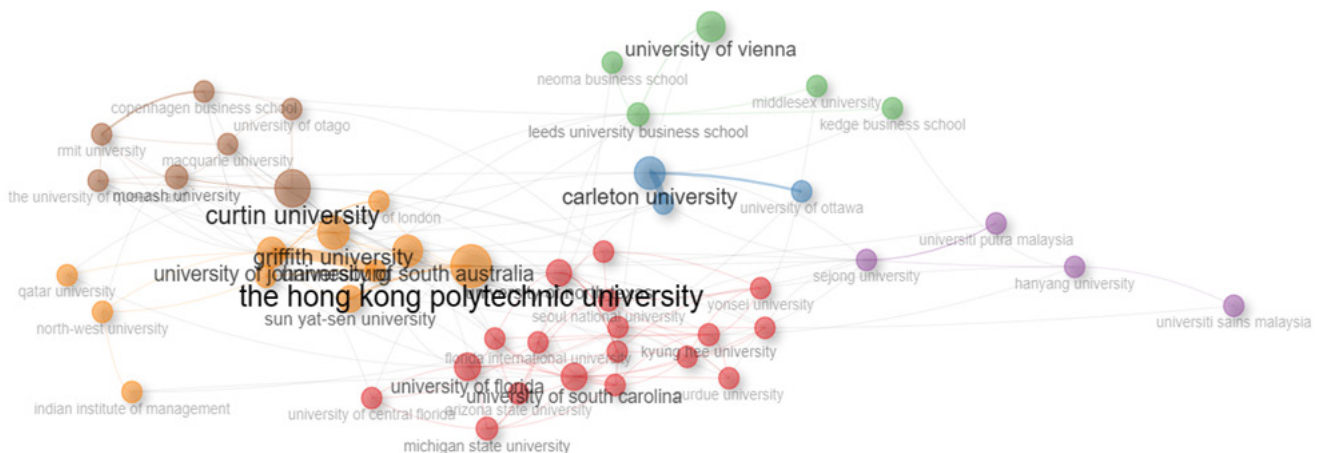


Figure 8: Network map of institutions.

In the thematic map's lower right quadrant, terms such as "country of origin", "consumer behavior" and "China" display both high centrality and density. Despite widespread usage, these concepts do not exhibit as much developmental progression as those positioned in the upper left quadrant. Nonetheless, the substantial presence of these themes suggests ample opportunities for further investigation to fill existing research voids and enrich understanding. Figure 15(a) visually represents the co-occurrence of authors' keywords within the VOSviewer tool, highlighting the interaction among these terms. Conversely, Figure 15(b) traces the development of these keyword interactions over time through a lexical network, capturing the evolving dynamics within this scholarly domain. This figure, with its blue clusters, specifically illustrates the Country of Origin as analyzed from the brand perspective, while Figure 15(b) provides a graphical representation of the keywords' evolution starting from the year 2014.

### Theoretical approaches and analytical tools

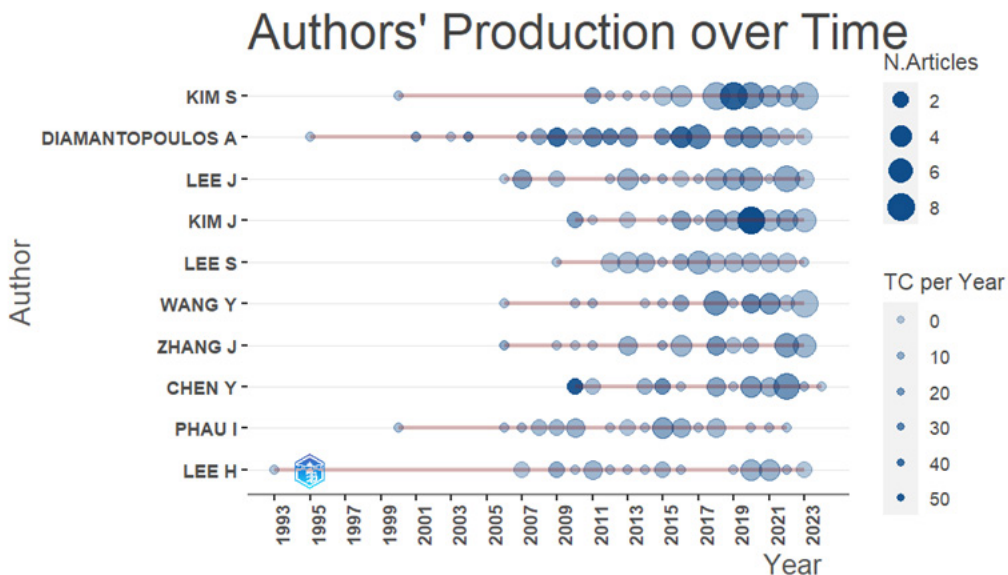
Grasping the foundational theories of COO is crucial for the analysis. This study provides an exhaustive examination of the significant literature on COO, highlighting the evolution of theoretical frameworks and contributing practical perspectives. Within the spectrum of COO theories, the integration of varied theoretical approaches from organizational and consumer standpoints has been noted. Displayed in Figure 16 is a Three field plot which maps the interactions between various theories, authors and methodological approaches, covering both empirical and theoretical research. The Theory of Planned Behavior stands out as a key approaches adopted by researchers focusing on COO, with empirical studies, theoretical explorations and quantitative models being the primary methodologies employed in this field.

The Bibliometrix package excels in conducting detailed bibliometric analysis by harnessing bibliographic data sourced

**Table 4: Top 10 most active authors on COO research.**

Author	H_Index	G_Index	M_Index	NP	TC	PY_start	Dominance Factor	Articles Fractionalized
Kim S	16	32	0.64	52	1067	2010	0.42	18.83
Diamantopoulos A	32	46	1.07	46	4678	1995	0.22	16.73
Lee J	14	32	0.74	40	1036	2010	0.6	15.35
Kim J	13	31	0.87	38	1007	2000	0.31	13.63
Lee S	14	23	0.88	35	559	1993	0.39	14.78
Wang Y	15	27	0.79	31	782	2006	0.35	8.92
Zhang J	14	30	0.74	30	907	2009	0.57	10.95
Chen Y	14	29	0.93	29	1554	2000	0.27	10.5
Phau I	18	28	0.72	28	1046	2006	0.29	10.23
Lee H	14	27	0.44	27	740	2006	0.44	9.73

Note: Total citations (TC), Number of Publications (NP), Publication Year (PY).



**Figure 9: Authors' production over time.**

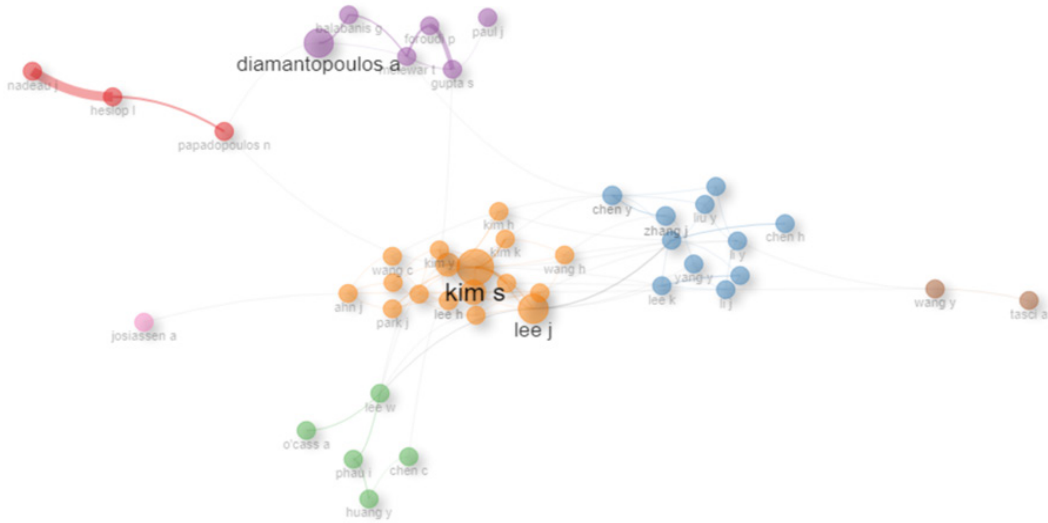


Figure 10: Author Collaboration network.

Keyword frequency thermodynamic diagram

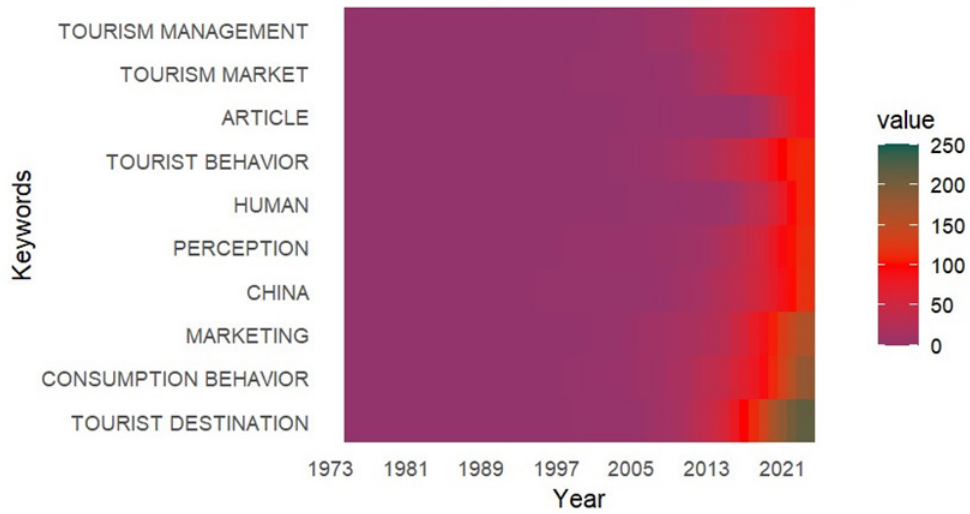


Figure 11: Keyword frequency over time thermodynamic diagram based on ID.



Figure 12: Keyword cloud figure.

from esteemed databases like WOS and Scopus. This tool facilitates profound insights into the scholarly output of various nations, delving into the expertise of individual authors and enabling the construction of dendrograms that bolster statistical evaluations. Such a multifaceted approach significantly enhances the thoroughness and precision of bibliometric studies. Within the framework of the R package Bibliometrix, specific functions such as Term Extraction; Table Tag and Keyword Growth are utilized, illuminating the predominant theories used in the literature. Extensive data mining, incorporating an analysis of both DE and extended author ID, yields a total of 4,176 and

16,196 keywords, respectively. Among these, the term 'theory' appears in 235 keywords within DE, with only 17 of these occurring with a frequency of four or more. In contrast, 'theory' features in 31 keywords within ID, with just three exceeding this frequency threshold. Through a meticulous filtering process via Excel, keywords pertinent to theories in COO research are systematically organized. Moreover, by applying the 'effect' filter, significant terms such as 'Halo Effect' and 'Spillover Effect', which occur 14 and 10 times respectively, are isolated. This method enables the scrutiny and selection of complex terms associated with theoretical constructs, which are then meticulously listed



Figure 13: One Treemap of Keywords Plus terms.

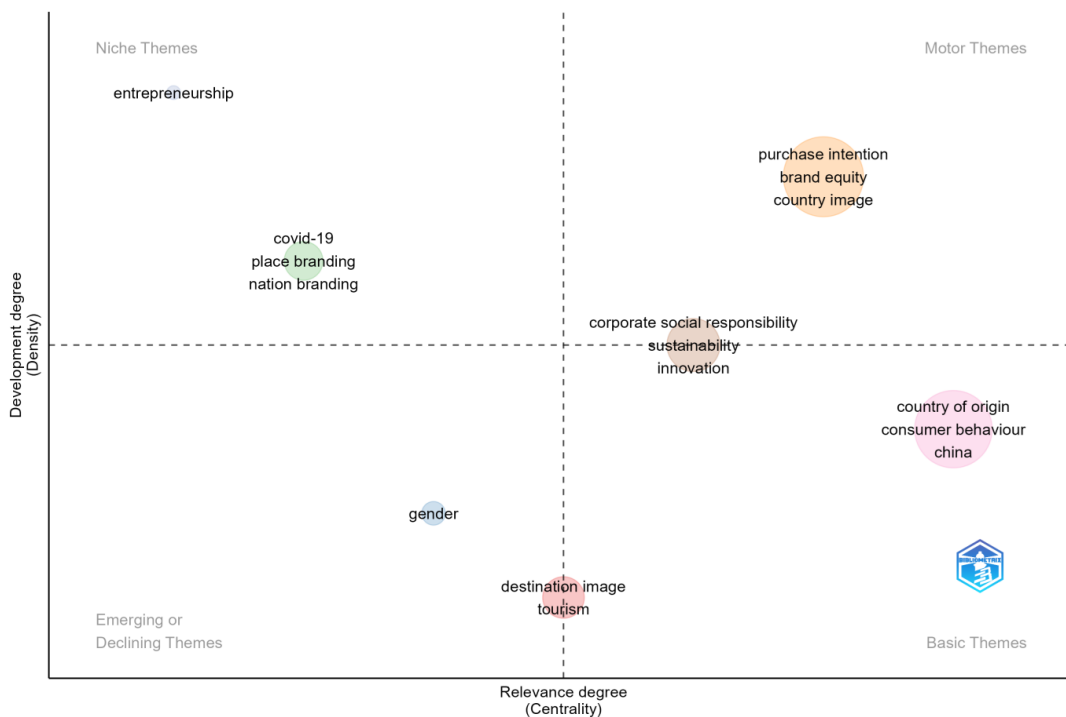
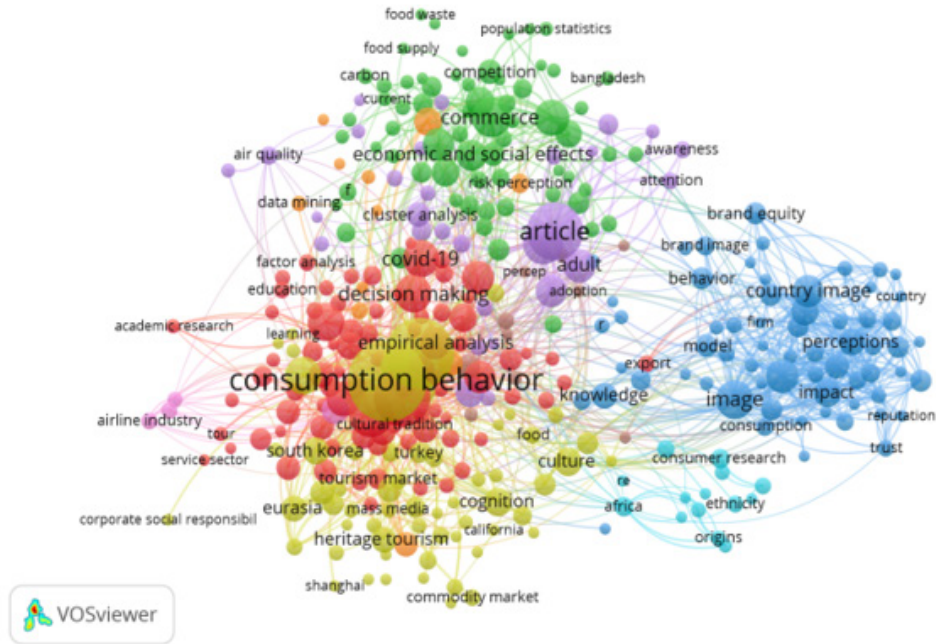
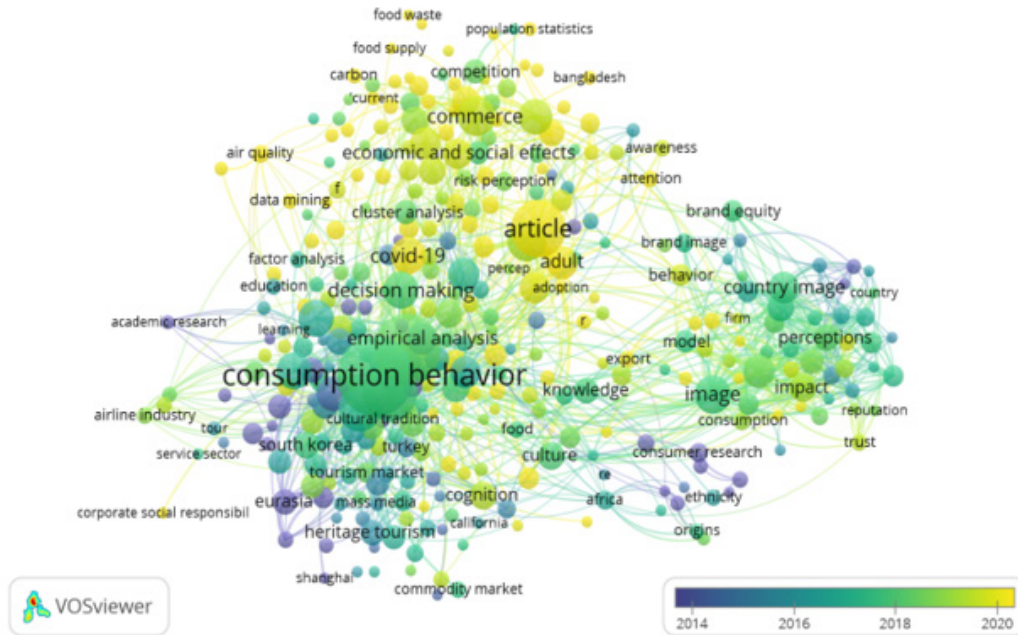


Figure 14: Thematic map based on density and centrality, divided into four topological regions.



(a)



(b)

Figure 15: (a) Lexical network based on authors' keywords; (b) Temporal network based on authors' keywords.

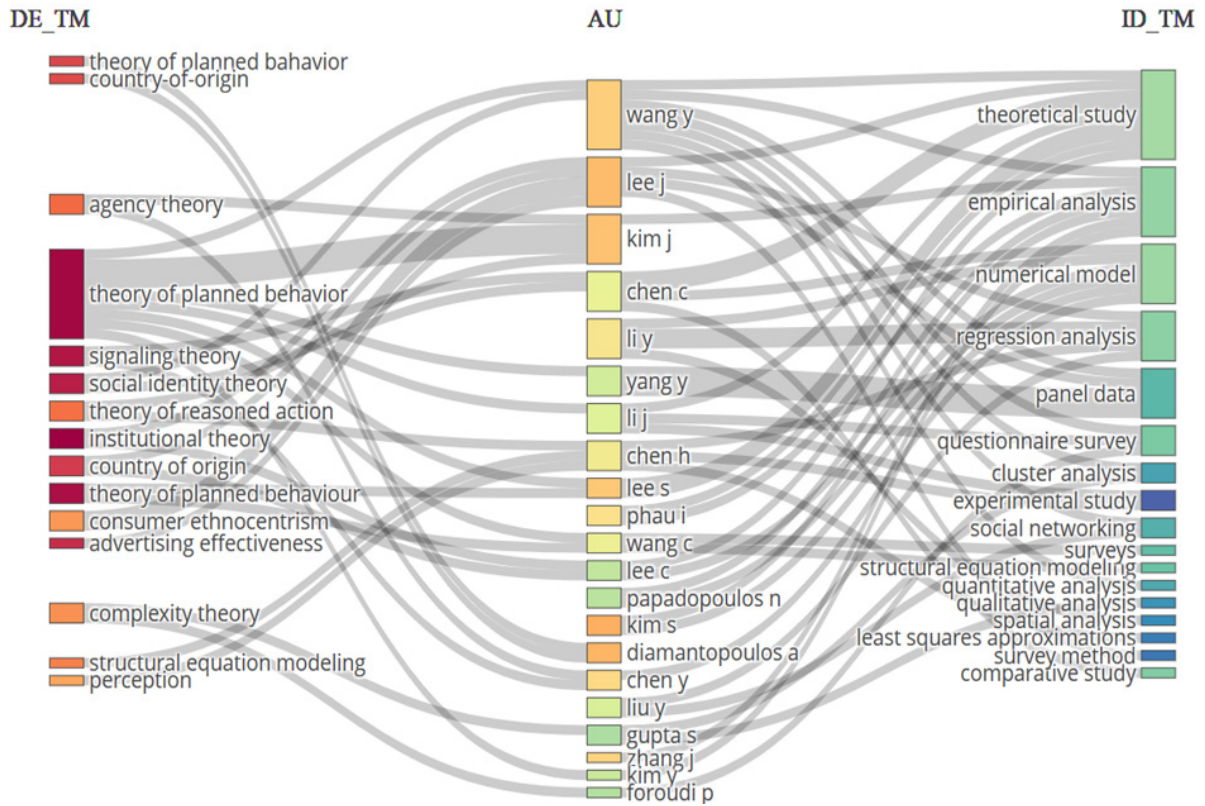


Figure 16: A relationship overview of theoretical approaches and analytical methods.

Note: DE=keywords defined by the authors; Keyword Plus (ID)=keywords designated by the WOS or Scopus databases. ID\_TM is the term extraction from ID, the same as DE\_TM from DE.

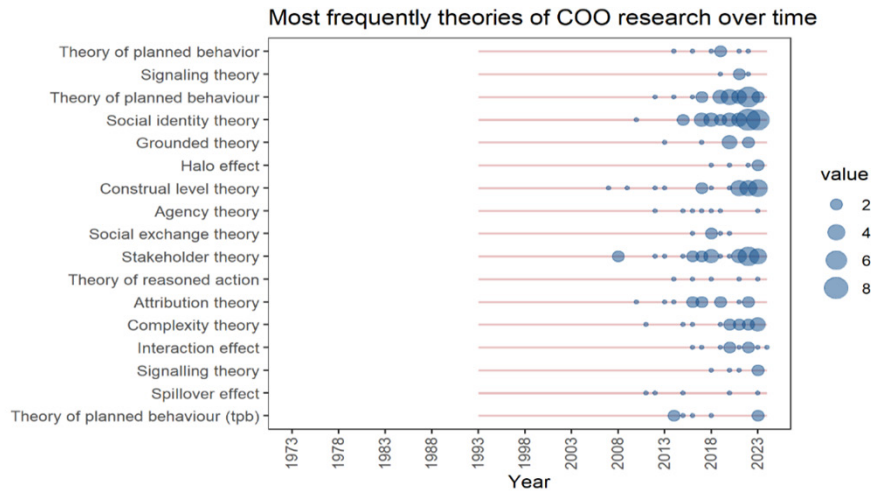


Figure 17: Most frequently theories of COO research over time based on DE.

in Table 5. It lists the theory of planned behavior (behaviour) with 62 frequencies as the highest frequency, following signaling (signalling) theory with 32 frequencies based on ID.

Figure 17 presents a timeline of the predominant theories in COO research, as indicated by the DE where only those with a cumulative frequency above four are showcased. Co-word analysis, as conceptualized by Callon, Courtial, Turner and Bauin in 1983, employs key terms from academic papers to explore the conceptual framework of a given field of study. It illustrates

the theory of planned behavior and social identity theory are prevalent in recent years based on DE.

In the analysis conducted, the Term Extraction, Table Tag and Keyword Growth functions from the R package Bibliometrix are utilized to demonstrate the predominant analytical methods employed in the field. Upon reviewing both DE and extended author ID, 4,176 and 16,196 keywords are identified respectively. Of these, 434 keywords in DE and 1,122 in ID exhibit a frequency of five or more. This necessitates a manual filtration process to

isolate keywords specifically related to analytical methods. This filtration allows for the succinct display of the frequency of each method annually using the Keyword Growth function. In visual representations, starting from the year 2000 rather than 1973 due to the absence of data prior to 2000 (as depicted in Figures 19), a straight red line represents a frequency of one, with values marked for frequencies of two or more. These analyses encompass both qualitative and quantitative approaches, including structural equation modeling, fuzzy set qualitative comparative analysis and logistic regression, which emerge as the most frequently utilized analytical methods. From the findings, 34 keywords in field ID and 40 in DE pertain to analytical tools, each recorded with occurrences of five or more.

Figure 18 illustrates that structural equation modeling is the most frequently used analytical method according to DE, encompassing variations such as "Structure equation modelling", "Structure equation modeling", "Structural equation modeling", "Structural equation modelling" and "SEM". These variations, which differ in spelling or grammatical form, together account for a total of 112 articles. In addition, recent advancements have seen the adoption of more sophisticated tools like Natural Language Processing for analyzing data.

Figures 18 and 19 collectively provide an overview of the evolution of analytical tools in COO research. Derived from the DE and ID respectively, these figures highlight the increasing prevalence of multivariate analysis, machine learning and empirical studies in recent years. Simultaneously, the structural equation model, referred to variously as "Structure equation modelling", "Structure equation modeling", "Structural equation modeling", "Structural

equation modelling", holds a pivotal role as a methodological tool in COO research, with 39 articles to its credit.

## DISCUSSION

This comprehensive bibliometric study provides an exhaustive quantitative review and delivers substantial contributions to the domain of COO research. Initially, it establishes the theoretical foundation relevant to the research objectives. Next, the study meticulously describes the processes involved in data collection and the methodologies implemented. Furthermore, these methodologies are utilized to conduct detailed analyses and interpret the findings, with the R package Bibliometrix employed for conducting a focused bibliometric analysis on COO-related keywords. The empirical literature review spans from 1973 to 2023, offering a longitudinal examination of scientific contributions that includes the most influential countries, affiliations and authors in this field. Additionally, this analysis comprehensively summarizes the evolution of theoretical approaches and analytical tools that have shaped COO research over the last five decades.

It is clear that the USA holds a prominent position in COO research. Analysis presented in Figure 15 (a) highlights that terms like "tourist destination", "consumer behaviour" and "marketing" have been predominant in shaping research trends over the past decade. Additionally, terms such as "commence", "economic and social effects" and "data mining" have started to appear in COO studies around 2020, suggesting a shift in research focus. As technological advancements continue to introduce new goods, services and markets, these innovations are poised to satisfy long-established consumer needs.

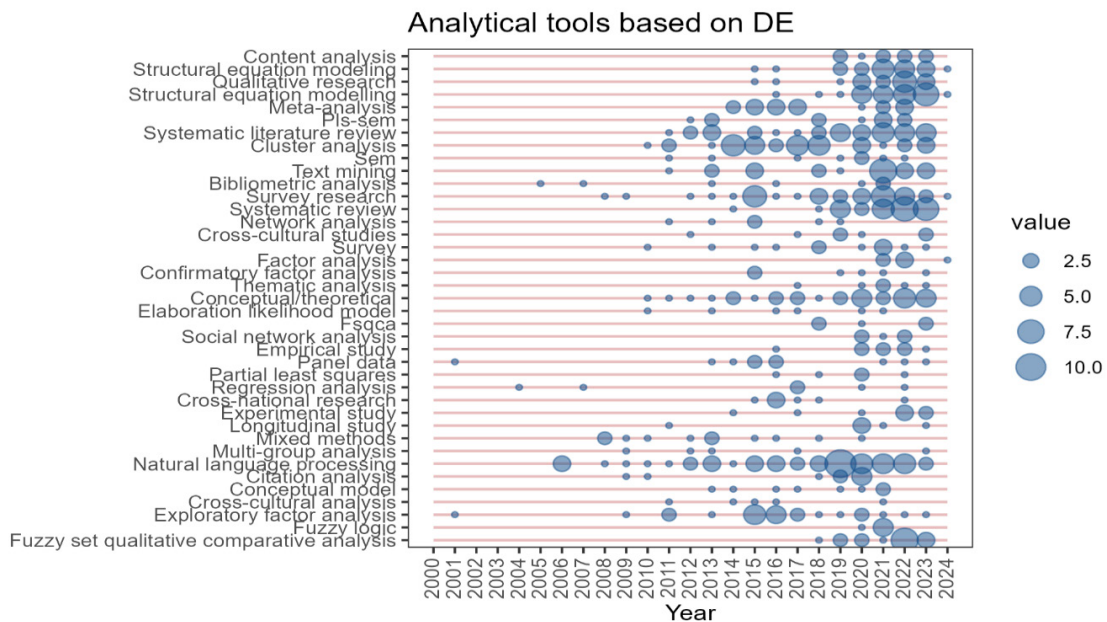


Figure 18: Analytical tools based on DE.

Note: DE=keywords defined by the authors; ID=keywords designated by the WOS or Scopus databases.

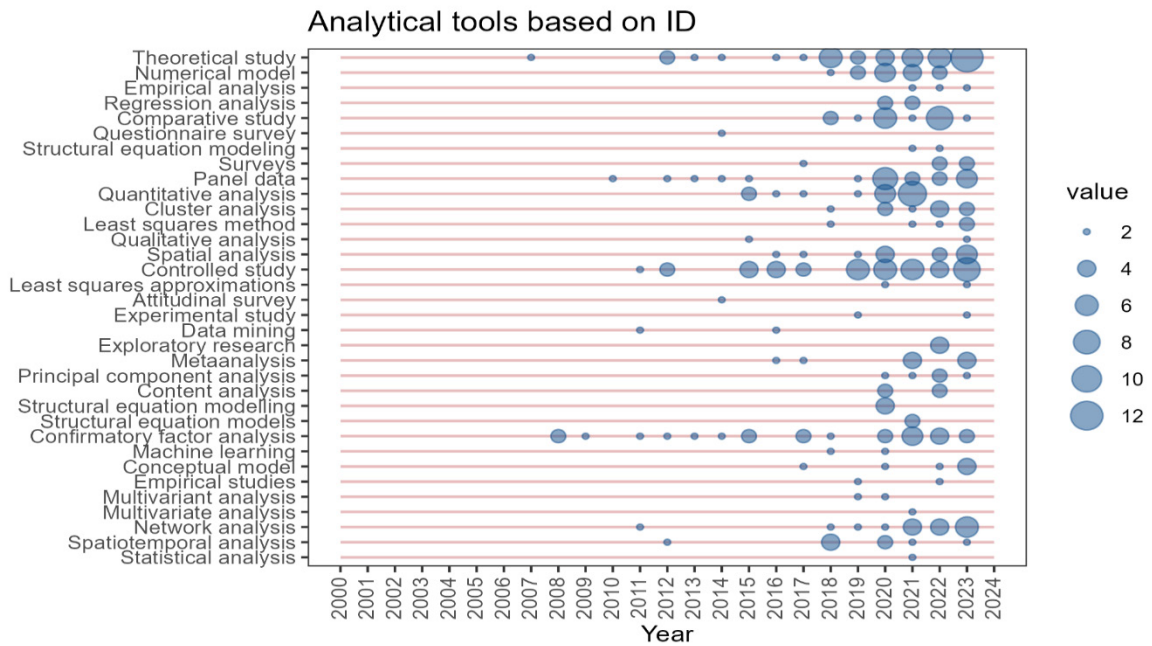


Figure 19: Analytical tools based on author's ID.

Note: DE=keywords defined by the authors; Keyword Plus (ID)=keywords designated by the WOS or Scopus databases.

Table 5: Most frequently theories of coo research.

Sl. No.	Theory Based on ID	Fre
1	Theory of Planned Behavior	34
2	Theory of Planned Behaviour	28
3	Signaling Theory	27
4	Social Identity Theory	21
5	Halo Effect(S)	14
6	Grounded Theory	13
7	Construal Level Theory	10
8	Spillover (spill-over/spill over) Effect(S)	10
9	Social Exchange Theory	8
10	Stakeholder Theory	8
11	Agency Theory	7
12	Theory Of Reasoned Action	7
13	Attribution Theory	5
14	Complexity Theory	5
15	Signalling Theory	5
16	Contingency Theory	4
17	Cue Utilization Theory	4
18	Resource-Based Theory	4

Note: ID is the authors' keyword. Filter frequency above or equal 4. Based on the ID keywords extractions, the most widely used theory, is the theory of planned behavior (behaviour) with 62 (34+28) frequency, following signaling (signalling) theory with 32 (27+5).

The findings of this analysis indicate that a significant number of theoretical approaches employed in this study are derived from the field of psychology, incorporating theories such as planned

behaviour, social identity, structural level, attribution and the halo effect. With respect to the analysis of analytical methods based on DE (Figure 18), it is observed that multivariate analyses such as meta-analysis, text mining, data mining and natural language processing have been increasingly integrated since the early 21<sup>st</sup> century. Despite these advancements, SEM continues to be the preferred analytical tool among scholars.

### LIMITATIONS AND FUTURE RESEARCH

This study acknowledges several limitations that merit attention. Primarily, the data extraction process was confined to Scopus and WOS, which may have impacted the findings. Future research could incorporate additional databases such as PubMed and Google Scholar to further verify and enhance the results. Furthermore, it is important to note that this analysis excluded books, dissertations and conference proceedings. Exploring these alternative sources could provide valuable insights and offer new perspectives on various dimensions of COO research.

The analysis considered the number of affiliations in each document in relation to the total publications from each country. When multiple authors from the same country contributed to a document, that country received a single count. However, if authors from different countries co-authored a document, each country was credited once for the respective publication. This approach has resulted in an increase in reported research output for some countries, reflecting higher international collaboration, even if these countries were not the primary corresponding authors. Moreover, the study could be enhanced by incorporating additional bibliometric tools, such as CiteSpace and HitSite,



to enable a more detailed analysis of co-cited citations and references.

While analysis of author's keywords (DE) and ID associated with analytical tools suggests that SEM remains the dominant method, future research could likely employ other techniques like text mining, natural language processing and empirical analysis to gain traction in precious studies. Additionally, this review provides an extensive and varied illustration of analytical tools used in the field. Citation analysis, as a bibliometric research method, is anticipated to continue playing a significant role in this domain for the foreseeable future.

## SUMMARY AND CONCLUSION

This study employed bibliometric methods to analyze 7468 articles published from 1973 to 2024 using specific search terms to extract relevant peer-reviewed documents from the Web of Science Core Collection Database and Scopus in terms of Country of Origin. Research conducted on COO has shown a rapid increase since 2010 and the largest number of articles was published in 2023. United States is the predominant country in terms of scholarly output, with China, and the United Kingdom following. Kim S was identified as the most prolific, with a contribution of 52 articles, whereas Diamantopoulos A garnered the highest citation count with 4,678 citations. Structural Equation Modelling is the most frequently used analytical method. It found that the Theory of Planned Behaviour with 62 frequencies as the highest theoretical approach, following Signalling Theory with 32 frequencies based on ID.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

## ACKNOWLEDGEMENT

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## ABBREVIATIONS

**COO:** Country of Origin; **DE:** Keywords defined by the authors; **ID:** Keyword Plus, keywords designated by the WOS or Scopus databases; **TC:** Total citations, **NP:** Number of Publications, **PY:**

Publication Year; **AU\_UN:** Affiliations; **AU:** Authors; **SO:** Journal Names.

## REFERENCES

- Abafe, E. A., Bahta, Y. T., & Jordaan, H. (2022). Exploring Biblioshiny for historical assessment of global research on sustainable use of water in agriculture. *Sustainability*, 14(17). <https://doi.org/10.3390/su141710651>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Bhattacharya, S., Sharma, R. P., & Gupta, A. (2023). Does e-retailer's country of origin influence consumer privacy, trust and purchase intention? *Journal of Consumer Marketing*, 40(2), 248–259. <https://doi.org/10.1108/JCM-04-2021-4611>
- Calleja, P., Wilkes, S., Spencer, M., & Woodbridge, S. (2022). Telehealth use in rural and remote health practitioner education: An integrative review. *Rural and Remote Health*, 22(1), 6467. <https://doi.org/10.22605/RRH6467>
- Chailan, C., & Ille, F. (2015). Branding from emerging countries: How to compete internationally? *Critical Perspectives on International Business*, 11(1), 54–71. <https://doi.org/10.1108/cpoib-11-2012-0055>
- Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). An approach for detecting, quantifying and visualizing the evolution of a research field: A practical application to the Fuzzy Sets Theory field. *Journal of Informetrics*, 5(1), 146–166. <https://doi.org/10.1016/j.joi.2010.10.002>
- Diamantopoulos, A., Schlegelmilch, B., & Paliwadana, D. (2011). The relationship between country-of-origin image and brand image as drivers of purchase intentions: A test of alternative perspectives. *International Marketing Review*, 28(5), 508–524. <https://doi.org/10.1108/02651331111167624>
- Fan, Q. (2019). Relationship among China's country image, corporate image and brand image: A Korean consumer perspective. *Journal of Contemporary Marketing Science*, 2(1), 34–49. <https://doi.org/10.1108/JCMARS-01-2019-0006>
- Kaynak, E., Kucukemiroglu, O., & Hyder, A. S. (2000). Consumers' country-of-origin (COO) perceptions of imported products in a homogenous less-developed country. *European Journal of Marketing*, 34 (9/10), 1221–1241. <https://doi.org/10.1108/03090560010342610>
- Kessler, M. M. (1963). Bibliographic coupling between scientific papers. *American Documentation*, 14(1), 10–25. <https://doi.org/10.1002/asi.5090140103>
- Laroche, M., Papadopoulos, N., Heslop, L. A., & Mourali, M. (2005). The influence of country image structure on consumer evaluations of foreign products. *International Marketing Review*, 22(1), 96–115. <https://doi.org/10.1108/02651330510581190>
- Liu, S. S., Johnson, K. F., & Johnson, K. F. (2005). The automatic country-of-origin effects on brand judgments. *Journal of Advertising*, 34(1), 87–97. <https://doi.org/10.1080/00913367.2005.10639183>
- Luo, Z., & Zhou, Y. (2020). Decomposing the effects of consumer boycotts: Evidence from the anti-Japanese demonstration in China. *Empirical Economics*, 58(6), 2615–2634. <https://doi.org/10.1007/s00181-019-01650-3>
- Martin, I. M., & Eroğlu, S. (1993). Measuring a multi-dimensional construct: Country image. *Journal of Business Research*, 28(3), 191–210. [https://doi.org/10.1016/0148-2963\(93\)90047-5](https://doi.org/10.1016/0148-2963(93)90047-5)
- Polfuß, J., & Sönmez, D. (2020). Country-of-origin as a dynamic concept: An analysis of Chinese consumer electronics brands in Germany. *Journal of Chinese Economic and Foreign Trade Studies*, 13(3), 115–138. <https://doi.org/10.1108/JCEFTS-04-2020-0011>
- Roth, K. P., & Diamantopoulos, A. (2009). Advancing the country image construct. *Journal of Business Research*, 62(7), 726–740. <https://doi.org/10.1016/j.jbusres.2008.05.014>
- Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, 24(4), 265–269. <https://doi.org/10.1002/asi.4630240406>
- Wang, C. L., Li, D., Barnes, B. R., & Ahn, J. (2012). Country image, product image and consumer purchase intention: Evidence from an emerging economy. *International Business Review*, 21(6), 1041–1051. <https://doi.org/10.1016/j.ibusrev.2011.11.010>
- Zupic, I., & Čater, T. (2015). Bibliometric methods in management and organization. *Organizational Research Methods*, 18(3), 429–472. <https://doi.org/10.1177/1094428114562629>

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