

Corporate Social Responsibility in Brand Development: A Bibliometric Analysis Using R

By

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ABSTRACT

Using a literature review and bibliometric analysis, the purpose of this research is to analyze the relationship between Corporate Social Responsibility (CSR) and Brand Development. There is strong evidence in the literature that CSR plays an important role in increasing the value of the company, especially in ensuring the brand development of the processed product remains strong. Therefore, this research aims to develop a specific focus as well as examine the broad progression of ideas behind the concept through its origins towards brand image based on the implementation of practices and literature that has been available from previous research. Using applications such as R Studio and Microsoft Excel, all information was compiled and analyzed starting from the Scopus database. A total of 292 relevant articles on CSR were collected from researchers, spanning from 1997 to 2022. The bibliometric study using R also focuses on the most influential journals, authors, and articles. This study expresses how the most important aspects of corporate social responsibility in brand development can be combined into a single concept that opens up new areas of research for both the general field of CSR and the newer field of brand development.

Keywords: corporate social responsibility, brand development, bibliometric analysis

INTRODUCTION

Existing knowledge of the corporate social responsibility

Corporate social responsibility (CSR) is a business model in which companies make joint efforts to improve the performance of the company. In other words, CSR helps a company regulate itself by being socially responsible to the company, stakeholders inside and outside the company, and society. CSR is usually a strategy implemented by large companies. By implementing corporate social responsibility, the company becomes more sensitive to the impact it has on all aspects that affect the company, such as society, social, economic, and environmental (Fernando, 2022). A corporation has a larger need to set moral business standards for its competitors and its sector the more successful it becomes.

In general, CSR consists of four categories, ethical responsibility, financial responsibility, philanthropic efforts, and environmental impact (Al-Marri et al., 2019; Ullah et al., 2021). CSR enables a company to identify its impact on stakeholders and society, including economic, social and environmental issues. This directly contributes to becoming a socially responsible company and helps the company's image and brand (Kim et al., 2017). This shows that the social relationship between companies and brand development has a positive relationship. This is because brand development gives users a sense of the company's offerings in terms of products and services. It is created in the minds of users based on their experiences and interactions, as well as their perception of the company's mission and values (Pahwa, 2022). Therefore, to develop sustainable and ethical products, a company must integrate social responsibility into the framework and metrics of its product development processes (Mireles, 2021). Thus, a firm can help itself and society through CSR initiatives, philanthropy, and volunteerism, which has a beneficial effect on the growth of its brand.

Limitations and gaps

Although corporate social responsibility has been extensively researched, primarily in academic and practical forums, many questions remain about its actual practice and success. This is because there are still many companies that do not make their social relations with companies transparent (Grigoris, 2016). The lack of transparency is seen as the most important challenge in maintaining the company's performance and image. Furthermore, one major deterrent to engage in CSR according to Ae-Li Yu (2021) is financial commitment. Indeed, CSR cannot be implemented due to problems such as lack of commitment from management and lack of interest from investors together with lack of economic resources and lack of efficiency of employees (Alwyia, 2020). Therefore, the researcher contends that revisiting earlier research on the implementation of CSR into brand development provides substantial context for understanding the current state of CSR. This retrospective analysis is a useful tool for developing a deeper understanding of the part that CSR plays in providing a long-term solution to the problems that the business continues to come across.

Research questions

The following research questions (RQ) are used to illustrate the review activities and process through the use of bibliometric, text mining, and visualisation tools (e.g., R-Studio).

Table 1: Research Questions (RQ)

No.	RQ	Analysis Procedure
1	What is the current state and trend of publication in Corporate Social Responsibility in Brand Development	<ul style="list-style-type: none">• Document Type• Source type• Total number of contributors• Number of publications by year/ country• Annual growth rate.

2	What are the most influential contributors to Corporate Social Responsibility in Brand Development	<ul style="list-style-type: none"> • Most influential authors • Most relevant sources • Most influential countries • Most influential source title
3	What are the most influential article, authors and sources on Corporate Social Responsibility in Brand Development	<ul style="list-style-type: none"> • Highly cited documents • Author Impact • Lotka's Law • Source Impact • Bradford's Law • Co-occurrence network
4	How the theme of the publication has evolved in Corporate Social Responsibility in Brand Development	<ul style="list-style-type: none"> • Thematic evolution • Trend Topic • Word Dynamic • Word Cloud • Tree Map

After discussing the definition required for corporate social responsibility in brand development, this article will focus on the analysis and discussion of the methods used in the research. For example, the process of data search, data collection, data extraction, and analysis will be explained based on the methodology of the paper. After that, the discussion will turn to the results of the study. Meanwhile, the conclusion of this paper will lead to the results of the study, explaining in detail the main findings of the study and their implications, as well as the limitations of the study and future directions.

LITERATURE REVIEW

Corporate social responsibility in brand development

CSR plays an important role in the perception of the company's brand, retention of talent, and attractiveness to customers, employees, and investors, which contribute to the overall success of the company (Nadia, 2022). In addition, CSR includes the actions that the company takes to improve its impact on the environment and society, which includes the use of fair and ethical business practices. CSR initiatives can range from philanthropy to operational changes to changing the entire strategy or business model. In fact, there are researchers who suggest that commitment to CSR can have a positive impact on company finances and employee morale (Edmonson, 2022).

CSR is a crucial endeavour for businesses, as seen by the connection between such activity and brand growth. In order to draw customers, many firms concentrate on regional, national, and even international charitable endeavours, therefore social responsibility is a potential path for brand growth. This shows that CSR is very helpful for a company internally. According to a research by Verizon and Campbell Soup Company, CSR may enhance employee satisfaction by up to 7.5 percent while reducing turnover by up to 50 percent. It can also increase team productivity by up to 13 percent (Chhatwal, 2022). Thus, given the research carried out by previous researchers, there is a valid reason for having a discussion regarding this particular topic. Table 2 shows some previous studies on CSR that are needed for a clearer and deeper

understanding of the relationship between corporate social responsibility and brand development.

Table 2: Summary of previous studies in CSR in Brand Development

Author	Domain/Search Strategy/ Title	Data Source & Scope	TDE	Bibliometric Attributes Examined
(Thomas G, 2022)	Corporate Social Responsibility as a Sustainable Business Practice: A Study among Generation Z Customers of Indian Luxury	Scopus	14	Type of publication; Citations documents; Topi Dendogram; Trend Topics; Most Relevant Words; Keywords Trend
(Rasul T, Lim WM, Dowling M, Kumar S & Rather RA, 2022)	Advertising Expenditure and Stock Performance: A Bibliometric Analysis	Scopus	50	Type of Publication; Author, Frequency of paper; Trends Topic; Productive Journals; Map
(Zhang Q, OO BL & LIM BTH, 2022)	Linking Corporate Social Responsibility (CSR) Practices and Organizational Performance the Construction Industry: A Resource Collaboration Network	Scopus	31	Co-occurrence of keywords; Publications per year; Most Relevant Words; Trend Topics; Keyword Trends
(Wul L & Jin S, 2022)	Corporate Social Responsibility and Sustainability: From a Corporate Governance Perspective	Scopus	45	Document Types; Publications per year; Productive Journals; Coocurance; Author Impact; Highest citation

Author	Domain/Search Strategy/ Title	Data Source & Scope	TDE	Bibliometric Attributes Examined
(Zhang JM & Wang YJ, 2022)	Effectiveness of Corporate Social Responsibility Activities in the Covid-19 Pandemic	Scopus	21	Author productivity; Highest citation; Bibliographic coupling; Publications per year; Document Types
(Majerova J, Nadanyiova M & Bednarcik Z)	The Real Added Value of Corporate Social Responsibility of Automotive Brands and Its Implications for Marketing Management	Scopus	26	Keywords Trend; Document Types; Authors Impact; Frequency of Paper; Conceptual Structure; Productive Journals

TDE=Total documents examined

METHODOLOGY

Searching strategy

A structured set of terms is called a search strategy, and it is used to search databases. In order to get relevant results, the search strategy mixes keywords and search questions (Jonathan, 2015). As shown in Figure 1, PRISMA (Preferred Reporting Items for Systematic Reviews) and bibliometric analysis were used to support this study. PRISMA is used to identify and extract data for bibliometric review purposes (Dorin, 2022). By looking for publications linked to the Scopus database, bibliometric processes are employed to improve and filter the bibliographic data. In this step, the VOSviewer program is used for data retrieval. Scopus not only finds pertinent and reputable research, but also gives users access to trustworthy metrics, data, and analytical tools (Burnham, 2006). This is the main reason why the researcher chose the Scopus database as the main data source.

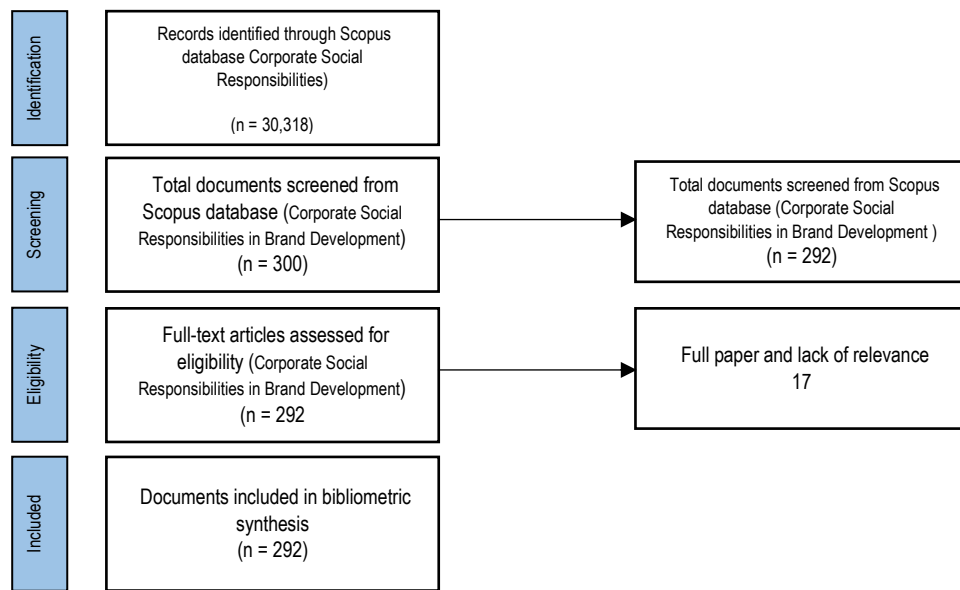


Figure 1: The PRISMA diagram that researcher used to find, screen, and select articles in researcher bibliometric review

Inclusion and exclusion criteria

All search results such as titles and abstracts according to the criteria listed in Table 3 are thoroughly reviewed at the beginning of the search. Then, the researcher reviews and summarizes all publications that have passed the initial selection process. Each study is based on the number of publications, the most famous journal and author, and the research topic that is frequently discussed. The researcher decided to create a final database with a total of 292 papers containing literature on the relationship between corporate social responsibility and brand development.

Table 3: Search criteria

Scopus Category	Searching criteria.	No of article
Topic 1	“Corporate AND social AND responsibilities”	30,318
Topic 2	“Corporate AND social AND responsibility AND brand A ND development	300
Topic 3	“Corporate AND social AND responsibilities AND in AND brand AN D development”	294
Research years	1997–2022	67
Document Type	All types of publication	67
Language	English	67
Author name	All	67

Extraction techniques

Table 1 above shows 292 journal articles exported in a format compatible with the application. To improve the accuracy of the search, the downloaded database was systematically analyzed. For the purpose of conducting this study, the researcher used Excel (csv) and VOSviewer, a programme for building and displaying bibliometric networks. The extraction technique starts by searching for the keywords "corporate AND social AND responsibilities", followed by the keywords "corporate AND social AND responsibility AND brand AND development" and the last keyword "corporate AND social AND in AND brand and development". The final Scopus database contains several elements such as article title, authors, keywords and citation information including all references used. Bibliometric data analysis helps in managing collections for inventory control and collection development through data-driven reports (Nancy, 2007).

Choice of synthesis method (Analysis)

Descriptive analysis is one of the first research procedures that are carried out. In this regard, the researcher created a series of charts in Excel to determine the evolution of the publication on corporate social responsibility in brand development. In the next step, the researcher applies bibliometric analysis techniques. In this technique, citations are used to find the most influential papers and researchers on a particular topic. Other indicators such as the H-index, number of citations, and citations per publication help researchers obtain in-depth information about the field under study. To enable researchers to create network maps, the database is displayed using applications such as VOSviewer and R.

RESULTS

Document profiles

The articles obtained through the search results are from 1997 to 2022, and the information on the studied topic gradually increases as the number of years increases. Based on the 292 total documents listed in Table 4 below, there is an annual growth of 9.19% and 16.28% in citations per document. Meanwhile, the number of citations is 15416. Moreover, the majority of papers in this field are published in the form of articles (65.06%), followed by reviews, which account for only 4.45%.

Table 4: Document profiles

Description	Results
Main Information About Data	
Timespan	1997:2022
Sources (Journals, Books, etc)	195
Documents	292
Annual Growth Rate %	9.19
Document Average Age	6.54
Average citations per doc	16.28
References	15416

Document Contents	
Keywords Plus (ID)	747
Author's Keywords (DE)	814
Authors	
Authors	180
Authors of single-authored docs	21
Authors Collaboration	
Single-authored docs	81
Co-Authors per Doc	2.42
International co-authorships %	20.89
Documents Types	
Article	190 (65.06 %)
Book	7 (2.41 %)
Book Chapter	42 (14.38 %)
Conference Paper	28 (9.58 %)
Conference Review	7 (2.39 %)
Editorial	1 (0.34 %)
Note	1 (0.34 %)
Retracted	1 (0.34 %)
Review	13 (4.45 %)
Short survey	2 (0.68 %)

RQ1: What is the current state and trend of publication in Corporate Social Responsibility in Brand Development.

As shown in Figure 2, the number of publications on the topic of corporate social responsibility in brand development has increased over the years. The topic and scope of research on corporate social responsibility in brand development has received considerable attention in previous studies, as evidenced by the number of publications. Based on preliminary data from the Scopus database, the topic of corporate social responsibilities in brand development gained attention in the late 1990s, beginning in 1997, despite the relatively small number of publications on the topic at that time. The rise began in 2011 and continues today.

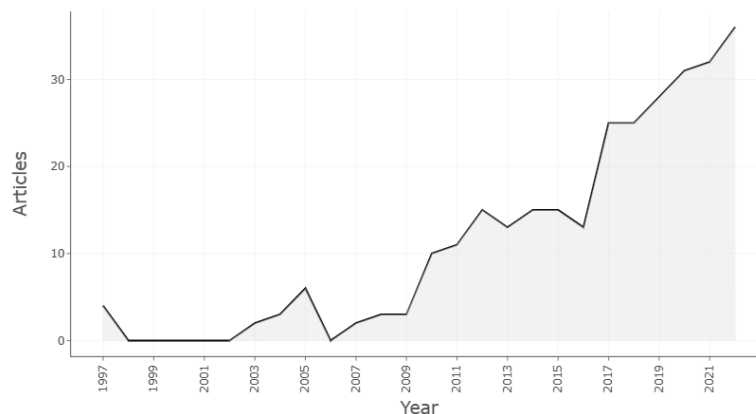


Figure 2: Annual Scientific Production (Total published articles from 1997-2022)

Figure 2 shows that the individual publications increase from year to year. For example, at the beginning, there were only 20 publications on CSR that appeared between 1997 and 2008. Then, from 2009 to 2012, there was an increase of 39 publications that highlighted the topic in the context of the study began to attract the attention of writers. From 2013 to 2016, 56 publications followed, showing an increase in the number of publications with a variety of topics related to corporate social responsibility, although there was a slight decrease in 2013. Although there was a slight decrease in the number of publications in 2017, it can be seen that the drastic increase occurred around the year 2017 to 2022 with a total of 177 publications with the highest number on the topic of CSR in brand development.

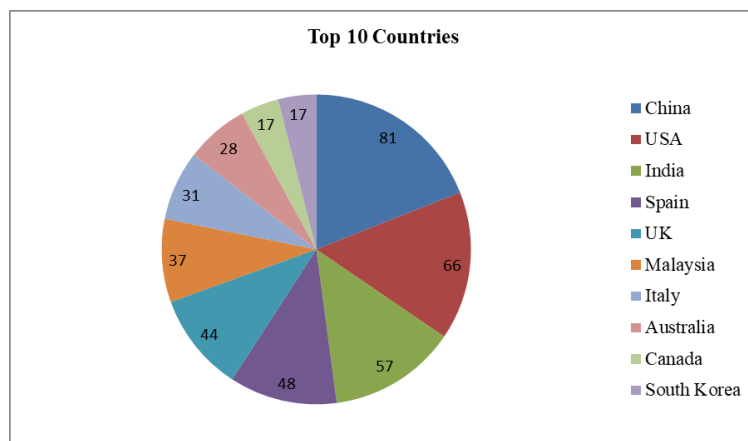


Figure 3: Top 10 highest publications by country

Figure 3 shows the top ten countries and categories of papers related to CSR in brand development. China is the country that writes the most articles on this topic, with a total of 81 articles. This is followed by the U.S. with 66 articles, India with 57 articles, Spain with 48 articles, the UK with 44 articles, Malaysia with 37 articles, Italy with 31 articles and Australia with 28 articles. Canada and South Korea recorded the same number of articles, 17. Obviously, CSR in brand development is a topic that is very actively discussed in China.

RQ2: What are the most influential contributors to Corporate Social Responsibility in Brand Development.

For this second research question, the study focuses on the most influential authors, the author's production over time, the most influential institutions and countries, and the most influential source titles in Corporate Relationship in Brand Development. Table 5 lists the most influential authors and articles on the studied topic. The six most influential authors include Amatulli C (2019; 2018; 2017), Dea Angelis M (2019; 2017), Anh J (2022), Kim S (2022; 2022), Kim I (2022), and Isa SM (2022) ; 2020). In this regard, Amatulli C and Dea Angelis M have the most citations with 80 each, followed by Isa SM with a total of 6 citations. After all, 3 authors, namely Anh J, Kim S and Kim I, contributed 1 citation each on the topic of corporate social responsibility in brand development.

Table 5: The most influential authors

Author's Name	Title	Journal	TC	AF	TCpY	PY
Amatulli C	Responsible Luxury Development: A Study on Luxury Companies' CSR, Circular Economy and Entrepreneurship	Environmental Footprints and Eco-design of Product and Processes	3	0.83	0.600	2019
De Angelis M	Responsible Luxury Development: A study on Luxury Companies' CSR, Circular Economy and Entrepreneurship	Environmental Footprints and Eco-design of Product and Processes	3	0.83	0.600	2019
Amatulli C	Consumers' Perceptions of Luxury Brands' CSR Initiatives: An Investigation of The role of Status and Conspicuous Consumption	Journal of Cleaner Production	70	-	11.667	2018
De Angelis M	Consumers' Perceptions of Luxury Brands' CSR Initiatives: An Investigation of The role of Status and Conspicuous Consumption	Journal of Cleaner Production	70	-	11.667	2018
Amatulli C	Luxury Sustainability, and Corpoate Social Responsibility: Insights from Fashion Luxury Case Studies and Consumers' Perceptions	Environmental Footprints and Eco-Design of Products and Processes	7	-	1.000	2017
De Angelis M	Luxury Sustainability, and Corpoate Social Responsibility: Insights from Fashion Luxury Case Studies and Consumers' Perceptions	Environmental Footprints and Eco-Design of Products and Processes	7	-	1.000	2017
Anh J	Exploring the Role of Intrinsic and Extrinsic CSR Attributes for Customers' Positive Behavioural Intention in the Hotel Industry	Social Responsibility Journal	1	1.50	0.500	2022
Kim S	Advertising role of CSR and Strategic Investment	Journal of Current Issues and Research in Advertising	0	0.67	0.000	2022

	in R&D: Evidence from the Biohelath Industry							
Isa SM	Corporate Social Responsibility and Customer Loyalty: Exploring the Roles of Customer Satisfaction and Brand Image of Company	Global Journal of Al-Thaqafah	0	1.00	0.00	2022		
Kim S	The Role of Passengers' Involvement in Cause Related Marketing: Moderated Mediation Effects of Brand Attitude and Brand Consciousness in the Airline Industry	International Journal of Sustainable Transportation	1	-	0.500	2022		
Kim I	The Role of Passengers' Involvement in Cause Related Marketing: Moderated Mediation Effects of Brand Attitude and Brand Consciousness in the Airline Industry	Journal of Islamic Marketing	1	0.83	0.500	2022		
Isa SM	Islamic Branding Insights From a Conceptual Perspective	Journal of Sustainable Tourism	6	-	1.500	2020		

Notes: TC=total citations; AF=articles fractionalized; PY=publication year; TCpY=total citation per year

Table 6 shows that the sample database contains the most influential journals. It can be seen that Sustainability (Switzerland) Journal dominates the publication of Corporate Social Responsibilities in Brand Development with 20 papers, 3 h-index and 3 citations. This is due to the fact that the production of the journal has increased from 2017 to 2022 compared to other journals. The journal CSR, Sustainability, Ethics and Governance is listed next, with 9 working articles, 3 h-indexes, and 3 citations. Meanwhile, the journal Development in Marketing Science recorded 8 working papers, 2 h index and 2 citations. The journal has shown that this study has attracted interest from the authors, stating that corporate social responsibility in brand development is an important element to be studied because it is significant in the corporate world.

Table 6: The most influential source

No.	Journal	PY	TC	NP	<i>h</i> <i>index</i>	<i>g</i> <i>index</i>	<i>m</i> <i>index</i>
1	Sustainability (Switzerland)	2017	20	3	3	3	0.429
2	CSR, Sustainability, Ethics and Governance	2017	9	3	3	3	0.429
3	Development in Marketing Science: Proceedings of the Academy of Marketing Science	2011	8	2	2	2	0.154
4	Journal of Cleaner Production	2011	7	2	2	2	0.154
5	Corporate Social Responsibility and Environmental Management	2020	6	2	2	2	0.500
6	Social Responsibility Journal	2018	6	2	2	2	0.333
7	Corporate Reputation Review	2017	5	2	2	2	0.286
8	Strategic Direction	2012	5	2	2	2	0.167
9	Business Strategy and the Environment	2014	4	2	2	2	0.200
10	Journal of Fashion Marketing and Management	2017	4	2	2	2	0.286

Notes: PY=publication year; TC=total citations; NP=number of publications; h=h-index; m=m index; and g=g-index.



Figure 4: The most relevant sources

Typically, relevant sources help the researcher to obtain accurate and detailed information that will help him to deepen the study. It is a source whose information helps answer all research questions. Therefore, relevance, purpose, and bias must be clear. In fact, all aspects of the evaluation must be considered to determine relevance (Horkoff, 2015). Figure 4 lists 10 relevant sources. Among them are Sustainability (Switzerland), CSR, Sustainability, Ethics and Governance, Developments in Marketing Science, and Journal of Cleaner Production. All of these journals are very important because their publication involves peer review to ensure the accuracy and precision of the topics and areas studied.

RQ3: What are the most influential articles and sources on Corporate Social Responsibility in Brand Development.

Highly cited documents/papers

When compared to other papers in the same subject or year of publication, highly cited papers are those that were published during the past ten years and have had the most citations (1%) (Malea, 2017). This explains that papers that are highly cited in journals or scientific fields were and are considered more important because they address the most important topics. In fact, the author assumes that the paper produced has the greatest impact on the audience, the research is considered a standard of scientific excellence that allows other researchers to use the information as a guide for their research. Therefore, Table 7 shows the 10 most cited documents and papers in the field of corporate social responsibility in brand development. Nicholass A (2005) has 400 (22.6%) total citations, which is one of the most. Followed by Awaysheh A (2010) which has 354 (20.0%) total citations. In third place is Fombrun CJ (2005) with 255 (14.4%) total citations. The topic covered is quite broad and includes elements of corporate social responsibility.

Table 7: Most cited documents/papers

Paper	Total Citations	% Cited	TC per Year	% TCpY	Normalized TC	% NTC
Nicholass A, 2005, fair Trade: Mark-Driven Ethical Consum	400	22.6	21.05	15.1	3.64	8.7
Awaysheh A, 2010, Int J Oper Prod Manage	354	20.0	25.29	18.2	6.94	16.6
Fombrun CJ, 2005, Corp Reputation Rev	255	14.4	13.42	9.6	2.32	5.5
Gilberthorpee E, 2012, Resour Policy	178	10.0	14.83	10.6	5.15	12.3
Rueda X, 2017, J Clran Prod	114	6.4	16.29	11.7	7.27	17.4
Ramesh K, 2019, Corp Soc Responsib Environ Manage	101	5.7	20.20	14.5	5.84	14.0
Balmer JMT, 2011, J Bus Ethics	97	5.4	7.46	5.3	2.88	6.9
Brunk KH, 2012, J Bus Ethics	93	5.2	7.75	5.5	2.69	6.4
Gill DL, 2008, J Comm Manage	89	5.0	5.56	4.0	2.62	6.2
Hayhurst LMC, 2011, Third World Q	88	4.9	6.77	4.8	2.61	6.2

Notes: PY=publication year; TC=total citations

Author Impact

The frequency with which academic publications are cited by other researchers is traditionally used to measure an author's influence on a field or discipline. The factor is also used to calculate the scientific value of a particular researcher or author (RK Pak, 2014). Table 8 shows that the author with the highest h-index was achieved by Amatulli C and De Angelis M with a total of 3h-index and 3g-index, respectively. This is followed by 8 authors, namely Ardvissio A, Balmer M, Li Y, Liu Z, Lopez Perez Me, Maon F, Martinez P, and Melero I, each with a total index of 2 h-index and 2 g-index. The most active author is Li Y with an m-index of 0.500. The main author with the highest citation frequency is Balmer JMT with a total of 162 citations, representing 19.1%. All information is compiled from 2011 to 2020.

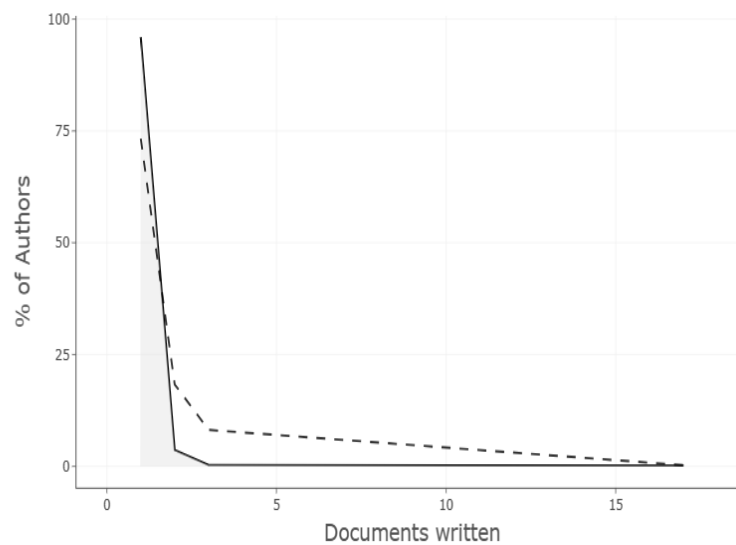
Table 8: The 10 most impactful author

Author (s)	h_index	g_index	m_index	TC	% TC	NP	PY_start
Amatulli C	3	3	0.429	80	9.4	3	2017
De Angelis M	3	3	0.429	80	9.4	3	2017
Ardvidsson A	2	2	0.154	110	13.0	3	2011
Balmer JMT	2	2	0.154	162	19.1	2	2011
Li Y	2	2	0.500	39	4.6	2	2020
Liu Z	2	2	0.333	25	2.9	2	2018
Lopez Perez Me	2	2	0.286	83	9.8	2	2017
Maon F	2	2	0.167	66	7.8	2	2012
Martinez P	2	2	0.200	118	13.9	2	2014
Melero I	2	2	0.286	83	9.8	2	2017

Notes: PY=publication year; TC=total citations; NP=number of publications; h=h-index; m=m index; and g=g-index

Documents written	N. of Authors	Proportion of Authors
1	636	0.959
2	24	0.036
3	1	0.003

Figure 5. Lotka's Law



Lotka's Law

A bibliometrics example is Lotka's law, which plots the total number of writers versus the total quantity of contributions made by each author on a logarithmic scale. The resulting points lie close together on a straight line with a slope of -2 (M. Kawamura, C. D. Thomas, A. Tsurumoto, H. Sasahara, Y. Kawaguchi, 2000). Moreover, According to Lotka's law, the proportion of authors who publish several publications to those who only publish one piece is fixed. Accordingly, Figure 5 shows the observed and fitted Lotka's distribution. Between 1 and 3 articles were published. It is clear from Figure 5 that the number of authors involved decreases as the number of articles published increases.

Source impact

In the conducted study, the h-index, g-index, m-index, and number of journal citations are utilised to determine the effect of each journal that publishes papers on corporate social responsibility in brand development. In addition, the source impact is used to evaluate the relative importance of a journal in its field and measure the average frequency of articles (Sharma M, Sarin A, Sachdeva S & Desai AV, 2014). According to the statistics in Table 9, Sustainability (Switzerland) ranked first with an h_index of 3, a g_index of 3, an m_index of 0.429, and a total number of 20 citations. This means that Sustainability (Switzerland) has the greatest influence in the study on Corporate Social Responsibilities in brand development. This compares to CSR, Sustainability, Ethics and Governance in second place, which have the same h_index of 3, the same g_index of 3 and the same m_index of 0.429 as Sutsinability (Switzerland), but differ in the total number of citations of 9. In third and fourth place are Development in Marketing Science: Proceedings of the Academy of Marketing Science and Journal of Cleaner Production with 2 h_index and 2 g_index, respectively. Their total citations range from 7 to 8, indicating that the journal has minimal influence on the topic of this study.

Table 9: The 10 most impactful source

Source	h_index	g_index	m_index	TC	% TC	NP	PY_start
Sustainability (Switzerland)	3	3	0.429	20	27.0	3	2017
CSR, Sustainability, Ethics and Governance	3	3	0.429	9	12.1	3	2017
Development in Marketing Science: Proceedings of the Academy of Marketing Science	2	2	0.154	8	10.8	2	2011
Journal of Cleaner Production	2	2	0.154	7	9.4	2	2011
Corporate Social Responsibility and Environmental Management	2	2	0.500	6	8.1	2	2020
Social Responsibility Journal	2	2	0.333	6	8.1	2	2018
Corporate Reputation Review	2	2	0.286	5	6.7	2	2017
Strategic Direction		2	0.167	5	6.7	2	2012
Business Strategy and the Environment	2	2	0.200	4	5.4	2	2014
Journal of Fashion Marketing and Management	2	2	0.286	4	5.4	2	2017

Bradford's Law

According to Bradford's law, there should be n and n^2 times as many journals in the second and third zones as there are in the first, respectively. One can therefore forecast the total number of journals that contain papers on that topic once the number of journals in the core zone and the middle zone are known. If the total number of journals is known, it is also possible to estimate how much pertinent data would be left out of a search that isn't thorough (Med. J, 2012). Since identifying sources on the topic for an accurate review takes a lot of time, the literature from Bradford's Law is a useful aid for this study.

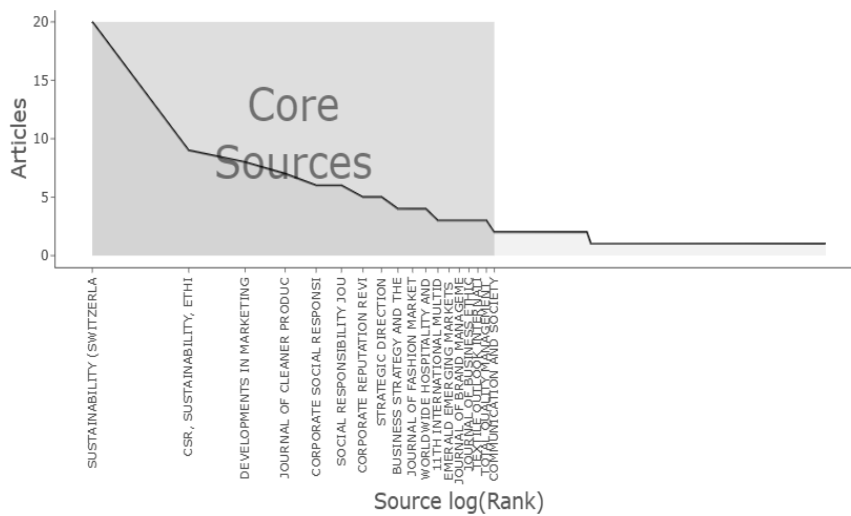


Figure 6: Bradford's Law

The figure above shows the categorization of journals based on Bradford's Law, which divides journals into core, intermediate, and broad groups according to their level of production. The core journal groups are highlighted in color and annotated. This category includes the journals that have the most research on corporate social responsibility at a given time. As shown in Figure 6, there are about 10 synonymous sources on the studied topic. Article Sustainability has the most publications with a total of 20 articles, followed by Article CSR, Sustainability, Ethics and Governance with a total of 10 articles. Article Development in Marketing Science has 8 articles. Strictly speaking, all of these journals are very important because their publication procedures include a peer review process designed to ensure their accuracy and contribution to the field of study.

Co-occurrence network

A co-occurrence network is a technique for text analysis that involves graphical representation of probable connections between individuals, groups, ideas, or other entities in textual content. With the introduction of electronically recorded texts, which corresponds to text mining, the building and visualisation of co-occurrence networks has become viable (A, Barberan, 2012). As shown in Figure 7, high-frequency keywords have a close relationship with the issue of corporate social responsibility in brand development. Three main clusters were formed, namely

"corporate social responsibility", "sustainable development" and "social responsibility". In this context, "corporate social responsibility," "perception," "sustainability," "economic development," and "environmental economics" are among the elements that make up cluster 1. Cluster 2 contains numerous keywords, including "sustainable development," "corporate social responsibility (CSR)," "marketing," "social aspects," and "brand loyalty." Cluster 3 contains the keywords "social responsibility," "article," "people," and "policy"

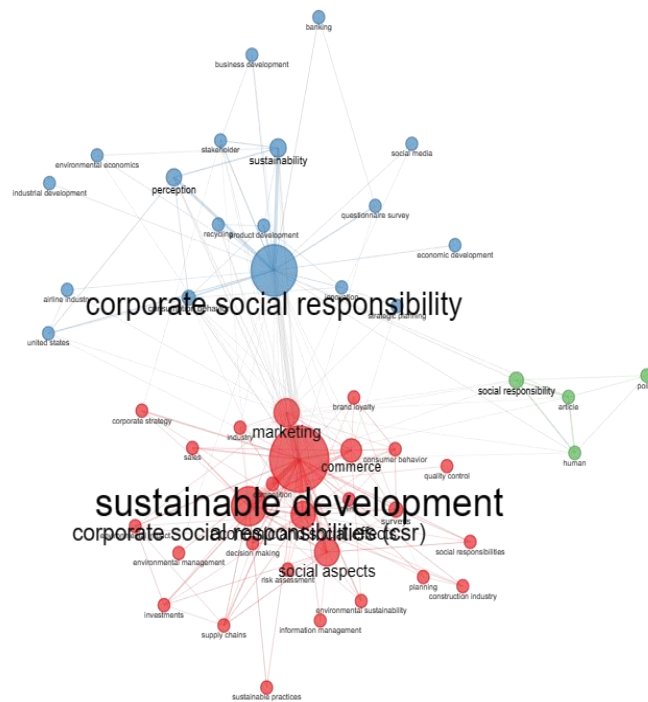


Figure 7. Co-occurrence network

RQ4: How the theme of the publication has evolved in Corporate Social Responsibility in Brand Development

Brand development is a method of combining performance analysis and scientific mapping to describe conceptual sub-areas to describe the thematic development of the study. The analyzes performed in this study include thematic development, trend theme, word dynamics, word cloud and treemap.

Thematic evolution

Figure 8 shows a study that divides the thematic map into 4 quadrants based on density and centralization. For the objective of detecting variation, all references to study topics and additions to additional keys were analysed. The upper right quadrant needs more exploration and study since it contains a driving or motor motif that is highly concentrated and central. "Corporate Social Responsibilities" is the main theme in this quadrant. In addition, the upper

right quadrant also includes "Quality Control," "Consumer Satisfaction," and "Social Responsibility." Furthermore, the upper left quadrant displays particular issues with high growth, as shown by high density but low centrality. Quadrant topics include In addition, the lower left quadrant shows long-standing topics with low centrality, which are also emerging or declining topics. Topics in this quadrant include "sustainable practise," "thermal insulation," "business strategy," "stakeholders," "organisational framework," and "environmental economics." Finally, the lower right quadrant has a simple motif with strong centrality but low density, namely "project management," "competition," "water treatment," "information management," and "social responsibility". In terms of the study's subject, all of these are technically connected topics.

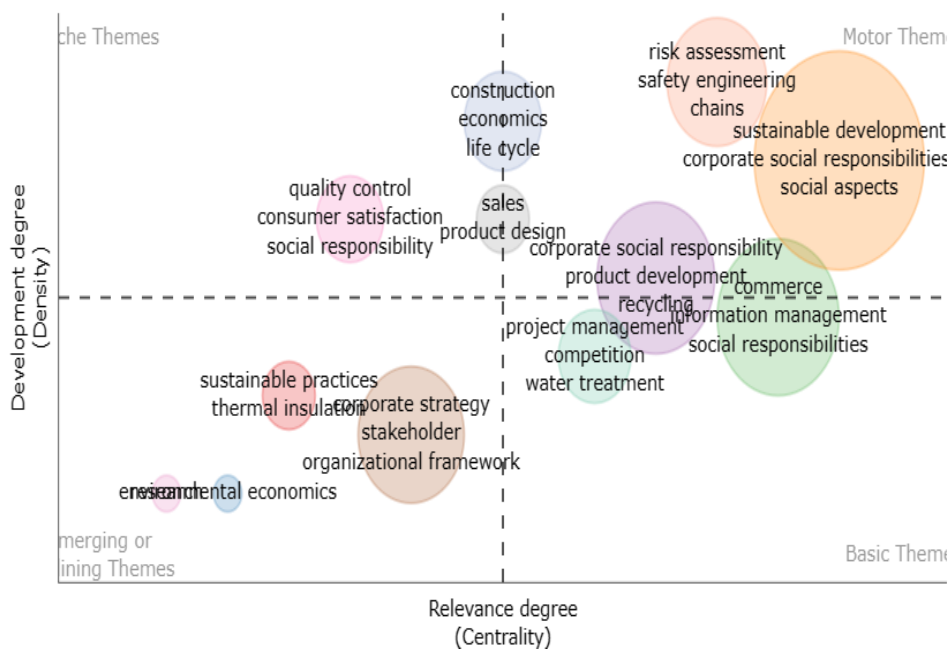


Figure 8: The thematic evolution

Trend topic

Topic trend is a topic that experiences a surge in popularity over a period of time, it is also a component used in this study. In addition, topic trends allow researchers to know the most common topics and have a long-term relationship to the topics studied. Referring to Figure 8 and Table 10, in 2004 the development of the topic started to increase significantly. As shown in the following data description, the topic has been used since 2004, especially in the discussion of the relationship between corporate social responsibility in brand development in relation to sustainable development (F = 57), corporate social responsibility (F = 41), corporate social responsibility (CSR) (F = 29), social aspects (F = 18) and the topic of marketing (F = 17). Furthermore, in 2014-2018, corporate strategy, economic and social impact, risk assessment and stakeholders have emerged as distinct but related themes in the subject under study. With the highest frequency compared to other topics in years q1, q2 and q3, frequently discussed topics from 2013 to 2022 include “Sustainable Development”, “Corporate Social

Responsibility” and “Corporate Social Responsibility”. This data also explains that the three themes in corporate social responsibility in brand development have become trending.

Table 10: The trend topic year

Trend Topic	Frequency (F)	%	year_q1	year_med	year_q3
Environmental impact	5	1.8	2004	2010	2014
Investments	5	1.8	2010	2010	2014
Industry	6	2.1	2010	2012	2017
Corporate Strategy	7	2.5	2011	2014	2018
Risk Assessment	5	1.8	2010	2015	2018
Corporate Social Responsibilities (CSR)	29	10.6	2013	2017	2019
Social Aspects	18	6.5	2010	2018	2019
Social Responsibility	10	3.6	2010	2019	2019
Stakeholder	7	2.5	2016	2017	2020
Sustainable Development	57	20.8	2013	2018	2020
Marketing	17	6.22	2004	2019	2020
Sales	7	2.5	2014	2019	2020
Economic and Social Effects	13	4.7	2010	2014	2021
Commerce	13	4.7	2014	2018	2021
Sustainability	12	4.3	2019	2020	2021
Perception	10	3.6	2020	2020	2021
Corporate Social Responsibility	41	15.0	2019	2020	2022
Construction Industry	5	1.8	2019	2021	2022
China	6	2.1	2020	2022	2022

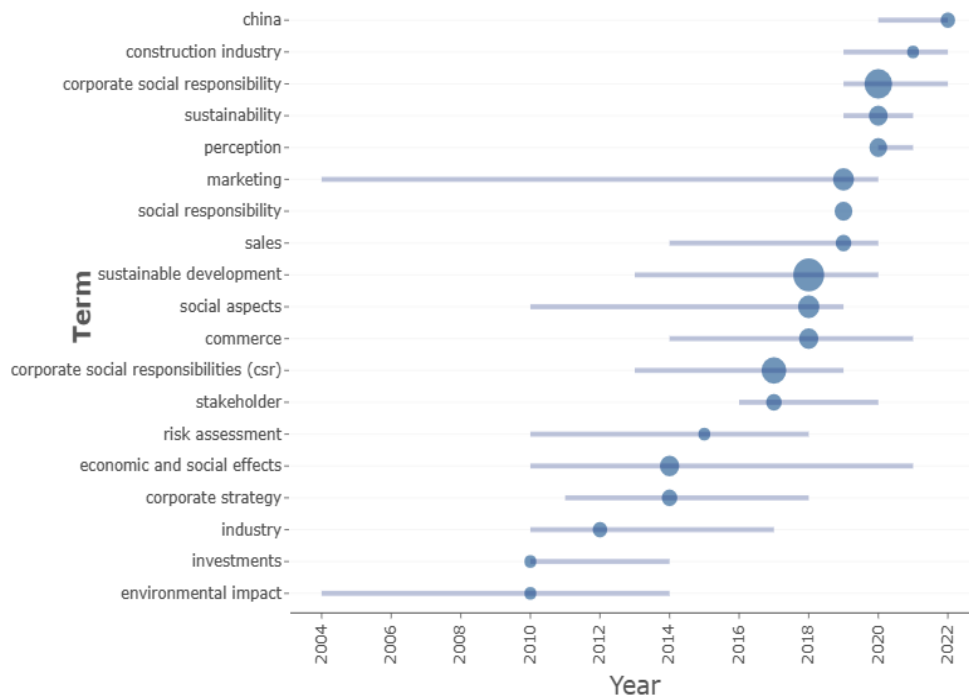


Figure 9: The trend topic

Word dynamic

Word dynamic makes use of data sets to demonstrate how words change throughout time. It is displayed by the total number of occurrences annually or by the total count of the primary keyword plus the author's keyword, title, or abstract. Figure 10 shows the growth of major keywords based on the total number of occurrences per year in the field of corporate social responsibility in brand development from 1997 to 2022. From the figure below, it can be seen that some major keywords showed a significant increase in 2015, which continued until 2022. From 2015 to 2022, the "word dynamics" data analysis clearly shows an increase in the use of dynamic keywords such as "corporate social responsibility," "corporate social responsibilities (CSR)," and "sustainable development". This result explains why the term was selected as trending and significant over time.

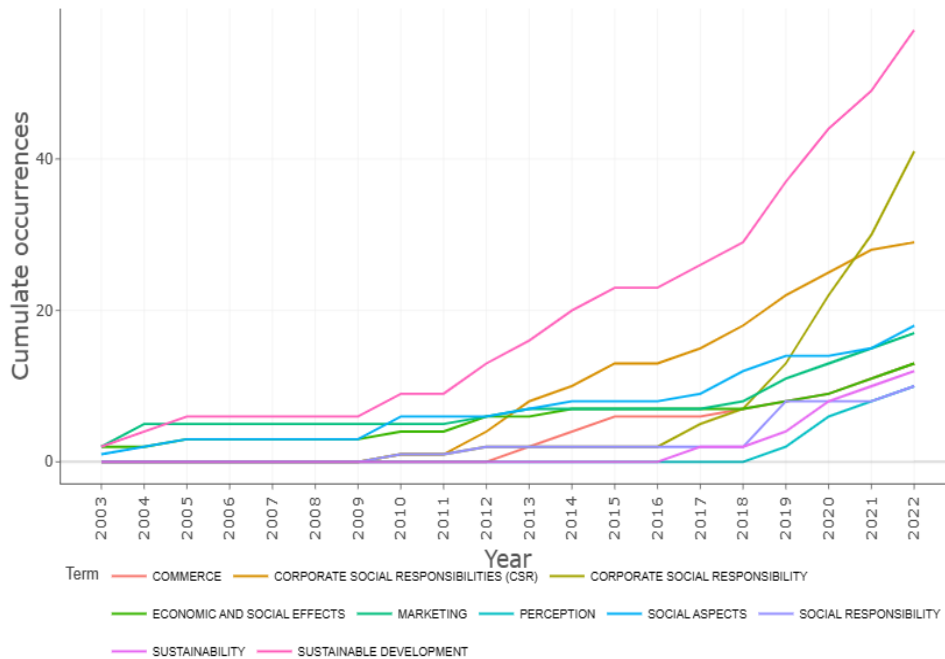


Figure 10: The word dynamic (1997-2022)

Word cloud

Word clouds, also known as tag cloud, are a visual representation of words in which words that occur more frequently are given greater prominence (Shah. R, 2021). Word clouds have become a groundbreaking visualization technique to understand and determine emerging patterns and trends. Figure 11 shows the words that occur most frequently in topics related to corporate social responsibility in brand development. The word with the highest number of occurrences and the greatest relevance to the research topic is the word "social aspects" with 18 uses, shown in maroon, indicating its relevance to the topic of corporate social responsibility in brand development. In second place comes the word "marketing", used 17 times with the orange sign. In third place, followed by the words "economic and social impact" and "trade", each of which has the same number of 13 times.



Figure 11: The word cloud

Tree Map

Treemaps are a visual representation of hierarchical data in which nested rectangles stand in for the tree diagram's branches. Each rectangle has an area proportional to the amount of data it represents (Lockhart, 2015). Treemaps are also commonly used when another type of diagram would better represent the data. Figure 12 shows several tree diagrams consisting of words related to the topic of this study. From the tree diagrams, it can be seen that the word "Sustainable Development" has the highest share with 13%, followed by "Corporate Social Responsibility" with 10% and "Corporate Social Responsibilities" with 7%. The other keywords have a share of only 4% to 1%. As can be seen, this result differs significantly from the results of the "word cloud", which shows that "social aspect" appears most frequently when it comes to the relationship between Corporate Social Responsibility and Brand Development.



Figure 12: The Tree Map

CONCLUSION

Generally, Corporate Social Responsibility is a business model that encourages companies to focus on the impact they will have on the community and the environment by having a positive impact on stakeholders, whether they are internal or external to the company. This study shows that there are many issues related to corporate social responsibility. Nevertheless, not all issues are related to brand development. Several findings show that sustainable development and corporate social responsibility are the most discussed buzzwords in this field. In this decade, corporate social responsibility has received extensive attention in order to achieve the set goals and mission and vision. After all, corporate social responsibility not only brings benefits to a company, but also contributes to employee engagement and customer loyalty.

Overall, corporate social responsibility is the most important topic that authors in China pay much attention to. The 6 well-known authors include Amatulli C (2019; 2018; 2017), Dea Angelis M (2019; 2017), Anh J (2022), Kim S (2022; 2022), Kim I (2022), and Isa SM (2022; 2020).). In addition, the author with the most citations is Balmer JMT with a total of 162

citations, while Martinez P has 118 citations. In addition, Sustainability Journal (Switzerland) is the leading journal in the field, followed by CSR, Sustainability, Ethics and Governance, and Development in Marketing Science: Proceeding of the Academy of Marketing Science. As for the Co-occurrence Network, there are three main clusters. Cluster 1 consists of "corporate social responsibility," "perception," "sustainability," "economic development," and "environmental economics." Cluster 2 consists of numerous keywords, including "sustainable development," "corporate social responsibility (CSR)," "marketing," "social issues," and "brand loyalty." Cluster 3 consists of the keywords "social responsibility," "article," "people," and "policy." In addition, several analyzes were conducted to analyze the thematic development using thematic development, trending theme, word dynamics, word cloud and treemap. Environmental impact, investors, and industry are trending topics that have been frequently discussed since 2014 to 2017 because they involve corporate social responsibility issues. This differs from the "word cloud" analysis, which shows that "social issues" appear more frequently when discussing Islamic business and sustainability.

In summary, CSR is considered one of the marketing expressions that influence brand development and able to contribute to improving various aspects of society as well as promoting a positive brand image of companies. This is because through this activity, companies can increase not only their reputation but also their equity. A brand that a company owns leads to a sustainable business. Empirical result of this research able to identified some literature gaps that will allow future researchers to be more sensitive to the information they seek. Future research needs to focus on more specific topics, as CSR encompasses many elements and should examine on the impact of CSR on brand development in various knowledge streams, whether the viewpoint is political, economic, or social.

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