Research on paradox in strategic management: A JBB 12, 2 bibliometric analysis from 2000 to 2021

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ABSTRACT

The sustainability of strategic management processes demands the accommodation of Received 2 October 2022 different expectations. The idea of paradox encourages organizational leaders to manage Revised 24 March 2023 conflicts by accommodating the competing impulses. In the past quarter century, the Accepted 18 April 2023 theory of paradox and its continuous evolution has evolved dramatically, presenting excellent opportunities amid the speed of technological progress, reduced resources, and IEL Classification: diverse customer expectations. The study comprehensively analyzes paradoxical con- L25, M10, M11, O32 cepts in current strategic management research and explores future related literature development opportunities. The bibliometric analysis method was used in this study to map and evaluate trends of paradox in strategic management domains using a statistical DOI: approach to 633 articles from Scopus. The results show that paradox in strategic man- 10.14414/jbb.v12i2.3296 agement has implications related to servitization, open innovation, organizational change, ambidexterity, knowledge sharing, diversity, value creation, corporate sustainability, dynamic capabilities, and social entrepreneurship. The results of this study can guide the researchers to develop paradoxical research in the field of strategic management in the future.

ABSTRAK

Sustainabilitas proses manajemen strategis menuntut adanya akomodasi berbagai harapan yang berbeda. Gagasan paradoks mendorong para pemimpin organisasi untuk mengelola konflik dengan mengakomodasi impuls yang bersaing. Dalam seperempat abad terakhir, teori paradoks dan evolusinya yang berkelanjutan telah berkembang secara dramatis, menghadirkan peluang bagus di tengah kecepatan kemajuan teknologi, berkurangnya sumber daya, dan harapan pelanggan yang beragam. Studi ini secara komprehensif menganalisis konsep paradoks dalam penelitian manajemen strategis saat serta mengeksplorasi peluang pengembangan literatur terkait di masa mendatang. Metode analisis bibliometrik digunakan dalam studi ini untuk memetakan dan mengevaluasi tren paradoks pada domain manajemen strategis menggunakan pendekatan statistik terhadap sampel 633 artikel dari Scopus. Hasil analisis menunjukkan bahwa paradoks di bidang manajemen strategis memiliki implikasi terkait dengan servitisasi, inovasi terbuka, perubahan organisasi, ambidexterity, knowledge sharing, keragaman, penciptaan nilai, keberlanjutan perusahaan, kemampuan dinamis, dan kewirausahaan sosial. Hasil studi ini dapat mengarahkan peneliti dalam mengem-bangkan penelitian paradoks pada bidang manajemen strategis di masa mendatang.

Keyword:

Bibliometric, Paradox, Strategic management, Strategy, Tension.

1. INTRODUCTION

Organizations are increasingly confronted with conflicting aims, different Volume 12 Number 2 stakeholder expectations, and heterogeneous missions exacerbate November 2022 - April competing demands (Schad, Lewis and Smith, 2019). Traditionally, scholars have considered such contradictions as obstacles that can be overcome by compromising. Alternatively, organizational academics increasingly utilize a paradox perspective, defining conflicting requirements as conflicting yet interrelated and investigating methods for managing such © STIE Perbanas Press complex inconsistencies (Lewis, 2000). This theory provides a framework 2020



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for understanding and addressing these difficulties (Schad, Lewis and Smith, 2019). Scholars have begun constructing a paradox theory by providing standardized terminology, underlying assumptions, and boundary constraints (W. K. Smith and Lewis, 2011). This lens continues to draw researchers from a broad spectrum of disciplinary domains, levels of analysis, and methodologies (Putnam, Fairhurst and Banghart, 2016; Schad *et al.*, 2016).

Globally, paradoxes have been used to denote inconsistency or, more specifically, an illogical connection that defies logic. Putnam et al. (2016) stress the ubiquitous use of paradoxes and related words, such as "duality, dialectics, contradictions, and tensions." Schad et al. (2016) also compare definitional nuances, highlighting paradoxical characteristics such as being contradictory, interdependent, and tenacious. Both studies focus on paradox as a phenomenon for complicated environments and as contradictory elements that are hard to resolve. Paradoxes and similar notions transcend challenges, trade-offs, and conflicts (Fairhurst *et al.*, 2016).

Long-term sustainability in strategic management implies meeting divergent demands (Lewis, 2000; W. K. Smith and Lewis, 2011). Paradox theory encourages leaders to manage tensions by satisfying opposing forces (Lewis, 2000). As companies are challenged with ever-increasing changes in technology, resource depletion, and conflicting consumer demands, paradox theory, and its continuous development offer enormous possibilities (Schad, Lewis and Smith, 2019). The research of paradox in strategy and organization sciences has grown substantially during the past quarter-century. As coexisting, interdependent opposites persist across time, paradox may be considered a vibrant academic area (Cunha and Putnam, 2019).

In this paper, the researcher thoroughly analyzed the state of paradox in strategic management research, explained how research in this field has evolved, and discussed the implications of these changes for the field's future development. The researchers also specifically focus on top-cited and productive authors, organizations, nations, journals, and papers; connections among writers, nations, institutions, journals, and co-citations; and the change of research attention over time. We take a bibliometric method to investigate these issues using VOS Viewer.

In bibliometrics, trends in a particular knowledge domain are mapped and evaluated using statistical techniques, including the number of papers, author affiliations, citations, and keywords (McBurney and Novak, 2002). A significant advantage of bibliometrics over a qualitative literature evaluation is that "it lessens subjectivity and bias in the review" (Vogel and Güttel, 2012). However, this method aims to produce statistically robust descriptive analyses of a domain of knowledge (Wallin, 2005). A bibliometric review should be conducted for two significant reasons: to map the domain's knowledge structure and to analyze the domain's performance (Cobo *et al.*, 2011; Zupic and Čater, 2015).

These two aspects inspire our study on paradoxes in strategic management. We present a performance assessment that examines the research output and effect of certain publications, journals, authors, organizations, and countries. In addition, we map the domain's knowledge structure to assess its networks and academic performance. This mapping

helps individuals, journals, and organizations identify past attention patterns and influence future study efforts (Kohtamäki, Rabetino and Möller, 2018; Gao, Ding and Wu, 2020).

2. THEORETICAL FRAMEWORK AND HYPOTHESIS Paradox Theory

In the late 1970s and 1980s, the paradox was first introduced to management science when it was proposed as an appropriate tool for examining organizational phenomena (Schad *et al.*, 2016; Carmine and Smith, 2021). Philosophers and political scientists (Benson, 1977), particularly their work on dialectics (Hargrave and van de Ven, 2017); communication authors and sociologists (Putnam, 1986); and psychodynamic scholars provided the theoretical foundations for the development of this new lens. Relatively recently, Smith and Lewis (2011) developed the idea of paradox more comprehensively by combining these distinct traditions. The notion of paradox is defined as "contradictory yet connected elements that exist concurrently and persist throughout time" (W. K. Smith and Lewis, 2011).

Given that paradox theory is a paradigm that may shed insight on a range of organizational phenomena (Lewis and Smith, 2014), researchers have exploited the notion of paradox to explore several topics, including transformation (Lüscher and Lewis, 2008), coopetition (Raza-Ullah, 2020), hybridity (Audebrand, 2017), identity (Sheep, Fairhurst and Khazanchi, 2017), innovation and ambidexterity (Smith, Binns and Tushman, 2010; Lewis, Andriopoulos and Smith, 2014). Due to its more significant potential to reveal the complexity of corporate sustainability, it has also been used in recent years to examine sustainability issues (Hahn and Figge, 2018).

Due to many interpretations and levels being studied, it is difficult to compare current findings across research because of the ambiguity in their application. This uncertainty inhibits academics' capacity to compare and standardize incoming evidence and practitioners' use of study results. It is uncertain, for instance, if corporations and individuals must recognize paradoxical contradictions in sustainability and if organizations must encourage managers to acquire a paradoxical attitude for addressing sustainability difficulties (Carollo and Guerci, 2018), or if they must employ contradictory solutions to address opposing sustainability elements (Slawinski and Bansal, 2012; Joseph *et al.*, 2020).

Paradox and Strategic Management

Even though it is not the primary topic, several books have addressed the inconsistencies inherent in strategic management. Although they are not usually referred to by the same name, at their heart, they all depict a similar paradox, which Mintzberg (1987) puts best: "smart strategists recognize that they are not always capable of forethought." From this perspective, paradoxical conflicts in strategic management stem from "the forces for stability and change - to focus efforts and create operating efficiency on the one hand, while adapting to and maintaining currency with a changing external environment on the other." In order to acquire momentum in a dynamic environment, businesses must be adaptable and innovative in response to unanticipated events, but they must also have a more permanent strategy (Eisenhardt, Furr and Bingham, 2010). Tse (2013) uses the terms "deliberate strategy," which refers to "strategic

planning and formulation," and "emergent strategy," which is defined as "a strategy that emerges as a result of unanticipated circumstances" and "responding to the unanticipated, chaotic requests of those customers who do not fit the existing strategy." Lewis et al. (2014) proposed "strategic agility" as "recognizing that there are many inherent contradictions, such as stability versus flexibility, commitment versus change, and established routines versus novel approaches."

Since tension consists of competing needs, it indicates can be denoted and comprehended in various ways (Lövstål and Jontoft, 2017). A trade-off is characterized as a continuum of possibilities between two poles, such that a shift toward one aspect necessarily entails a reduction in the other. Competing demands are represented as thesis and antithesis when referred to as a dialectic. Each alternative produces a new opposition (Smith and Lewis, 2011) and can only be resolved by synthesis. A duality is likely the most analogous idea to a paradox (Lovstl and Jontoft, 2017) and necessitates the management and balancing of competing needs as a whole (Janssens and Steyaert, 1999). Finally, "there is paradox, which highlights the simultaneous presence of contradicting desires and depicts this situation as acceptable and desirable" (Cameron and Quinn, 1988).

When companies confront tensions, they usually gravitate toward one side and prioritize an either-or perspective (Gaim and Wåhlin, 2016). This is known as the contingency argument perspective. A substantial proportion of management literature, particularly previous research, Lewis and Smith (2014) employ the contingency argument (Smith and Lewis, 2011) that emphasizes an either-or approach. If opposing demands are viewed as a problem, the management strategy for resolving tension would be to analyze the benefits and drawbacks of each side and then prioritize one over the other (Gaim and Wåhlin, 2016). In seeking a legitimate equilibrium, or the "greatest fit" Lövstål and Jontoft (2017) also prefer to compromise and reconcile when competing demands are framed as a trade-off (Eisenhardt, 2000). Constructing opposing elements as a dialectic prompts an integration reaction (Smith and Lewis, 2011), developing a new option by harmonizing conflicting requirements (Lovsthl and Jontofs, 2017). Competing needs are divided in time or space when regarded as a duality to address tensions. However, focusing on one extreme increases the demand for the other extreme, and ongoing compromise effectively reduces the tension between the two poles. By prioritizing one demand above another, this response is bound to generate a vicious cycle (Gaim and Wåhlin, 2016).

According to the existing research, organizations in "dynamic environments that simultaneously attend to and integrate opposing demands" exhibit more excellent performance (Tse, 2013). The paradox approach emphasizes engaging competing needs concurrently (Gaim and Wåhlin, 2016). Paradox theory advocates a "both-and [...] thinking that embraces both demands" (Gaim and Wåhlin, 2016). It assumes that "tensions are inherent to complex systems and that sustainability depends on concurrently attending to opposing but intertwined needs" (Smith and Lewis, 2011). Organizations are more inclined to acknowledge that opposing requirements may and should coexist if conflicts are portrayed as paradoxes (Clegg, Vieira Da Cunha and Pina E Cunha, 2002). By embracing conflicting poles and responding to them concurrently, the

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3. RESEARCH METHODS

The purpose of literature reviews using bibliometric analysis is to examine the existing research on a particular topic. Hence, such studies must adhere to a defined approach. This study has implemented a five-step process for conducting literature reviews based on the structured methodology presented by Rowley and Slack (2004). Several bibliometric studies have employed this technique (Fahimnia, Sarkis and Davarzani, 2015; Hossain *et al.*, 2020; Pinto *et al.*, 2020; Mahadevan and Joshi, 2022). It provides a method for "scanning the various available resources, building mind-maps to organize the literature review, mapping the structure of the subject topic, and producing the bibliography" (Mahadevan and Joshi, 2022). Adopting a methodical approach to perform the bibliometric analysis would ensure comprehensive coverage of all research articles on this issue, provide insights into current study topics, and describe future research directions.

Step 1: Database Selection

The selection of a database to search for research material is a crucial initial step in the bibliometric analysis. The Scopus database was utilized to search for paradoxes in strategic management-related research articles for this investigation. Scopus is the largest repository of peer-reviewed abstracts and citations (Falagas *et al.*, 2008) that contains more than 20,000 peer-reviewed publications, including those produced by the most prestigious academic publishing firms. Scopus also allows data export to other bibliometric and visualization tools and is therefore widely utilized by scholars.

Step 2: Keyword Identification

In order to achieve a thorough and integrated search, it was essential to include the correct keywords in the search string. The search terms "paradox" AND "strategic management" OR "strategy" were utilized in the Scopus search tools.

Step 3: Initial Search Results

One of the most seminal papers on this topic in the Scopus database (Lewis, 2000) began appearing in 2000; hence, the period 2000–2021 was chosen for the study. The initial database search returned a total of 4,240 items from Scopus.

Step 4: Application of Criteria for Research Article Inclusion or Exclusion

Several criteria were applied to the first search results to guarantee that only relevant articles were picked for study. These filters were applied:

- a. Only articles from the Business, Management, and Accounting subject
- b. Journal was the only selected source type
- c. The selected language was English only
- d. After applying the filters above, 633 Scopus articles matched the search criteria. These articles became the final dataset for the bibliometric and network visualization study.

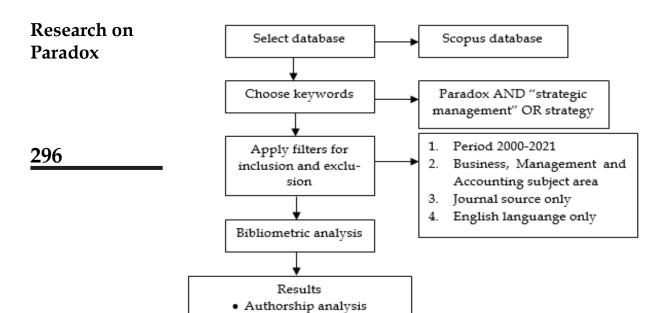


Figure 1
The Methodology Used for Bibliometric Analysis

Step 5: Choosing the Study Method

Sub-topic analysis
 Network visualization analysis

The researchers used a bibliography to examine the Scopus articles. This method allows us to map and display distinct data networks (Milojević, 2014; van Eck and Waltman, 2014; Brown, Park and Pitt, 2020; Park *et al.*, 2020). We utilized VOS Viewer to visualize networks (van Eck and Waltman, 2010). VOSViewer was created at the University of Leiden to visualize bibliometric data. Three reasons led us to choose VOSViewer.

First, VOSViewer can change and adapt bibliometric map graphics, unlike other applications (van Eck and Waltman, 2014; Brown, Park and Pitt, 2020). Users may classify, develop, and update network maps by selecting and modifying author or journal combinations based on co-citation data or keyword maps based on co-occurrence data. This adaptability was used to rapidly generate network maps of our enormous dataset to show paradox's publishing behavior and performance in strategic management research.

Second, VOSViewer employs distance-based mapping, not graph-based maps. Topic words, authors, institutions, and nations are depicted as colored circles in VOSViewer distance-based mapping. The circle's size corresponds to the entity's size, and the closer two entities are on the map, the closer they are. The colors denote interconnected groupings. VOSViewer draws a line across network elements that are directly related.

Third, VOSViewer enables full and fractional counting. Full counting is currently utilized to build bibliometric networks, but fractional counting is preferred since it weighs performance and network strength (Perianes-Rodriguez, Waltman and van Eck, 2016). If an article has three co-authors, the full counting method assigns each one a count or weight of one, whereas VOSViewer gives each one a one-third weight. This assures that co-authoring or discussing a publication receives equal credit

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4. RESULTS AND DISCUSSION

The journals in which most publications containing the search phrases appeared are listed in Table 1. As seen in the graph, Strategic Management Journal published the most articles on the themes along 2000-2021, with 14 articles, followed by Journal of Business Ethics, with 12 articles, Journal of Cleaner Production, with 11 articles, and Organization Studies, with 11 articles.

The top ten most referenced articles on Scopus containing the search phrase are displayed in Table 2. As seen in Table 2, only two of the most-cited publications are concerned with the most publication journal, Organization Science, with the two most cited articles. According to our talks later in the study, most of the most-cited publications were published by selected high-rank strategic journals. However, the number of such papers on this topic was fewer than some others. In addition, according to table 3, Organization Science is the most-cited journal for the selected themes, followed by the Academy of Management Review, Journal of Business Ethics, and Strategic Management Journal.

The authors: Their Collaborators and Origins

The 633 papers represented in the data set have 1,401 authors. The ten most prolific writers and their total citations are shown in Table 4. According to Table 4, Lewis M.W., Smith W.K., and Andriopoulos C. are the most prolific writers for the analyzed terms in the data set. These three writers are also, in order, the authors with the most citations. Simultaneously, Tushman M.L. was one of the last ten most productive writers and the fourth most cited author.

Table 1
Top Ten Journals Containing Articles on the Search Keywords

No.	Journal Name	Number of papers	Citations	Publication Share		
1	Strategic Management Journal	14	1061	14%		
2	Journal of Business Ethics	12	1093	12%		
3	Journal Cleaner Production	11	282	11%		
4	Organization Studies	11	683	11%		
5	Long Range Planning	9	728	9%		
6	Futures	8	102	8%		
7	Industrial Marketing Management	8	558	8%		
8	International journal of Operations and Production Management	8	402	8%		
9	Journal of Management Studies	8	570	8%		
10	Organization Science	8	3309	8%		
Source	Source: Processed Data					

Source: Processed Data

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Table 2 Most-cited Articles

No.	Authors	Year	Source title	Cited by
1	Smith W.K., Tushman M.L.	(2005)	Organization Science	1232
2	Lewis M.W.	(2000)	Academy of Management Review	1217
3	Andriopoulos C., Lewis M.W.	(2009)	Organization Science	1136
4	Awad N.F., Krishnan M.S.	(2006)	MIS Qu2arterly: Management Information Systems	676
5	West J., Gallagher S.	(2006)	R and D Management	669
6	Beer M., Nohria N.	(2000)	Harvard Business Review	628
7	Laursen K., Salter A.J.	(2014)	Research Policy	536
8	Audia P.G., Locke E.A., Smith K.G.	(2000)	Academy of Management Journal	507
9	Visnjic Kastalli I., Van Looy B.	(2013)	Journal of Operations Management	431
10	Kale P., Singh H.	(2009)	Academy of Management Perspectives	426

Source: Processed Data

Table 3
The Top 10 Authors with the Highest Number of Papers

		8		F
No.	Author	Number of papers	Citations	Total link strengh
1	Lewis M.W.	9	3048	18
2	Smith W. K.	8	2190	19
3	Andriopoulus C.	4	1603	7
4	Chen MJ.	3	606	4
5	Cunha M.P.E	3	138	8
6	Fawcett S. E.	3	156	8
7	Keegan A.	3	59	5
8	Leavy B.	3	6	0
9	Morgan R. E.	3	134	4
10	Tushman M. L.	3	1554	5

Source: Processed Data

Nο	Journal Name	Number of	Number of	
110.	Journal Name	papers	citations	
1	Organization Science	8	3309	
2	Academy of Management Review	2	1316	
3	Journal of Business Ethics	12	1093	
4	Strategic Management Journal	14	1061	
5	MIS Quarterly: Managemenr	2	935	
	Information Systems			
6	Academy of Management Journal	2	838	
7	Long Range Planning	9	728	
8	Harvard Business Review	3	697	
9	Organization Studies	11	683	
10	R and D Management	2	675	

Source: Processed Data

Lewis MW, the author with the highest number of papers in this field, has also received the highest citation during 2000-2021. In 2000, Marianne Lewis published her AMR article, "Exploring Paradox: Toward a More Comprehensive Guide" (Lewis, 2000), which inspired the subsequent generation of paradox researchers 2000. She, therefore, earned the AMR prize for the best paper of the year (Carmine and Smith, 2021). In addition, these paradoxical discoveries arose from a variety of cultures. Benson (1977), one of the earliest works to present the concept of organizational dialectics, draws on Hegel, Marx, and Engels. The discussion continues on the differences and relationships between dialectical and paradoxical perspectives. Putnam's seminal work, published in 1986, has its origins in the communication and sociology of Taylor, Bateson, and Watzlewick. In contrast, Smith and Berg's seminal work, published in 1987, is rooted in the psychodynamics of Jung, Adler, Frankel, and Freud (Carmine and Smith, 2021).

Figure 2 displays a VOSViewer map showing co-authorship on crucial terms. The map illustrates that although many academics work in teams and networks of four to five authors, others do not have co-authors. The biggest of these networks has 25 members, with Smith WK at its center and authors such as Lewis, Andripoulos, and Tushman as its most vital nodes. The size of the circle next to an author's name indicates the number of articles he or she has written on specific topics (Pitt, Park and McCarthy, 2021). For instance, Lewis has co-authored many of his 4 publications with Andripoulos. Outside the central network of colored bubbles, there is significant fragmentation of authorship in this subject, with single writers or small groups releasing more works with little linkages to other critical authors. As may be surmised from the low amount of collaboration within this sector, there is a shortage of interdisciplinary study between academics in the conundrum of strategic management and other research topics.

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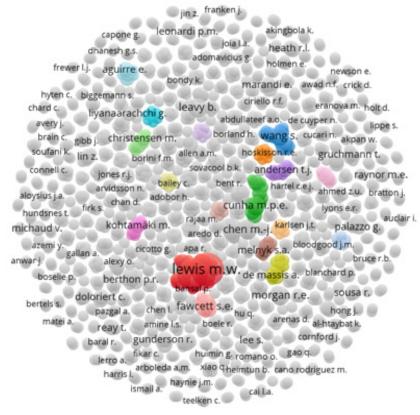


Figure 2
A Map Showing Co-Authorship of Paradox in Strategic Management
During 2000-2021

Source: Processed Data

Table 5
Top 10 Countries with the Highest Number of Papers in this Field

No.	Universities	Number of papers	Citations	Average of Cotation
1	United States	178	12010	67
2	United Kingdom	139	6987	50
3	Canada	46	1949	42
4	France	41	1623	40
5	Germany	37	985	27
6	Australia	36	803	22
7	China	31	380	12
8	Netherlands	31	1680	54
9	Italy	30	659	22
10	Denmark	29	1547	53

Source: Processed Data

Table 5 shows the top ten countries according to the number of articles published in our sample's category of strategic management journals and the average amount of citations per publication. The countries with the most published academics are the United States, the United Kingdom,

Canada, France, Germany, Australia, China, the Netherlands, Italy, and Denmark. The United States, the United Kingdom, and Canada are the top three countries regarding the number of publications and citations for these works.

Figure 3 depicts a VOSViewer map of countries mentioned in articles related to the paradox in strategic management and how authors from these countries collaborate. On the map, the primary networks appear to be alliances between the United States and the United Kingdom, followed by a European network led by the Netherlands and Germany. It is fascinating to watch the significance of the United States in facilitating cooperation between European and Asia-Pacific authors.

Table 6 ranks the top 11 universities according to the number of published articles and the average number of citations per publication. There are significant discrepancies across universities regarding the number of articles, citations, and citations per paper. Among 1,227 listed universities as the origins of this topic authors, only 25 universities had more than 1 article. Only three universities produced more than 2 articles: the University of Delaware, the University of Strathclyde, and the University of Geneva.

Figure 4 is a VOSViewer map illustrating how researchers from various universities collaborate on the selected keywords and publish them in this topic area. As depicted on the map in Figure 4, the most network members consist of 13 universities among 355 clusters of 2-13 members. The top 3 universities in the number of papers (the University of Delaware, University of Strathclyde, and the University of Geneva) also become essential in forming the research networks among universities.

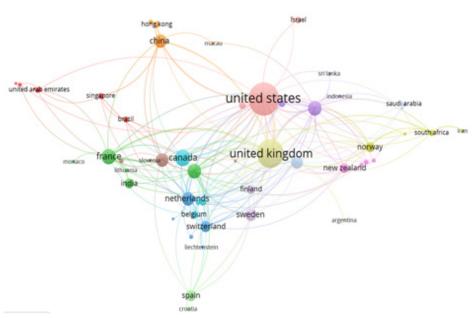


Figure 3
A Map of Co-Authorship by Countries of the Authors

Source: Processed Data

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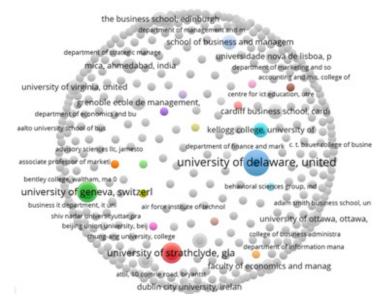


Figure 4
A Map of Universities Networks in Co-Authorship of Paradox in Strategic Management

Source: Processed Data

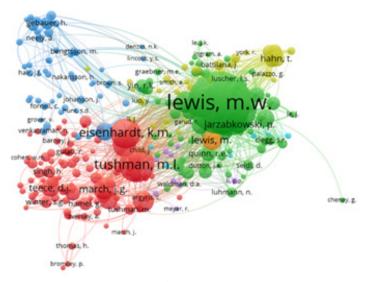


Figure 5
Co-Citation Map Among the Authors of the Field

Source: Processed Data

Using VOSViewer, the citation networks of publications on the search phrases were also investigated. The frequency with which three citations are mentioned jointly by other documents is called co-citation. Seven citation networks where scholars cite each other on various issues in this topic, as seen in Figure 5.

Table 6
Top 11 Universities Based on the Number of Papers and Average
Citation Number

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No.	Universities	Number of papers	Citations	Average of Cotation
1	University Of Delaware, United States	4	479	120
2	Grenoble Ecole De Management, Grenoble, France	2	203	102
3	University Of Cincinnati, United States	2	172	86
4	University Of Strathclyde, Glasgow, United Kingdom	3	226	75
5	Universidade Nova De Lisboa, Portugal	2	85	43
6	University Of Alberta, Canada	2	69	35
7	Southern Cross University, Australia	2	64	32
8	University Of Geneva, Switzerland	3	92	31
9	Kellogg College, University Of Oxford, Oxford, United Kingdom	2	57	29
10	Bangor Business School, Bangor University, Bangor, United Kingdom	2	57	29
11	International Centre For Transformational Entrepreneurship, Coventry University, Coventry, United Kingdom	2	47	24

Source: Processed Data

Sub-topic keywords

In addition to scanning documents for the defined vital phrases (paradox and strategic management), we utilized VOSViewer to examine other keywords or subtopics inside these papers. This technique allows us to determine which of these terms appear most frequently and how they are related. The researchers concentrated on terms representing phenomena, ideas, settings, and methodologies integral to paradox and strategic management. We did not count joint function terms such as management, managers, industry, conceptual framework, internet, case study, theoretical study, mathematical model, research work, literature review, human, and articles, and we omitted keywords that were identical to our theme keywords or too broad (e.g., paradox, paradoxes, paradox theory, strategy, and strategic management). Table 7 lists the most frequently occurring terms in the 633 publications evaluated.

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Table 7
The Top 45 Most Occurring Keywords in the Examined Papers

No	Keyword	Occur- rences	No	Keyword	Occur- rences	No	Key- word	Occur- rences
1	innovation	27	16	commerce	10	31	conflict	7
2	corporate strategy	24	17	decision making	10	32	coopeti- tion	7
3	competition	21	18	institu- tional theory	10	33	game theory	7
4	invesments	15	19	knowl- edge man- agement	10	34	govern- ance	7
5	strategic planning	15	20	legitimacy	10	35	indus- trial manage- ment	7
6	sustainabil- ity	15	21	marketing	10	36	infor- mation technol- ogy	7
7	sustainable develop- ment	14	22	entrepre- neurship	9	37	interna- tionali- zation	7
8	tensions	14	23	organi- zational change	9	38	mar- keting strategy	7
9	competitive advantage	13	24	culture	8	39	project manage- ment	7
10	servitiza- tion	13	25	leadership	8	40	business models	6
11	corporate social re- sponsibility	12	26	manufac- ture	8	41	cogni- tion	6
12	human resource manage- ment	11	27	perfor- mance	8	42	cor- porate sustain- ability	6
13	open innovation	11	28	tension	8	43	econ- onic and social effect	6
14	societies and institu- tions	11	29	ambidex- terity	7	44	econom- ics	6
15	strategic approach	11	30	competi- tiveness	7	45	elect- ronis com- merce	6

Source: Processed Data

Table 7 also illustrates how research interest in this domain develops from 2000 to 2021: innovation, corporate strategy, and competition. The map in figure 6 shows how some terms occurred earlier than others, such as competition, strategic planning, investments, societies and institution, information technology, cooperation, and marketing. The recent subtopics were innovation, competitive advantage, corporate strategy, knowledge management, corporate social responsibility, sustainability, institutional theory, business model, and entrepreneurship. While the newest developing trend in this research area sub-topics was servitization, open innovation, organizational change, ambidexterity, knowledge sharing, diversity, value creation, corporate sustainability, dynamic capability, and social entrepreneurship.

Figure 6 also displays a network of term co-occurrence and interactions. Figure 6 is especially notable for the prominence of its nine subtopic groupings. Corporate strategy, innovation, and competition were the primary nodes that created connections between the subtopics. The thickness of the connecting lines between the keywords reveals the strength of the association. Examining term co-occurrences may help researchers uncover study gaps. From the above network visualization map and density visualization on VOSViewer, it is evident that the relationship between paradox and areas such as internationalization, family business, social entrepreneurship, conflict, corporate sustainability, and productivity issues presents opportunities for future research.

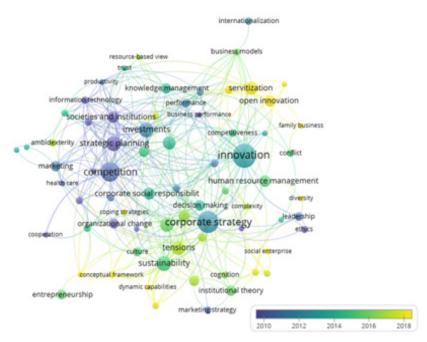


Figure 6
The Trend in Keyword Occurrence Appeared in the Research Area

Source: Processed Data

Research on Paradox



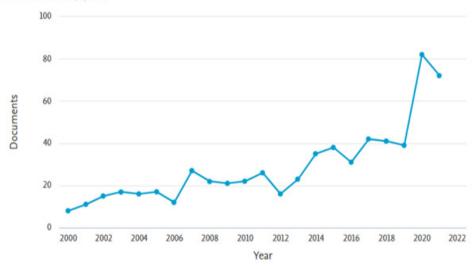


Figure 7
The Trend of Publication on Paradox in Strategic Management During 2000-2021

Source: Processed Data

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Conclusion

In this study, the researchers used bibliometrics, assessing the global trends in research on paradox in strategic management. In the past twenty-one years, as shown in Figure 7, research in this field has gradually increased. In the past eight years, however, the output of research publications in this field has expanded dramatically. This increasing number of authors combined produce multi-authored research documents on this topic. The bibliometric analysis performed on the sample of 633 research articles from Scopus reveals that this field of study is predominantly dominated by the United States and the United Kingdom, both of which have substantial coauthorship ties. An analysis of the most frequently used author keywords reveals that paradox in the field of strategic management has implications not only as a mode of a means in handling tensions or contradictions but also in areas related to servitization, open innovation, organizational change, ambidexterity, knowledge sharing, diversity, value creation, corporate sustainability, dynamic capability, and social entrepreneurship. These connections would be anticipated to provide many opportunities for future study in this field.

Theoretical Implications

A bibliometric analysis aims to evaluate the research conducted in a particular area of knowledge. This study offers an overview of the significant developments in paradox research in strategic management from 2000-2021. It gives insight into the notion of paradox and the primary perspective-based paradigm through which scholars have investigated this phenomenon. The study also offers scholars an understanding of the current author-country interrelationships, which can be used as a guideline for academic cooperation. This study can also serve as

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Managerial Implications

The bibliometric study on paradox research in strategic management revealed that paradox perspective offers several techniques to successfully assist leaders and staff in embracing and confronting paradoxical situations. The paradox theory recommends reframing difficulties from either/or to both/and or embracing paradox by revealing and recognizing the conflicts. A paradox mindset offers scholars a multifaceted prism through which they may understand these phenomenological phenomena more deeply. Adopting a paradoxical viewpoint compels academics to reevaluate their communications with practitioners (Lewis and Smith, 2014). This study helps academics and managers comprehend the research trends, significant contributors (authors, journals, and organizations), and broad subfields in this discipline. A thorough examination of these research articles would allow managers to identify the most critical difficulties in managing organizational paradoxes.

Limitation and Suggestion

This research is subject to several constraints. First, the researcher obtained all of our articles from the Scopus database. Combining this massive database with well-known ones such as the web of science (WoS) can make the study more extensive and thorough. Web of Science is acknowledged for offering bibliometric reviews with high-quality data (Carvalho, Fleury and Lopes, 2013; Merigó *et al.*, 2018). the database only indexes the most important journals in a field based on characteristics such as the journal's impact and peer-review status. Finally, another potential drawback of the research is that citation and co-citation data and patterns are often dynamic and anticipated to vary over time.

Despite its adolescence, the study field of paradox in strategic management is receiving substantial attention from academics and researchers. This study seeks to summarize the significant developments in paradox research in strategic management from 2000 to 2021. Detailed analysis of the sample of 633 research papers has uncovered prospective future research areas mentioned below. According to studies on paradox in specific contexts, paradox may be associated with the family business (Irava and Moores, 2010; Rondi, de Massis and Kotlar, 2019; Erdogan, Rondi and de Massis, 2020), internationalized business (Scherer, Palazzo and Seidl, 2013; Brière and Auclair, 2020), and social enterprise (Mason and Doherty, 2016; McMullen and Bergman, 2017; Child, 2020).

Future studies should analyze in further detail if research is still uncommon in these three contexts. According to research studies, some researchers have linked strategic paradox with several interdisciplinary fields in management, such as human resource management (Bengtsson, Raza-Ullah and Srivastava, 2020), project management (Szentes, 2018), supply chain management (Zehendner *et al.*, 2021), and knowledge management (Lannon and Walsh, 2020). Future studies might explore the connection between strategic paradox and these szentesdomains. Previous strategic researchers have linked paradox with several strategic theories or made them theoretical lenses, such as resource-based view (RBV) (Lado *et al.*, 2006), game theory (Raza-Ullah, 2020), institutional

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theory (Smith and Tracey, 2016), and dynamic capabilities (Ricciardi, Zardini and Rossignoli, 2016; Wójcik, 2020; Rey-Garcia, Mato-Santiso and Felgueiras, 2021; Weiss and K. Kanbach, 2021). These all need to be further studied in the future.

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