

Organizational Ambidexterity: The State of Global Research Using Bibliometric Analysis on Scopus Database

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Abstract

This bibliometric analysis evaluates the global research conducted on organizational ambidexterity using the Scopus database as a source. The purpose of this paper is to further develop a complete understanding of organizational ambidexterity comprehension. This research is based on 393 studies published in Scopus journals between 1996-2019. This examination highlights that the organizational ambidexterity papers underwent an uphill drive since 2012 onwards, having more papers annually within 2015-2019. This study is based on bibliometric analysis based on the VOS viewer software, used to conduct various analysis such as the coauthorship and cooccurrence map analysis. Exploration and exploitation emerge as the two principal dimensions used frequently with organizational ambidexterity studies globally. Besides, small and medium-sized enterprises are the least studied among organizational ambidexterity studies.

Keywords

Bibliometrics analysis; Data mining; Organizational ambidexterity; VOS-viewer; Scopus database

Introduction

The increasing role of technological improvements, the ease of access to information, globalization, and shifting consumer choices force the current businesses to operate both in existing as well as new markets. Such kind of external demands exerts pressure for the evolution of new products, capabilities, markets, knowledge, processes, and services associated with exploration. Furthermore, they also exert pressure and demand the fine-tuning and refinement in the current knowledge, capabilities, markets, products, processes, and services frequently, associated with the exploitation. The term exploration is associated with the external viewpoint, on the other hand, exploitation, handles the internal perspective (Lavie, Stettner, & Tushman, 2010).

For organizations to be prosperous in the longer-term, they must be in line with both the internal as well as the external perspectives. Having a single focus on either of them solely will end up in a deficit on the other end, appearing in unevenness. The longterm survival and success of the organization are inherent in the balance between the two activities of exploration and exploitation (Levinthal & March, 1993). Furthermore, an organization involved in either the exploration or exploitation related activities may be trapped in either failure or success “traps”(Levinthal & March, 1993).

The term organizational ambidexterity obtained acclaim in modern junctures on a global level and is affiliated with the organizational balance amidst the exploitation and exploration related activities. This term has significant applicability in varied disciplines and holds notable attention among practitioners and researchers alike. In the advent of modern times, organizations embark on ambidexterity to fulfil the ever-changing demands of uncertain and dynamic environments and gain performance benefits (O'Reilly & Tushman, 2013).

The research provides ample empirical evidence regarding the use of ambidexterity to gain organizational performance, see e.g. (Gonsel, Altindag, Keceli, Kitapci, & Hiziroglu, 2018; Lee & Seo, 2018; Lukoschek, Gerlach, Stock, & Xin, 2018; Pertusa-Ortega & Molina-Azorín, 2018; Yu, Tao, Tao, Xia, & Li, 2018; Ikhsan, Almahendra, & Budiarto, 2017; Lee, Kim, & Joshi, 2017; Chang, Hughes, & Hotho, 2011; Jansen, Van den Bosch, & Volberda, 2006; Lubatkin, Simsek, Ling, & Veiga, 2006; Birkinshaw & Gibson, 2004;). The asymmetrical exploration and exploitation related organizational activities end up in reduced organizational performance (He & Wong, 2004).

This article uses bibliometric analysis technique based on existing literature published in the organizational ambidexterity domain using the Scopus database. The data is mined between the year 1996 to 2019, both inclusive on the above-mentioned theme. Additional aspects are presented as follows.

Methods

This article utilises the bibliometric analysis as a principal method. The bibliometric analysis utilises quantitative approaches including the data mining for analyzing the contemporary global research trends in any investigation domain of choice. This article has a scope limited to published studies only covering the domain of organizational ambidexterity in the Scopus research journals for the past twenty-four years and is based on bibliometrics.

The data source used for this study is based upon Scopus data repository for data mining of related studies in this area. In short, the current study analyses the hidden patterns stored collectively in all of these Scopus articles using the above methods.

Data Foundation and Examination Strategy

The data for this study is derived utilising varied key-words, as stated under, within the provided online Scopus search mechanism. The Scopus database search is done on the basis of the keywords for an accurate match based upon its keywords, abstract, or title of each of the journal papers saved in the online Scopus data source. Furthermore, the data is restricted only for articles published in the English language.

The result of the above is an output file provided by the Scopus database, and which can be downloaded and stored on the local computer in the MS Excel format, specifically, as a comma-separated value (CSV) file to be used at a later stage to conduct the analysis with the help of VOS viewer software (version 1.6.12). The chief phrases searched in this article are "ambidextrous organization" or "organizational ambidexterity" as appearing in the keywords, abstract, or the title. The data for this article is mined on January 13, 2020, utilising the advanced search feature of the Scopus database and by employing the subsequent query:

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TITLE-ABS-KEY ( "organisational ambidexterity" OR "organizational ambidexterity" OR "ambidextrous organisation" OR "ambidextrous organization" ) AND PUBYEAR < 2020 AND DOCTYPE ( ar ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )
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Based on the query presented above, Scopus resulted in 393 journal articles. The output of which can be downloaded in the CSV format using the MS Excel software. This CSV Excel file is presented to the VOS viewer software to analysis and to create the visual, textual, and bibliometric maps. The cleaning of data is done using a 'Thesaurus' file, provided to VOS viewer software. This file is used for labelling and handling of the textual co-occurrences during the process of map creation.

In this paper, for instance, the authors employed the use of 'Thesaurus' file containing the labels for data cleansing. One example of which could be the use of 'competitive advantage' labelled as 'competitiveness'. The complete collection of labels applied in the 'Thesaurus' for data cleansing for the bibliometric analysis presented in this paper are provided in Appendix.

Creation of Bibliometric Maps

In order for the creation of the bibliometric maps, the information regarding the 393 journal articles from Scopus database, which is downloaded in the shape of a CSV excel file is rendered to the VOS viewer software which will process the citation, bibliographical, and keywords data based on its algorithms. Such algorithms are part of the VOS viewer software, which is developed by the Centre for Science and Technology Studies, Leiden University, Netherlands and this software is an analysis tool, responsible to produce visual and textual bibliometric map (Van Eck & Waltman, 2011; VOSviewer, 2019).

This software produces the linkages and visualizes bibliometric maps between combinations of authors, countries, publications and institutions. The above-mentioned linkages form the basis of the network strength, which implies its strength of the relationship between the two pairs. Moreover, this software provides co-citation examination, citation, co-authorship relationships or the bibliographic coupling. In addition, this software is capable to create text mining, for creation of the visual co-occurrence webs based upon literature key words.

Examination of Co-authorship

To create a co-authorship analysis map in the VOS viewer software, the software provides three options to choose from as the level of analysis, which is: authors, organizations and countries. For this analysis, the authors selected the country as the level of analysis and provided the location of the thesaurus file. Furthermore, the authors selected a value of 2

for both the minimum number of documents and citations by a country for map rendering. As a result, 43 out of 58 countries fulfil the criteria and are arranged into 9 clusters represented by a different colour. The largest cluster holding 6 countries whereas the smallest cluster accommodating 2 countries only.

Examination of Co-occurrence

The co-occurrence analysis comprises of 1437 keywords from 393 journal articles. To provide the keywords to the VOSviewer software, the terms containing the identical meaning are identified so that they can be labelled again with the help of the thesaurus file using the VOSviewer software. The complete list of words is listed in Panel-A, refer Appendix, containing the new labels amalgamated as listed in Panel-B via the examination of the literature in the area of Organizational Ambidexterity. Additionally, we applied the threshold limit to 3 using the VOSviewer software, thus producing 130 keywords to pass through from the total 1477 keywords.

The topmost keywords from the above analysis are organizational ambidexterity occurred the highest (275 times), followed by exploration, and exploitation (77 times), innovation (58 times), organizational performance (38 times), organizational learning (29 times), leadership (20 times), knowledge management, top management team, and dynamic capabilities (14 times), competitiveness (13 times). The following sections of this paper exhibit the results, accompanied by discussion.

Results and Discussion

Research Interest, Publication, and Growth

A sum of 393 journal articles are published in Scopus journals in the past 24 years up until the end of the year 2019, covering the organizational ambidexterity domain. Figure 1. Panel-A presents the subject wise coverage of organizational ambidexterity articles in Scopus. The organizational ambidexterity is a multi-disciplinary domain, which covers articles mostly in the business, management and accounting domains. Besides, it is popular in social sciences, economics, finance, decision sciences, computer sciences, engineering, psychology and many others.

The Panel-B of Figure 1 displays the frequency of organizational ambidexterity papers in Scopus listed journals on a yearly basis between 1996 to 2019. The graph shows a rising trend from 2012 onwards. The last five years witnessed a massive increase in the number of published articles in this field with more than 40 articles on an annual basis. The year 2019 witnessed a massive increase in the number of published articles with 111 papers in a year in Scopus listed journals.

Figure 1. Panel a: Subject wise coverage of Organizational Ambidexterity articles in Scopus

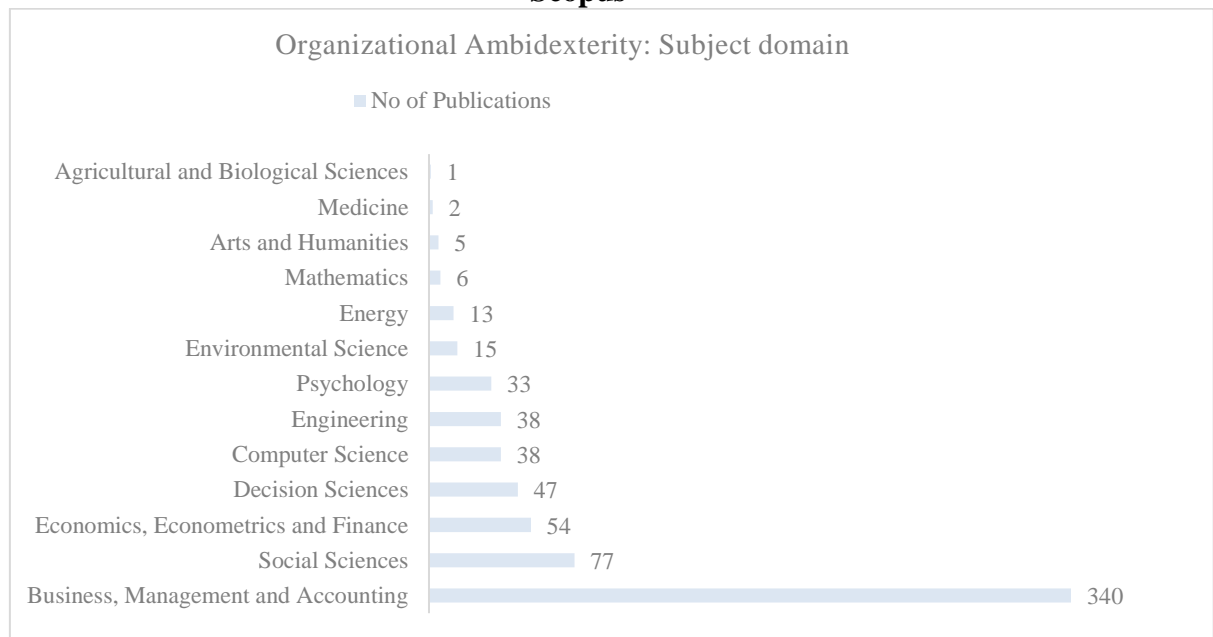
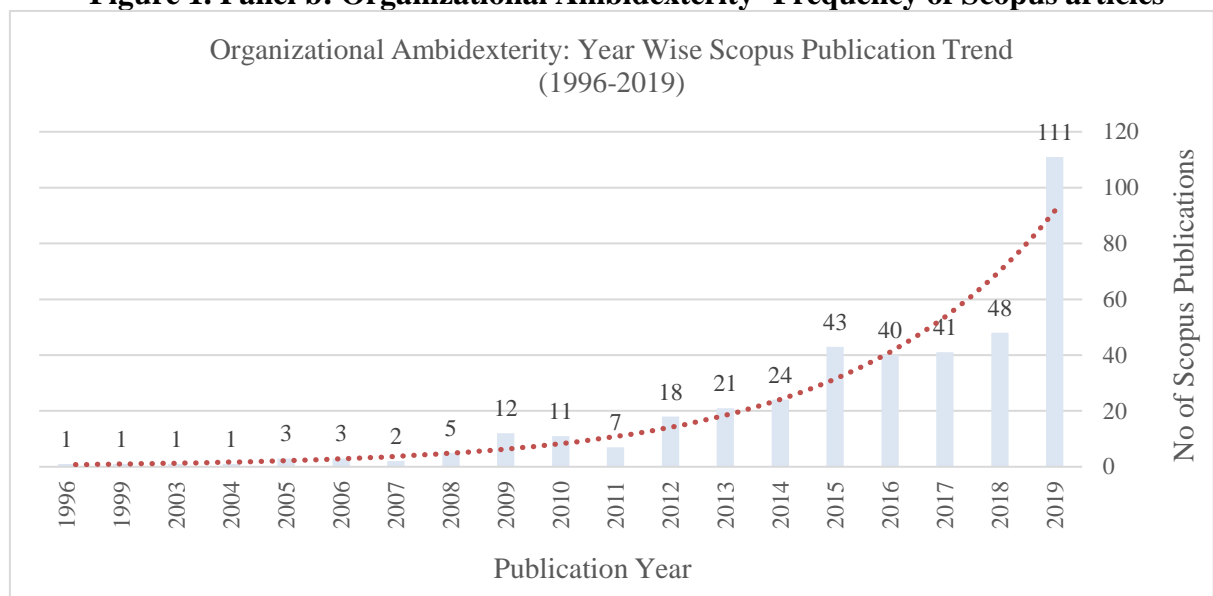


Figure 1. Panel b: Organizational Ambidexterity- Frequency of Scopus articles



Favourite Journals

Figure 2. presents the list of the global top 15 journals in the domain of organizational ambidexterity and highlights the total number of publications along with the total number of cites in a graphical format. Based on which, the International Journal of Human Resource Management published 12 articles, followed by Organization Science (11), Technological Forecasting And Social Change (11), Management Decision (10), and Sustainability Switzerland (9) are among the top five journals in terms of the number of articles published in this domain.

In terms of the total number of cites, Organization Science has the highest cites (3244), followed by the Journal of Management Studies (1195), Journal of Production Innovation Management (209), Human Resource Management (204), and Long Range Planning (202) are part of the top five listings respectively.

Figure 2. Top journals of Organizational Ambidexterity with total publications and cites

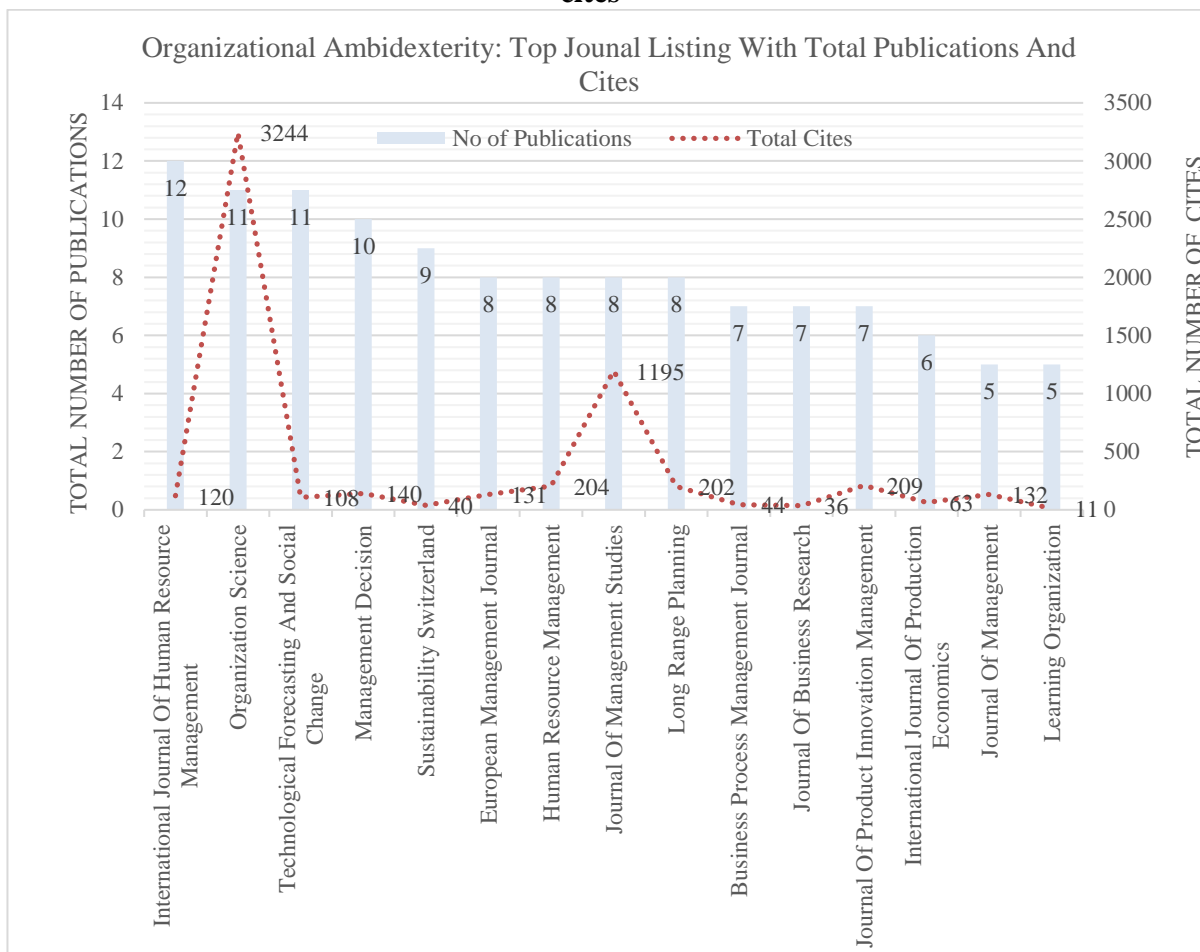


Table 1. presents the list of topmost articles from the top 15 journals in the organizational ambidexterity domain on a global level based on number of citations and journal cite score respectively and presents related details. Based on Table 1., Raisch, Birkinshaw, Probst, & Tushman (2009) article has the highest number of citations (884) in this list, followed by Simsek (2009) article having 328 citations and is at the second place. In the third and fourth place, Andriopoulos & Lewis (2010) article having 123 citations, followed by Li & Lin (2008) article with 82 article cites respectively.

Upon looking at the journal cite score 2018, which presents the Scopus alternative of the journal impact factor used in the Web of Science listed journals, Journal of Management by Sage publishing is on the top of the list having a Journal Cite Score of 10.96. In the second place International Journal of Production Economics by Elsevier publishers (7.13), whereas Journal of Management Studies by Wiley publishers stand on the third place with a Journal Cite Score of 5.99.

Table 1. Top articles in Organizational Ambidexterity

No	Journal (Publisher)	Top cited article (reference)	Article cites	JCS 2018
1	International Journal Of Human Resource Management (Taylor and Francis)	"Does HRM....support" (Prieto-Pastor & Martin-Perez, 2015)	26	2.71
2	Organization Science (Informs)	"Organizational Ambidexterity.... Performance" (Raisch et al., 2009)	884	4.76
3	Technological Forecasting And Social Change (Science Direct)	"Organizational ambidexterity....planning" (Bodwell & Chermack, 2010)	55	4.32
4	Management Decision (Emerald)	"The nature...innovations" (Li, and Lin, 2008)	82	2.74
5	Sustainability Switzerland (MDPI)	"The Determinants..... Ambidexterity" (Chen, Chang, & Lin, 2014)	31	3.01
6	European Management Journal (Elsevier)	"Specialized organizations....paradigm" (Ferrary, 2011)	56	3.88
7	Human Resource Management (Wiley)	"Guest Editors'...Ambidexterity" (Junni, Sarala, Tarba, Liu, & Cooper, 2015)	50	4.28
8	Journal Of Management Studies (Wiley)	"Organizational Ambidexterity..... Understanding" (Simsek 2009)	328	5.99
9	Long Range Planning (Elsevier)	"Managing Innovation....Companies" (Andriopoulos & Lewis, 2010)	123	4.42
10	Business Process Management Journal (Emerald)	"Ambidextrous organization....systems" (Rialti, Marzi, Silic, & Ciappei, 2018)	18	2.98
11	Journal Of Business Research (Elsevier)	"Organizational dynamism configuration" (Ricciardi, Zardini, & Rossignoli, 2016)	19	5.32
12	Journal Of Product Innovation Management (Wiley)	"Organizational Learning....Development" (Wei, Yi, & Guo, 2014)	62	5.43
13	International Journal Of Production Economics (Elsevier)	"An evolutionary....science" (Chae, 2012)	48	7.13
14	Journal Of Management (Sage)	"Do Humble....Outcomes" (Ou, Waldman, & Peterson, 2015)	49	10.96
15	Learning Organization (Emerald)	"Learning organizational....performance" (Kerry-Krause & DeSimone, 2019)	3	2.37

JCS2018: Jounal Cite Score 2018

Leading Countries, Collaboration, and Institutions

This segment enlightens in terms of the organizational ambidexterity publication yield of numerous countries and institutions on a global perspective. Figure 3. Panel a. broadly manifests the global organizational ambidexterity research output, and highlights some countries having more output (in a darker colour) compared to the rest (in light colours). Countries belonging from the contents of America, Asia, Australia, and Europe are involved in the aforementioned research domain currently.

Figure 3. Panel b. exhibits the total publications versus single country publications in organizational ambidexterity. Besides, it highlights the network strength capability of each country. In terms of total publications, the United States leads all countries by a total of 92 publications in organizational ambidexterity, followed by the United Kingdom with 62 and China in the third place having 40 publications.

On the other hand, in terms of single country publications, Brazil tops the list by having 75% of publications locally and the rest 25% via collaborations. Spain is in the second position, producing 67.7% publications locally, whereas Taiwan produces 66.7% publications locally and the rest 33.3% through collaborations. It is interesting to observe that Canada and Norway are the two unique countries in the world producing most of its publications (91.7 %), and (90.9 %) respectively through its network collaboration strength rather than indigenously as seen in the rest of the countries. Besides, Italy produces 50% of its organizational ambidexterity research locally and the rest 50% with collaboration with other countries.

Figure 3. Panel c. presents the leading institution of the country for publication in the organizational ambidexterity domain. Based on which, Rotterdam School of Management has the highest number of publications (8) in the Netherlands. Furthermore, three countries have 7 publications each by their topmost universities of the above-mentioned domain, including Warwick Business School from the United Kingdom, University of Turin from Italy, and the University of Valencia and the University of Alicante from Spain respectively. Moreover, the University of Connecticut has 6 publications in the organizational ambidexterity domain, which is highest in the United States, which tops the list of the number of organizational ambidexterity articles (92) on a country level.

Figure 3. Panel a: Most productive countries in publication

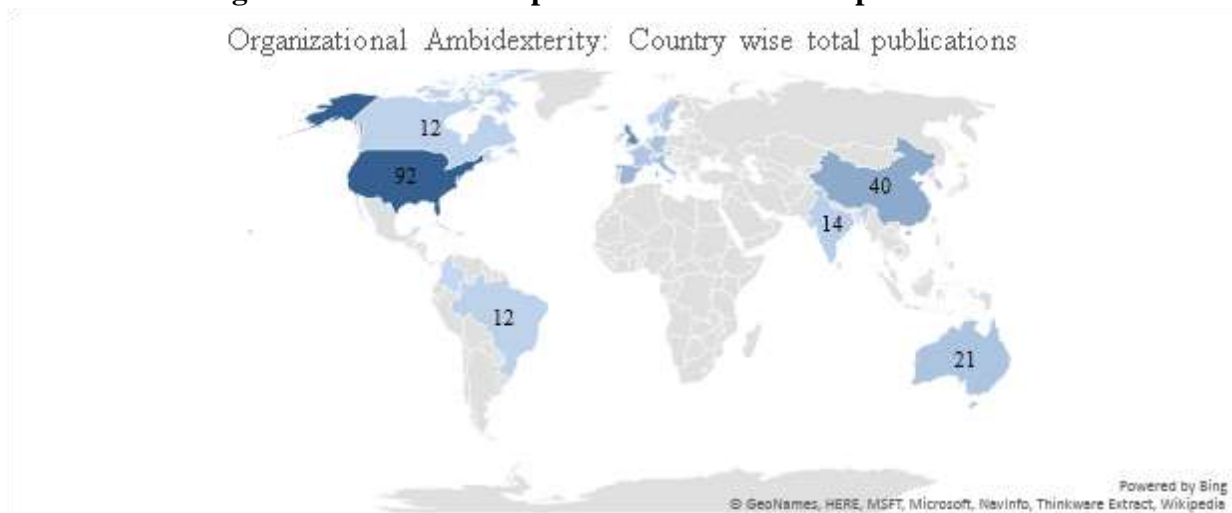


Figure 3. Panel b: Organizational Ambidexterity publication country and network strength

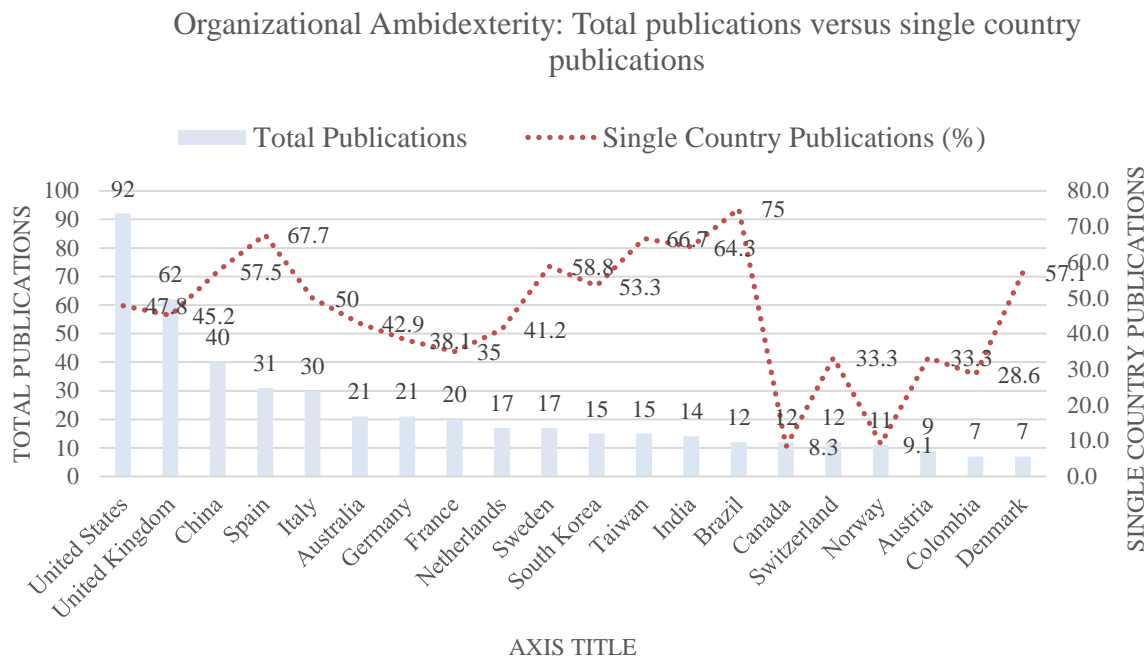


Figure 3. Panel c: Organizational Ambidexterity - country wise most productive institution

Rank - Country	Most productive Institution	Total Publication
1 - United States	University of Connecticut	6
2 - United Kingdom	Warwick Business School	7
3 - China	Xi'an Jiaotong University	4
4 - Spain	University of Valencia, and University of Alicante	7,7
5 - Italy	University of Turin	7
6 - Australia	University of Newcastle, and RMIT University	3,3
7 - Germany	University of Siegen, University of Göttingen	2,2
8 - France	KEDGE Business School	2
9 - Netherlands	Rotterdam School of Management	8
10 - Sweden	Lulea University of Technology	4
11 - South Korea	Hongik University, and Sogang University	2,2
12 - Taiwan	National Dong Hwa University	4
13 - India	IIM Lucknow	3
14 - Brazil	Federal University of Parana	3
15 - Canada	Wilfrid Laurier University	3
16 - Switzerland	University of Geneva	4
17 - Norway	Norwegian School of Management	4
18 - Austria	Johannes Kepler University	5
19 - Colombia	University del Norte	2
20 - Denmark	Copenhagen Business School	2

Distinguished Authors

The notable and famous authors in the domain of organizational ambidexterity are tabulated in Table 2, which is chiefly dominated by authors from the European, Asian, and American countries. According to which, the top authors can be from multiple perspectives, such as the number of published papers, or the number of cites, or the h-index. Upon examining the top three slots based on the number of documents produced, J.J.P. Jansen from the Netherlands emerges as the top author in organizational ambidexterity with 7 publications, followed by M.L. Tushman from the United States (6 publications), B. Marco-Lajara, and M. Ubeda-Garcia both from Spain having 6 publications each, and H.W. Volberda from the Netherlands with 6 publications.

Table 2 : Top published authors -Organizational Ambidexterity

No	Author (Scopus ID)	Documents, (First published)	Cites, (h- index)	Present affiliation	Country
1	Jansen, J.J.P. (12244592100)	7, (2006a)	2113, (18)	Erasmus University Rotterdam	Netherlands
2	Volberda, H.W. (6701307964)	6, (2006c)	2139, (43)	University of Amsterdam	Netherlands
3	Tushman, M.L. (6602681606)	6, (1996a)	3716, (40)	Harvard Business School, Boston	United States
4	Marco-Lajara, B. (55496694500)	6, (2016c)	42, (11)	University of Alicante	Spain
5	Úbeda-García, M. (55578413500)	6, (2016b)	42, (11)	University of Alicante	Spain
6	Claver-Cortés, E. (14048052100)	5, (2016b)	30, (25)	University of Alicante	Spain
7	Birkinshaw, J. (7003272873)	4, (2004b)	3032, (49)	London Business School, London	United Kingdom
8	O'Reilly, C.A. (7005911757)	4, (1996b)	2782, (41)	Stanford University, Palo Alto	United States
9	Simsek, Z. (6603090088)	4, (2009a)	767, (25)	Clemson University, Clemson	United States
10	Nosella, A. (8296511700)	4, (2012c)	127, (15)	Università degli Studi di Padova	Italy
11	Li, C.R. (24503574100)	4, (2008a)	123, (11)	Jilin University, Changchun	China
12	Chang, Y.Y. (56029090200)	4, (2015a)	61, (11)	National Taiwan University of Science and Technology	Taiwan
13	Fu, N. (55248932300)	4, (2015a)	45, (10)	Trinity Business School, Dublin	United Kingdom
14	Smith, S.M. (56069453200)	4, (2015c)	41, (5)	University of Winchester	United Kingdom
15	Stokes, P. (8151664500)	4, (2015a)	39, (10)	De Montfort University, Leicester	United Kingdom

a=Primary author, b=Co-author, c=Last author.

Upon looking at the number of cites, the top three positions in organizational ambidexterity belong to M.L. Tushman from the United States (3716 citations), J. Birkinshaw from the United Kingdom (3032 cites), and C.A. O'Reilly from the United States with 2782 cites respectively. Finally, examining the authors h-index, which indicates the productiveness and influentialness of the researcher, the top three authors according to Table 2 are, J.Birkinshaw from the United Kingdom having an h-index of 49, followed by H.W. Volberda of the Netherlands having an h-index of 43, and on the third position in the list is C.A. O'Reilly of the United States with an h-index of 41 respectively.

Overall, it is interesting to observe that the top 15 authors list is dominated mostly by the authors from the European countries such as the United Kingdom (4 authors), Spain (3 authors), Netherlands (2 authors), Italy (1 author) and the rest by the United States (3 authors), China (1 author), and Taiwan (1 author) respectively as listed in Table 2.

Keywords by Authors

The current bibliometric map of co-occurrence of author keywords employs a total of 1031 keywords, out of which 1002 (97.2%) were used for once, 148 keywords (14.4%) are used twice, 60 keywords (5.8%) for thrice, 39 (3.8%) for four times. Subsequently, the re-labelling of related keywords was conducted utilising the thesaurus repository presented to the VOS viewer software, thus yielding in 24 final keywords as manifested in Figure 4.

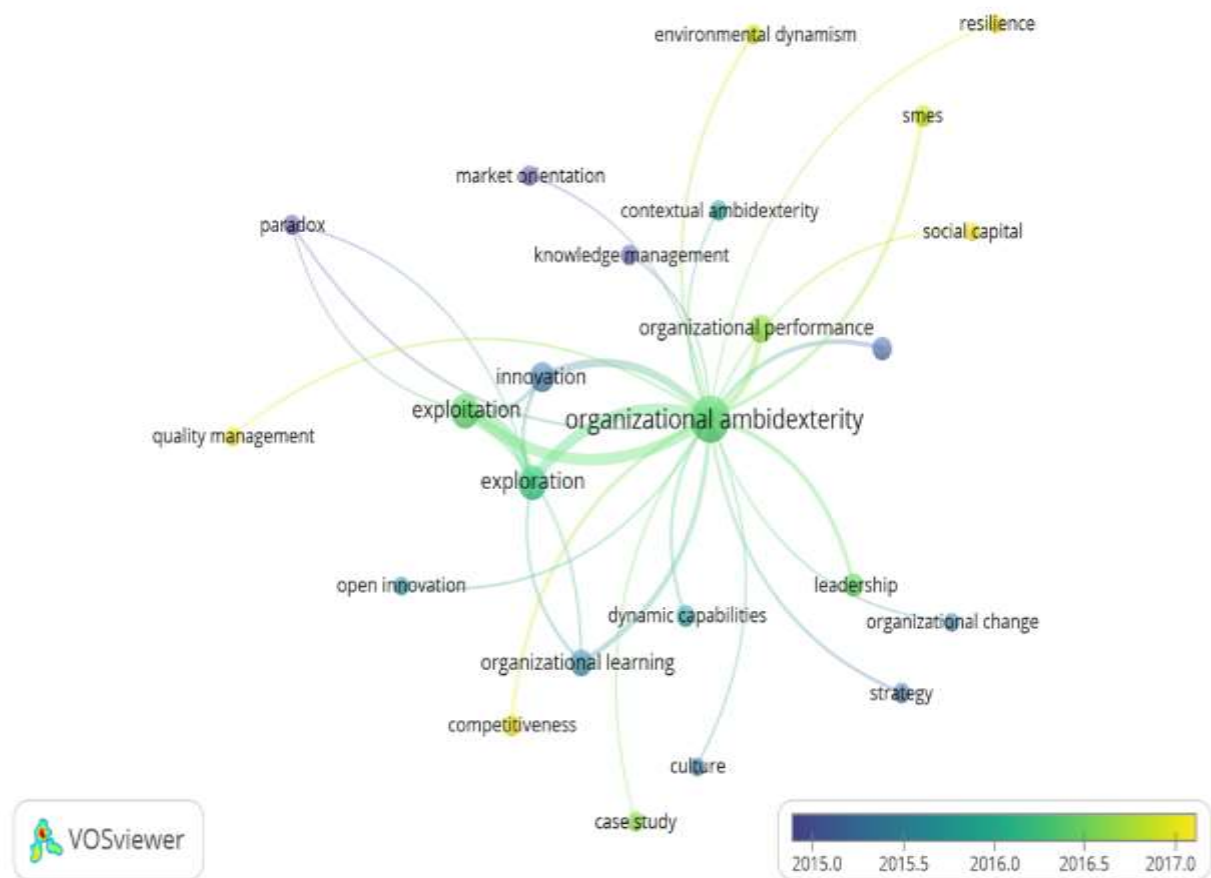
Concept and Terms

The current section outlines the outcomes of the author keywords provided in the previous section. The results, based on Figure 4, reveal that organizational ambidexterity is the most regularly practised keyword having a total of 267 occurrences and with a total of 310 connections to different keywords. Furthermore, the keywords of exploration and exploitation are the generally associated keywords having 71 and 69 occurrences each, including a total of 175 and 171 links to different keywords individually.

Figure 4. reveals a sum of twenty-four items separated into seven groups known as a cluster in the VOS viewer software, and is available in its items tab. The primary group is the largest possessing six pieces such as organizational ambidexterity (267 occurrences), the top management team (13 occurrences), SMEs (11 occurrences), environmental dynamism (7 occurrences), social capital (6 occurrences), resilience (5 occurrences). The following cluster contains five items such as organizational learning (25 occurrences), dynamic capabilities (11 occurrences), competitiveness (10 occurrences), case study (9 occurrences), and culture (5 occurrences).

The third group is composed of items like innovation (38 occurrences), organizational performance (30 occurrences), contextual ambidexterity (8 occurrences), knowledge management (7 occurrences), and market orientation (7 occurrences). In the fourth group, only three items are present namely exploration (71 occurrences), exploitation (69 occurrences), and paradox (7 occurrences). The fifth cluster also contains three items like leadership (15 occurrences), strategy (9 occurrences), and organizational change (5 occurrences). The sixth and seventh cluster have one item each, which is open innovation (5 occurrences) and quality management (5 occurrences) respectively.

Figure.4. Author keywords co-occurrence bibliometric map in VOSviewer software based on overlay visualization



To summarize the facets presented in Figure 4., we present the top five items on the basis of occurrence and link strength. The top items in terms of occurrences are organizational ambidexterity (267 occurrences), exploration (71 occurrences), exploitation (69 occurrences), innovation (38 occurrences), and organizational performance (30 occurrences). On the basis of the link strength, organizational ambidexterity has the highest number of links to other items (310 links), followed by exploration (175 links), exploitation (171 links), innovation (75 links), and organizational performance having a total of 48 links to other items respectively.

Major Types and Themes

Organizational ambidexterity, as per Table 4, has emerged as an essential ability to master the need to balance both the short and long term goals of the organization in dynamic environments (6 links, 7 occurrences). It has emerged as an equally important dynamic capability (11 links, 11 occurrences) for both large as well as small and medium-sized organizations (9 links, 11 occurrences) in the current scenario. Based on Figure 4., organizational ambidexterity is mostly associated with the exploration and exploitation done by the organization.

Exploration involves newness, whereas exploitation deals with the sameness in terms of processes, markets, products and services, skill sets, resources, and tools. Organizational

ambidexterity, according to Figure 4., deals mostly with organizational learning (11 links, 25 occurrences), innovation (16 links, 38 occurrences), and results in organizational performance (14 links, 30 occurrences).

It is also linked with leadership (10 links, 15 occurrences) and top management teams (9 links, 13 occurrences) who are instrumental in designing the right strategy (6 links, 9 occurrences), for competitiveness (6 links, 10 occurrences), and build appropriate cultures (7 links, 5 occurrences) to achieve organizational ambidexterity (23 links, 267 occurrences), known as the contextual ambidexterity (6 links, 8 occurrences).

There are other ways to achieve organizational ambidexterity, such as through structure segregation, in which the organization is divided into two separate structures, each having a separate set of resources and are responsible for the desired yield like exploration or exploitation oriented outcomes. This kind of solution works well with large organizations with ample resources mostly and might be difficult for small and medium-sized enterprises (SMEs)(9 links, 11 occurrences).

For SMEs, contextual ambidexterity (6 links, 8 occurrences) works well, which provides a balance among exploration (19 links, 71 occurrences) and exploitation (19 links, 69 occurrences) related needs of the organization. Such balance is achieved via a carefully designed environmental context where employee behaviours are managed via carefully designed systems and processes by the top management (9 links, 13 occurrences) or the leadership (10 links, 15 occurrences).

Leadership is also instrumental in quality management (4 links, 5 occurrences) to handle such paradox (4 links, 7 occurrences) of exploration and exploitation associated with organizational ambidexterity. The organizational ambidexterity can be linked with the market orientation (6 links, 7 occurrences), resilience (2 links, 5 occurrences), and social capital (4 links, 6 occurrences) of the organization.

Having said that, extant empirical studies amply discuss the large organizational studies and have less attention towards the SMEs, which are a major contributor in any national and local economy. More attention and empirical research are needed for SMEs, especially how they manage organizational ambidexterity. Furthermore, there is current research inclination, commencing 2017 onwards, towards the organizational ambidexterity antecedents and outcomes such as the environmental dynamism (7 occurrences, 6 links), resilience (5 occurrences, 2 links), social capital (6 occurrences, 4 links), competitiveness (10 occurrences, 6 links), and quality management (5 occurrences, 4 links). There is a gap in empirical studies in such areas, which needs to be filled in future, especially concerning SMEs.

Current Limitations

This research has various deficiencies which can be addressed in future studies. First and the most important one could be the combination and incorporation of additional data reservoirs to include articles on the organizational ambidexterity field, such as the Web of Science database for overall coverage. Such wide coverage may support more comprehensive coverage and insights for the organizational ambidexterity realm. Secondly, this will help in compare and contrast available gaps in those databases for a possible extension for prospective studies.

Conclusion

This bibliometric review gives a summary of organizational ambidexterity studies from 393 journal articles published in the Scopus database from the year 1996-2019. This examination presents an upward momentum from 2012 onwards. This study highlights the United States, the United Kingdom, and China are the top three countries in terms of organizational ambidexterity publications. Rotterdam School of Management from the Netherlands emerges as the global leading institution in the organizational ambidexterity domain in terms of the number of publications. In single country publication, Brazil tops the list, followed by Spain and Taiwan. Canada and Norway are top countries who conducted most of their organizational ambidexterity research through collaboration. Countries who lag behind in organizational ambidexterity can collaborate with such countries in future. The top positions in terms of the number of cites in organizational ambidexterity belong to M.L. Tushman from the United States, J. Birkinshaw from the United Kingdom, and C.A. O'Reilly from the United States. On the basis of the number of documents produced, J.J.P. Jansen from the Netherlands emerges as the top author in organizational ambidexterity. There is a gap in empirical studies in such areas, which needs to be filled in future, especially concerning SMEs.

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Appendix - Thesaurus File

Panel -A (Labels Used in Articles)	Panel -B (Updated Labels)
organisational ambidexterity	organizational ambidexterity
exploration/exploitation	organizational ambidexterity
exploration and exploitation	organizational ambidexterity
ambidextrous organisation	organizational ambidexterity
ambidextrous organization	organizational ambidexterity
ambidextrous organizations	organizational ambidexterity
ambidexterity	organizational ambidexterity
simultaneous pursuit	organizational ambidexterity
ambidextrous capability	organizational ambidexterity
contradictory goal	organizational ambidexterity
firm performance	organizational performance
npd performance	organizational performance
new product development perf	organizational performance
new product development	organizational performance
performance	organizational performance
organisational performance	organizational performance
sme	smes
smes	smes
medium sized enterprise	smes
family firm	smes
university	organization
top management teams	top management team
tmt	top management team
tmts	top management team
ambidextrous learning	organizational learning
absorptive capacity	organizational learning
scenario planning	strategy
hpws	high performance work system
high performance work system	high performance work system
hr practice	human resource management
hrm practice	human resource practices
hrm	human resource practices
leader	Leadership
ceo	Leadership
leadership	Leadership
ambidextrous leadership	Leadership
transformational leadership	Leadership
dynamic environment	environmental dynamism
dynamic	environmental dynamism
change	environmental dynamism
complexity	environmental dynamism
uncertainty	environmental dynamism
environmental dynamism	environmental dynamism
employee	human capital
human resource	human capital
human capital	human capital
individual	human capital
exploitation activity	exploitation

Thesaurus - continued**Panel-A (Labels Used in Articles)**

incremental innovation
exploitative innovation
exploratory
exploratory innovation
disruptive innovation
effectuation
consequence
causation
advantage
competitive advantage

Panel -B (Updated Labels)

exploitation
exploitation
exploration
exploration
exploration
outcome
outcome
antecedent
competitiveness
competitiveness
