

TRENDS IN BUSINESS STRATEGY RESEARCH, BIBLIOMETRIC ANALYSIS AND TEXT MINING

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Abstract. This study aims to contribute to the systematisation of knowledge in the field of business strategies and analyse its trends. An initial dataset of 884 articles was extracted from the WoS and Scopus databases based on keywords. This dataset was reduced to 430 articles by detailed reading and processed through bibliometric analysis and text mining. The bibliometric analysis confirmed an increasing number of articles, unbalanced contributions of individual journals, and unbalanced citation rates by articles and authors. Textmining analysis showed the dominance of Porter's generic strategies and Miles and Snow's typology of strategies. The results show that the theory of business strategy is not subject to trends and has not yet been significantly affected by changes in real business, thus creating opportunities for future research. This study addresses the gap in the comprehensive review of trends in business strategy development.

Keywords: literature review, business strategy, competitive strategy, business-level strategy, bibliometric analysis, text mining.

JEL Classification: M10.

Introduction

Business strategy is widely discussed in the academic field and is one of the most frequently occurring strategic management topics (e.g. White et al., 2016). When limited to the area of management, the keyword “business strategy” is indexed in several hundred papers per year – even solely in the scientific journals included in the Web of Sciences (WoS) and Scopus databases. However, even though many influential scientists have engaged in developing this topic to date (e.g. Ansoff, 1969; Hill, 1988; Miles & Snow, 1978; D. Miller, 1988; Porter, 1980, 1985), there is still no consensus in terms of terminology or the meaning of basic theoretical concepts.

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Authors usually consider strategy as a general concept, which can be divided into corporate and business level (e.g. Rothaermel, 2021). The business-level strategy is focused on transforming the objectives of a specific business unit into concrete strategies to gain a competitive advantage and thereby address the question “How to compete?” This entails actively creating a distinction between an organisation’s strategic position and its competitors (Hill et al., 2017; Porter, 1985). The business strategy is connected to many perspectives, approaches, tools, and models, e.g. Ansoff Matrix, Bartlett and Ghoshal’s Matrix, Business Model Canvas, OLI Paradigm, Porter’s Generic Strategies, Profit Tree, SWOT Analysis, Value Chain Analysis, Value Disciplines, VRIO Framework and these are based on various theoretical frameworks, views and theories, e.g. Industrial Organisation (IO), Resource-Based View (RBV), Reconstructionist View (RV), Institutional Theory, the Knowledge-Based View, etc. However, our study does not analyse the tools but the business strategies formulated based on profit-maximizing and competition-based theory where the business organisation’s main objective is to develop a sustainable competitive advantage.

Previous studies in the field of strategy identified several research streams and trends. For example, White et al. (2016) used bibliometric analysis to identify the following streams – the Institutional Theory, the RBV, Organisational Learning Theory, Social Network Theory, and the Knowledge-Based View. Hutzschenreuter and Israel (2009) presented the literature review focused on the dynamics of competitive strategy concerning its antecedents and outcomes. Some of the existing reviews and conceptual papers following business strategy development have attempted to integrate the existing models (e.g. Dhliwayo, 2014; Zollo et al., 2018). Zollo et al. (2018) analysed the possibility of integrating business, growth, and stakeholder strategy theories into strategic management and Dhliwayo (2014) and Galbreath et al. (2020) showed how a business strategy could be integrated with entrepreneurship to enhance company competitiveness. An overview of the research of organisational configurations was conducted by Short et al. (2008) but it was not primarily focused on business strategies and did not reflect the other theoretical frameworks, such as the RBV and RV. However, most studies analyse or employ only one approach separately (e.g. Parnell, 2006; Zahra & Pearce, 1990), and a study focused on the overall review of journal articles devoted to the business strategy was not found.

We perceive a research gap in a comprehensive review of trends in business strategy publications concerning journal focus, author contribution, keywords, study type, and methods in relation to approach. This literature review contributes to the systematisation of knowledge in the field of business strategies and their trends. We use bibliometric and text mining analyses to assess the trends in the development of business strategy and trends in the use of theory in empirical studies. Our goal is to answer the following research questions:

1. What is the overall trend of interest in business strategies and what is the contribution of individual countries, major journals, and authors?
2. What are the most influential concepts of business strategies and what types of research have been published in this area up to the end of 2019?
3. Can we observe a new influential concept or approach to a business strategy induced by changes in real business?

The paper is structured as follows. First, the theoretical frameworks underlying business strategies and the rationale for keyword selection are briefly discussed. Second, the meth-

odology for a systematic literature review and bibliometric analysis is introduced. Third, the results are presented and finally, the main contributions to the existing knowledge in the field of business strategies are presented.

1. Theoretical background

This literature review aims to analyse trends in publications dedicated to business strategy. The basic task is to identify suitable keywords that will be used to find relevant sources; therefore, the following paragraphs briefly introduce the main frameworks connected to business strategy.

The business strategy concepts are based on a wide stream of competitive ideas that reflects the diversity of industries, environments and people, and the tension between the internal and external environment (Ghemawat, 2002; Guerras-Martín et al., 2014). The academic literature also offers other terms for business strategy (Ghemawat, 2002; Miles & Snow, 1978), e.g. business-level strategy (Hill et al., 2017; Miles & Snow, 1978) and competitive strategy (Porter, 1980; Zollo et al., 2018). Therefore, these terms represent the first set of keywords.

Regarding the studies mentioned in the introduction, there is no unified terminology in strategic management theories. A brief investigation of the concepts associated with strategies, such as strategic management theory, strategic management approach, strategic management framework, strategic management tool, strategic planning model, frameworks for strategic management, and strategic management perspective revealed that they often overlap. For example, some authors perceive the RBV as a perspective or theory (e.g. Barney, 2001) while others perceive it as an approach (e.g. Bressan et al., 2016) and as a framework (e.g. Habbershon & Williams, 1999). IO is also used as a view, approach, perspective, or framework. However, all these perspectives are closely related to business strategy, competitiveness, and competitive advantage, which we perceive as a connection point for the above-mentioned views (perspectives), and are, therefore, another source of keywords.

Competitive advantage can be considered as the cornerstone and its essence is that the organisation does something better or differently than its competitors (Barney, 1991; Porter, 1980, 1985). In the search for competitive advantage, the IO stream formulates strategy based on the external environment (e.g. Ghemawat, 2002; Guerras-Martín et al., 2014) using the Configuration Theory based on complex interdependencies across the environment (Dess et al., 1993). Among the most influential authors based on the IO are Miles and Snow (1978) with their adaptive cycle and strategic typology (Analysers, Prospectors, Defenders, and Reactors) and Michael E. Porter (1980) with his Generic Strategies (Low-cost, Differentiation, and Focus strategies). Therefore, this stream is another source of keywords.

In contrast, the RBV represents a view based on a wide analysis of resources and their ability to contribute to a sustainable competitive advantage in the market position (e.g. Barney, 2001; Madhok & Marques, 2014). When employing the RBV, managers formulate a strategy or competitive position to make the best use of internal resources and core competencies to transform the external environment (Guerras-Martín et al., 2014; Prahalad & Hamel, 1990). The scope of the RBV includes both a detailed analysis of resources, which from the point of view of our article we do not consider as a business strategy per se, as well

as the subsequent formulation of a strategy or competitive position, which represent another source of keywords.

The RV is a reaction to hyper-competition. This view is connected to the industry boundaries shifting or finding new market spaces (Kim & Mauborgne, 2005; Madhok & Marques, 2014). The Blue Ocean Strategy (BOS) is based on rethinking the interaction between a product and a customer by redefining the value curve and building new value chains (Kim & Mauborgne, 2005) and, therefore, rightfully belongs among the keywords.

Our study works with all these main research streams and reflects position-based, possession-based, and action-based business strategy perspectives (Madhok & Marques, 2014). All the concepts mentioned above are reflected in keywords development and the systematic literature review methodology. However, in the main text, we use the unified term business strategy.

2. Methods

A literature review was chosen as the basic method to understand the essence of the researched area (Hart, 1998). Given the specifics of management and organisational studies, the revised principles of a systematic literature review published by Denyer and Tranfield (2009) were chosen. The advantage of the literature review lies in its inclusiveness, which includes all relevant studies and an explanatory and heuristic approach to the issue. As the main goal of this work is to map the focus, use, and trends in existing methodological approaches to business strategy, we employed the bibliometric analysis of the available articles supplemented by text mining analysis.

The analysis was conducted in five phases:

- Phase 1: Study design;
- Phase 2: Preliminary data collection;
- Phase 3: Final data selection;
- Phase 4: Descriptive bibliometric analysis;
- Phase 5: Network and content analysis.

In the first phase of the study, the online bibliographic databases were chosen. To obtain general knowledge, we included all articles on business strategy published in high-quality journals contained in the WoS Collection (SCI-EXPANDED, 1945–2019 and SSCI, 1977–2019) and Scopus (1960–2019). The appropriate selection of keywords is a basic prerequisite for obtaining an adequate database of articles. Based on the main aim of the study, we chose all collocation used for business strategy as keywords (Ghemawat, 2002; Hill et al., 2017; Zollo et al., 2018), namely: “business strateg*”, “business level strateg*” and “competitive strateg*”. In order not to omit studies focused only on part of a business strategy, we added attributes and phrases used by other key authors: Miles and Snow (1978), Porter (1980, 1985), Kim and Mauborgne (2005), and others. We added “generic strateg*”, “low-cost strateg*”, “differentiation strateg*”, “prospector*”, “strateg* position”, “strateg* choice*”, “strateg* typ*”, “resource-based view” and “blue ocean strateg*”. After adding another keyword, we proceeded to test responses in the form of the growth of the number of articles through WoS and Scopus. Adding additional keywords generated an ever smaller, followed by zero, increment of articles.

The second phase was the preliminary data collection. The search of the WoS and Scopus databases showed a total of 7,582 publications in WoS and 13,466 publications in Scopus that include at least one of the keywords when the selection was limited to journals and reviews in the field of Business and Management written in English before 2020. The assessment of the articles' abstracts obtained showed a remarkably high representation of articles completely outside the focus of our review, as most of the terms can be used at a very general level in other areas of science. We tightened the selection process by requiring the simultaneous presence of two of the keywords mentioned above. When applied, this method obtained 511 items in WoS and 557 in Scopus. The data is current as of the end of May 2020 and the oldest article was published in 1983. After merging both databases and filtering out duplicate articles, we obtained the resulting 884 articles, with 184 articles included in both databases.

Even after tightening the selection method, the dataset still included a significant number of articles from different spheres of science. Therefore, the authors simultaneously went through all 884 abstracts from the articles and, in the case of an ambiguous conclusion, checked the whole text and excluded articles not related to the selected area in the third phase of the study. The aim was to obtain only articles dealing with strategy development, implementation or evaluation at the business level. After the first reading, the mutual consensus was to reject 329 articles and accept 276. The remaining 279 articles were read repeatedly and after a final discussion, a total of 454 articles were rejected and 430 accepted. Most of the rejected articles focused on IT strategy, environmental strategy, human resource management strategy, or product positioning, without any connection to a business strategy. Similarly, we excluded articles where the RBV framework was only used as a resource analysis without any connection to a business strategy. The final number of articles for further analysis is therefore 430, and the structure of the data set is summarized in Table 1.

Table 1. Structure of the final data set

Description	Results
Documents	430
Sources (Journals, Books, etc.)	211
Keywords Plus (ID)	746
Author's Keywords (DE)	977
Period	1983–2019
Average citations per document	40.73
Authors	853
ARTICLE	405
REVIEW	25

The data set created in the third phase became the basis for phase four, the descriptive bibliometric analysis. The bibliometric analysis follows the quantitative aspects of bibliographic material (Broadus, 1987). This method is especially helpful when operating with many highly structuralised materials (Aria & Cuccurullo, 2017). To realise descriptive bibliometric analysis and network analysis (phase four and five), we employed “biblioshiny”, a

web-based interface of R-package (“bibliometrix 3.0”), and text mining based on the simultaneous reading of abstracts and in the case of ambiguous conclusion, checking the full text.

3. Results and discussion

3.1. Descriptive data analysis

Figure 1 shows the growing trend in the number of articles focused on business strategy published from 1984 to 2019. The growth is stable and indicates an unremitting interest of academics, which reflects the importance of the topic. Nevertheless, the increase in the number of articles needs to be analysed more in-depth. To analyse the evolution of publications, deeper insights in terms of country, journals, authors, citations, approaches, and keywords are used.

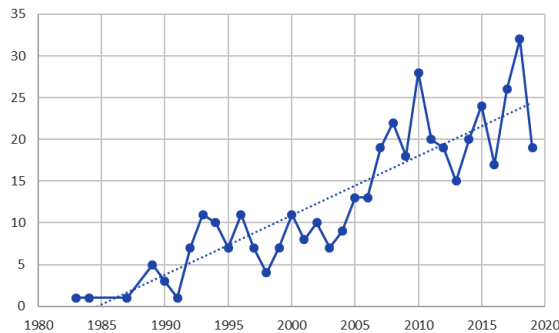


Figure 1. The number of articles published from 1984 to 2019

3.1.1. The most productive countries

The corresponding authors represent 51 countries, while 16 countries are represented only by one article. Considering all the authors' affiliations, the number of contributing countries reaches 55. Table 2 shows country productivity based on the corresponding author affiliation. The dominant role of the authors associated with science centers in the United States (US) is evident; their contribution exceeds one-third of all contributions. This influence is emphasised by the Single Country Publication (SCP) and Multiple Country Publication (MCP) ratio, which indicates that only 18% of these articles were written based on international cooperation. The second most influential area is the EU, but its distance from the US is significant, especially if we do not include the results of the United Kingdom (UK). The MCP ratio also shows the low level of the international cooperation of European authors including cooperation within the EU. The value of the SCP for the EU is calculated as the sum of the SCP for individual EU countries and, therefore, cooperation between authors from the EU member states is included in the MCP value. Less than one-quarter of the total number of articles is the result of international cooperation. The only exceptions are China with an MCP ratio of 0.65 and Portugal with 0.8 for countries with five or more articles. The contribution of Asian countries is similar to the contribution of EU countries without the UK, which shows

that Europe as a whole is the second most important region and Asia the third. Considering country productivity based on all the authors’ affiliation confirms the dominance of the US.

Table 2. The most productive countries based on the corresponding author affiliation

Country	Articles	Freq	Single country publication	Multiple country publication	MCP ratio
USA	149	0.347	122	27	0.18
EU without UK	91	0.212	71	20	0.22*
UNITED KINGDOM	33	0.077	26	7	0.21
CANADA	25	0.058	16	9	0.36
CHINA	23	0.053	8	15	0.65
SPAIN	19	0.044	17	2	0.11
AUSTRALIA	16	0.037	11	5	0.31
TAIWAN	15	0.035	13	2	0.13
MALAYSIA	13	0.030	10	3	0.23
GERMANY	10	0.023	7	3	0.30

Note: * Cooperation between authors of EU member states is included in the MCP.

3.1.2. Distribution of articles focused on business strategy across journals

The complete data set contains 211 journals (see Table 1). However, 134 of these are represented by a single article and 42 by two articles. This indicates a high concentration of articles in a limited number of influential journals. Table 3 shows eight journals that have

Table 3. Distribution of articles across journals (1983–2019); journals with six or more articles

Sources	No. of articles	Total citations	h-index	g-index	m-index	Publication year start
Strategic Management Journal	26	3516	22	26	0.58	1983
Journal of Business Research	21	947	17	21	0.63	1994
Management Decision	17	549	13	17	0.54	1997
Journal of Management	12	1056	12	12	0.39	1990
International Journal of Human Resource Management	10	288	8	10	0.40	2001
Industrial Marketing Management	7	242	7	7	0.37	2002
Journal of Small Business Management	7	434	7	7	0.28	1996
Journal of Strategy and Management	7	77	4	7	0.31	2008

published seven or more articles that follow business strategy, which represents 29% of all articles. More detailed information on the contribution of the articles gives the h-index, which is the number of articles in a journal [h] that have received at least [h] citations over a citation period. The g-index as an alternative index represents the largest number, such that the top g articles received together at least g^2 citations. The m-Index is the h-index divided by the number of years the journal has been active. The average increase in articles focusing on business strategy was around 1.4 articles per year. The data shows that there is no clear trend in the changing importance of any of the leading journals in business strategy topics.

3.1.3. The most influential authors

Business strategy has been analysed by many authors, but only some have made a real impact on development in this field. A total of 853 authors participated in the elaboration of the analysed articles (see Table 1). The contribution of individual authors in this number is uneven and the most productive authors who contributed to four or more papers are listed on the left side of Table 4. The right side of Table 4 lists the authors who contributed to 1.58 or more fractionalised articles. Given that the number of authors is almost double the number of articles, the fractional number of articles per author is significantly lower. For example, with 16 articles and 10.83 fractionalised articles, John Parnell is the most productive author. His contribution lies mainly in empirical studies analysing business strategies in different economies and industries employing Porter's strategies and Miles and Snow's typology. Nevertheless, productivity does not mean real impact, which can be tracked, for example, through the citation rate of an article, as shown in the following section. Looking at overall citation rate of authors, we see little correlation to the number of published articles.

Table 4. The most productive authors

Authors	Articles	Total citation	Authors-frac	Articles fractionalised
Parnell JA	16	442	Parnell JA	10.83
Olson EM	9	1147	Acquaah M	5
Slater SF	8	1120	Olson EM	3.42
Acquaah M	6	440	Slater SF	2.92
Hult GTM	5	748	Gokus O	2
Sharma RRK	5	55	Yang JT	2
Claver-Cortes E	4	168	Jusoh R	1.83
Chan YE	4	714	Zahra SA	1.67
Molina-Azorin JF	4	168	Hult GTM	1.58
Sabherwal R	4	636	Chan YE	1.58
Zahra SA	4	360	Sabherwal R	1.58

3.1.4. The most cited articles

The analysis of the articles in terms of the number of their citations per year corresponds to the situation at the end of May 2020. The first result is the distribution of citations, which shows a relatively limited number of influential articles. Table 5 shows 16 articles cited 15 times per year or more, representing the most influential articles in the data set. The second result is that all these articles are included in both the WoS and Scopus, and neither database provides significantly better results in this respect. There are 101 articles with fewer citations per year than 0.5; three of them are included in the WoS database, 29 in both databases, and 69 in the Scopus database. This supports the presumption that the most influential articles are published in journals indexed in both databases, but it may also suggest that the Scopus database contains a larger number of less important articles.

Table 5. The most cited articles based on Total Citations (TC) and Total Citations per Year (C/Y)

Authors	Title	Source	TC	C/Y
Olson E. M.; Slater S. F.; Hult G. T. M.	The performance implications of fit among business strategy, marketing organization structure, and strategic behavior	Journal of Marketing	439	29.3
Spanos Y. E.; Lioukas S.	An examination into the causal logic of rent generation: contrasting Porters competitive strategy framework and the resource-based perspective	Strategic Management Journal	469	24.7
Acquaah M.	Managerial social capital, strategic orientation, and organizational performance in an emerging economy	Strategic Management Journal	320	24.6
Lechner C.; Gudmundsson S. V.	Entrepreneurial orientation, firm strategy and small firm performance	International Small Business Journal-Re-searching Entrepreneurship	143	23.8
Aragon-Correa J. A.	Strategic proactivity and firm approach to the natural environment	Academy of Management Journal	511	23.2
Sabherwal R.; Chan Y. E.	Alignment between business and is strategies: a study of prospectors, analyzers, and defenders	Information Systems Research	423	22.3
Miller J.G.; Roth A.V.	A taxonomy of manufacturing strategies	Management Science	570	21.9
Aulakh P. S.; Kotabe M.; Teegeen H.	Export strategies and performance of firms from emerging economies: evidence from Brazil, Chile, and Mexico	Academy of Management Journal	403	20.2
Vorhies D. W.; Morgan N. A.	A configuration theory assessment of marketing organization fit with business strategy and its relationship with marketing performance	Journal of Marketing	336	19.8
Danso A.; Adomako S.; Amankwah A. J.; Owusu A. S.; Konadu R.	Environmental sustainability orientation, competitive strategy and financial performance	Business Strategy and the Environment	19	19.0

End of Table 5

Authors	Title	Source	TC	C/Y
Liu W. P.; Atuahene-Gima K.	Enhancing product innovation performance in a dysfunctional competitive environment: the roles of competitive strategies and market-based assets	Industrial Marketing Management	34	17.0
Hallgren M.; Olhager J.	Lean and agile manufacturing: external and internal drivers and performance outcomes	International Journal of Operations & Production Management	185	16.8
Santos-Vijade M. I.; Lopez-Sanchez J. A.; Trespalacios J. A.	How organizational learning affects a firm's flexibility, competitive strategy, and performance	Journal of Business Research	130	16.3
Matsuno K.; Mentzer J. T.	The effects of strategy type on the market orientation-performance relationship	Journal of Marketing	304	15.2
Vorhies D. W.; Morgan R. E.; Autry C. W.	Product-market strategy and the marketing capabilities of the firm: impact on market effectiveness and cash flow performance	Strategic Management Journal	167	15.2
Li J. J.; Zhou K. Z.; Shao A. T.	Competitive position, managerial ties, and profitability of foreign firms in China: an interactive perspective	Journal of International Business Studies	166	15.1

Figure 2 combines the productivity of the most productive authors (see Table 4) with their contribution over time. The dot in the picture represents one article; the circle represents two articles within a year. The dark colour of the dot and circle refers to the higher total citations of the article per year.

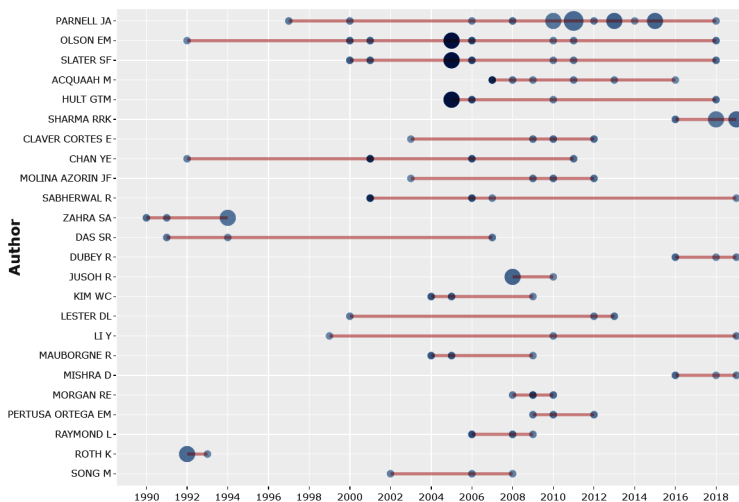


Figure 2. Top Author Productivity over the Time

3.2. Content analysis

3.2.1. Intellectual structure

Table 6 shows the most influential references. Interestingly, a large number of these are not included in our dataset. This is because our database does not include books and also because it was only in the late 20th century that it became standard practice for high-quality journals to be indexed in WoS or Scopus. The first three most frequently cited documents are books by Miles and Snow (1978) and Porter (1980, 1985), which indicate the most influential ideas. The first group of sources is intellectually influenced by Miles and Snow's typology when Hambrick (1983) tested the effectiveness of strategic typologies in different environments, Conant et al. (1990) propose a new, multi-item scale for operationalizing Miles and Snow's typology and Snow and Hrebiniak (1980) and DeSarbo et al. (2005) examine the relationships between organizational strategy, distinctive competence, and performance. Shortell and Zajac (1990) assess the reliability and validity of Miles and Snow's typology and McDaniel and Kolari (1987) relate the typology to the field of marketing strategy.

Table 6. The most influential resource references

Cited references	Citations
Miles, R.E., Snow, C.C., 1978, Organizational Strategy, Structure, and Process	135
Porter M.E., 1980, Competitive Strategy	107
Porter M.E., 1985, Competitive Advantage	101
Dess G.G., 1984, Acad Manage J, Doi 10.2307/256040	85
Barney J., 1991, J Manage, Doi 10.1177/014920639101700108	76
Hambrick D.C., 1983, Acad Manage J, Doi 10.2307/256132	56
Conant J.S., 1990, Strategic Manage J, Doi 10.1002/Smj.4250110504	50
Miller D., 1988, Acad Manage J, Doi 10.2307/256549	46
Snow C.C., 1980, Admin Sci Quart, Doi 10.2307/2392457	46
Hill C.W.L., 1988, Acad Manage Rev, Doi 10.2307/258088	45
Shortell S.M., 1990, Acad Manage J, Doi 10.2307/256292	43
Armstrong J.S., 1977, J Marketing Res, Doi 10.2307/3150783	41
Fornell C., 1981, J Marketing Res, Doi 10.2307/3151312	41
Murray A.I., 1988, Acad Manage Rev, Doi 10.2307/258087	41
Desarbo W.S., 2005, Strategic Manage J, Doi 10.1002/Smj.431	37
Wernerfelt B., 1984, Strategic Manage J, Doi 10.1002/Smj.4250050207	37
McDaniel S.W., 1987, J Marketing, Doi 10.2307/1251245	36
Podsakoff P.M., 2003, J Appl Psychol, Doi 10.1037/0021-9010.88.5.879	35
Nunnally J., 1978, Psychometric Theory	34
Spanos Y.E., 2004, Strategic Manage J, Doi 10.1002/Smj.369	33

The second group is represented by Dess and Davis's (1984) empirical study, which employs Porter's (1980) generic strategies when categorising firms within an industry into stra-

tegic groups. Miller (1988) investigated the relationships between Porter's business strategies and company structures and environments. Hill (1988) and Murray (1988) employed the contingency theory view and their insight into the strategic typologies of Porter's generic strategies and Spanos et al. (2004) used modified Porter's typology in an empirical study.

The third group of the most influential resources is represented by Barney (1991) and Wernerfelt (1984) and represents an RBV of a company. The last group of resources is focused on psychometry, data collection, and processing problematics (Armstrong & Overton, 1977; Fornell & Larcker, 1981; Nunnally, 1978; Podsakoff et al., 2003).

Figure 3 illustrates the co-citation network of the most influential sources. It shows co-cited documents as nodes, the frequency of co-citation as weighted edges, and the shapes and colours of the nodes indicate the two main communities in this case. The graph illustrates the network in the case of three or more co-citations although the shape of the communities remained stable for a range of 2 to 15 co-citations.

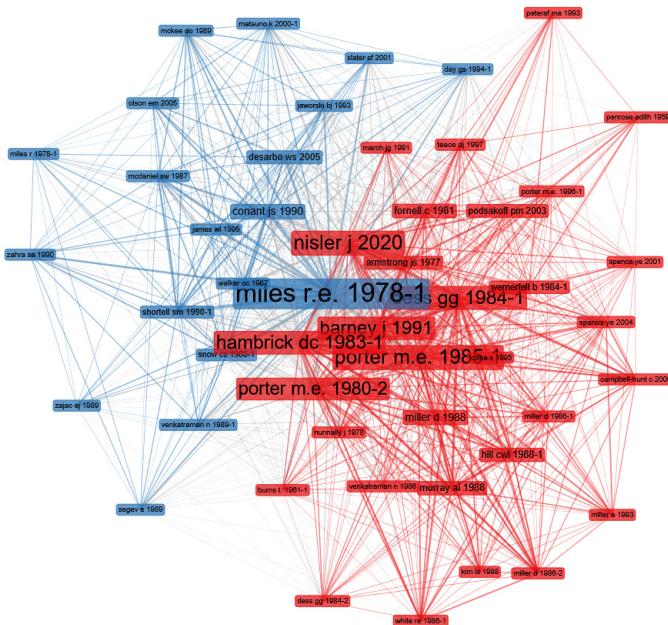


Figure 3. Co-citation network bases on the most influential sources. The number of nodes is limited to 50 with edges trimmed to frequencies of three or more co-citations

The co-occurrence analysis in Figure 4 shows the connection between the most influential authors and the most preferred references as an intellectual base of the articles and subsequently between the authors and keywords plus, which refer to the most frequent words in the titles serving as a source. Keywords plus are words or collocations automatically derived from the words frequently appearing in the titles of sources cited by the author of the article. The result confirms the dominance of the concepts of Miles and Snow (1978) and Porter (1980, 1985) in the business strategy literature.

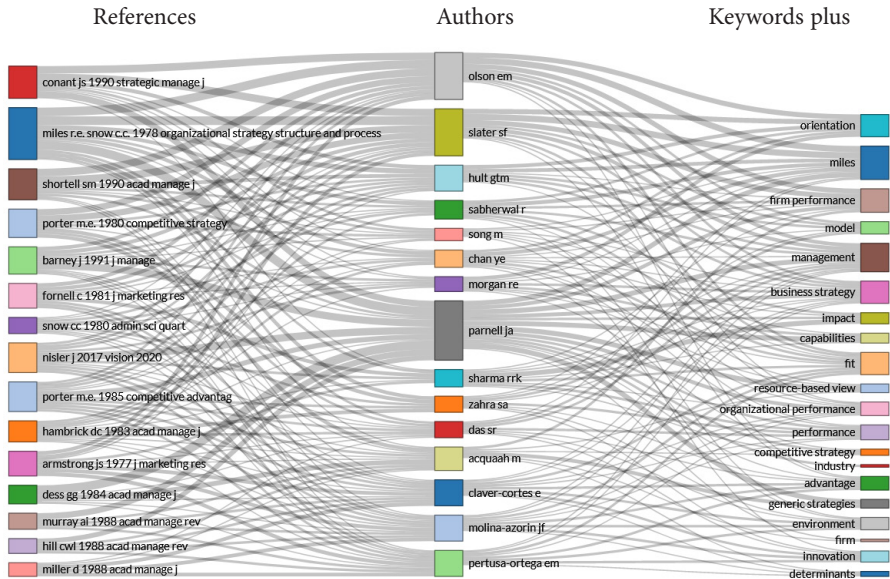


Figure 4. The co-occurrence of authors, references and keywords plus.
 The number of items is limited to 15 for references and authors and 20 for keywords plus.

3.2.2. Keyword occurrence analysis

Table 7 shows the comparison of the occurrence of the most frequent authors’ keywords and keywords plus in the analysed documents. The author’s keywords represent the most important topics included in the article from the author’s point of view. Because the keywords plus are automatically derived from the names of the sources cited by the author of the article, they are defined indirectly and indicate the main intellectual underpinnings forming the author’s background. The most frequent keywords, “competitive strategy” and “business strategy”, reflect the aim of the initial choice of our dataset. On the other hand, the third most frequent author’s keyword and the most frequent keyword plus “performance” together

Table 7. Keyword occurrence analysis

Keywords Plus	Occurrences	Author’s Keywords	Occurrences
performance	78	competitive strategy	69
management	55	business strategy	64
firm performance	52	performance	38
business strategy	48	strategy	34
Miles	46	blue ocean strategy	26
organizational performance	44	China	15
generic strategies	37	competitive advantage	13
environment	36	organizational performance	12

with the third most frequent keyword plus P“firm performance” and the sixth “organizational performance” show a strong bond between the business strategy and its economic logic.

The list of keywords helps to find the proper article but does not show the use of the business strategy terminology. For example, Michael Porter uses the term competitive strategy whereas Miles and Snow use business or business-level strategy. Table 8 depicts an analysis of the articles in terms of the frequency of the terminology used during the time. The table shows that none of these terms significantly dominates and there is no apparent trend indicating an increase in the importance of any of them compared to the others.

Table 8. Use of terminology during the time, Competitive Strategy (CS), Business Strategy (BS), Business Level Strategy (BLS) and their combinations

Publication year	CS	BS	BLS	BS/BLS	CS/BLS	CS/BS	CS/BS/BLS	unused	Total
1983–1990	4	2		2		2	1		11
1991–2000	33	23	1		1	9	3	6	76
2001–2010	54	54	1	2		25	4	8	148
2011–2019	60	85	1	2		37	3	7	195
Total	151	164	3	6	1	73	11	21	430

3.2.3. Article content analysis

Based on the simultaneous reading of the abstracts and in the case of an ambiguous conclusion, then by checking the full text, we identified the basic parameters of all the articles analysed. Table 9 shows the theoretical frameworks that the authors follow and the methodological focus of the article. Most articles represent some form of empirical study, and the vast majority use quantitative methods. Almost half the articles are based on generic strategies defined by Porter (1980, 1985), and more than a quarter use the typology of strategies by Miles and Snow (1978). Only 5.1% of articles follow other theoretical frameworks than one of the three most popular, and 6.1% of articles combine three or more different approaches, which indicates the occurrence of at least one

Table 9. Methodological approach and the theoretical background of articles

The structure of the article dataset	Case study	Empirical study	Conceptual framework	Literature review	Others	Theoretical background
Porter, 1980, 1985	13	161	31	1	1	207
Miles & Snow, 1978	8	99	3	3	2	115
Combination of Porter and Miles & Snow	0	14	2	0	0	16
Kim & Mauborgne, 2004	18	8	11	3	2	42
Combination of three or more schools	2	15	7	4	0	28
Other theories	2	12	7	1	0	22
Total	43	309	61	12	5	430

approach over the three most popular. In the case of Porter’s generic strategies, the vast majority of articles, nearly 78%, is represented by empirical studies. The use of Miles and Snows’ typology has a similar result with the empirical studies accounting for nearly 87%. The conceptual frameworks account for only 2.6% in the case of the articles that use Miles and Snows’ typology and 15% in the case of Porter’s generic strategies. On the other hand, in the case of BOS, the most frequent form of article is the case study with nearly 43%, followed by conceptual studies.

Figure 5 shows the regular growth in the number of empirical studies published each year, whereas the number of annually published case studies and conceptual frameworks has remained relatively stable over the last 35 years.

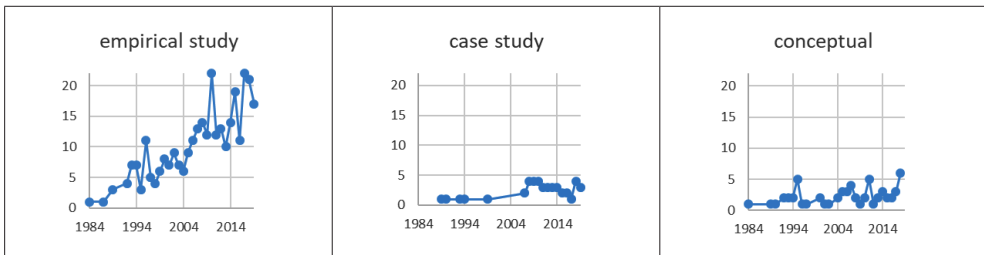


Figure 5. Number of articles published annually according to the methodological approach used

Figure 6 shows the regular growth in the number of articles based on the three most used theoretical frameworks. The numbers of articles published annually show a consistently higher proportion of articles employing or developing Porter’s generic strategies and the later onset of the BOS.

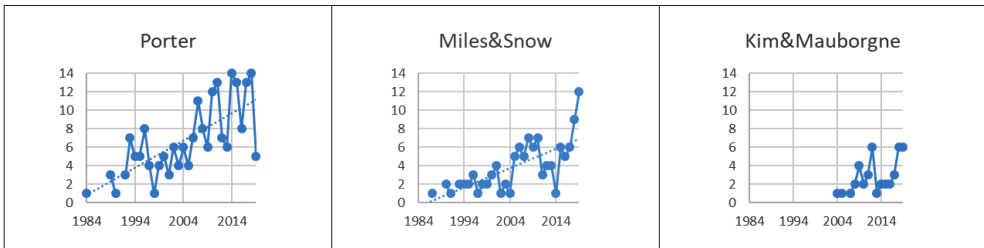


Figure 6. Number of articles published annually according to the theoretical background used

The dominance of the two most frequent theories is emphasized by their influence. In a group of articles that reached fourteen or more citations per year (see Table 5), eleven articles employing Porter’s generic strategies and seven employing Miles and Snow’s typology can be found. The only exception to this dominance is an article by Miller and Roth (1994) with original taxonomy of manufacturing strategies and one article that discusses more theoretical frameworks, including the three mentioned. When examining articles with at least ten citations per year, once again the most frequent are articles that employ or discuss Porter’s generic strategies followed by nine articles on Miles and Snow’s typology. There is only one article devoted to BOS, one article using a combination of three or more schools, and the above article with Miles’ typology.

Based on the content analysis, it is possible to identify the influence of technological changes on a business strategy. Steelman et al. (2019) illustrate the ability of new technological capabilities to moderate the relationship between a competitive strategy and performance in the case of Miles and Snows' typology and similarly Ruiz-Ortega (2010) and Suoniemi et al. (2020) in the case of the RBV and Porter's generic strategies. Santos-Vijande, Lopez-Sanchez, and Trespalacios (2012), using Porter's generic strategies, illustrate how an organization's ability to learn affects a firm's flexibility and performance. E. Kim, Nam, and Stimpert (2004) claim in their analysis that Porter's generic strategies are still applicable, whereas Gould and Desjardins (2015) incorporated the dimension of complexity alongside the original dimensions of "type of advantage" and "target market" to Porter's generic strategies. Ghezzi (2013) discusses the importance of the business model, the value network, and resource management analysis as a useful tool in the case of radical discontinuity while Christodoulou and Langley (2020) and Kulkarni and Sivaraman (2020) offer the BOS as a useful tool to address such new opportunities. These examples illustrate the influence of technological changes on strategy. However, they do not represent a new approach to strategic thinking and focus mainly on the use of knowledge and learning to more effectively formulate and implement strategy (Senge, 2006), or a deeper interconnection of IT with business strategy development and implementation (Drnevich & Croson, 2013), such as digital strategy.

Conclusions

This review examined the state of the art in business strategy employing bibliometric analysis. The results that indicate a growing interest in strategic management are in line with previous research.

The first finding, following the first question, is the ever-increasing number of articles published annually (see Figure 1), which confirms the unceasing interest of academics. The results show the high concentration of articles in a limited number of influential journals. All the most influential journals are indexed in both WoS and Scopus databases. A similar result is given by the analysis of the most cited articles. All 34 articles with 10 or more citations per year were published in journals indexed in both databases. The result indicates that it is not necessary to analyse both databases for a brief overview and each database provides the most important articles on business strategy. However, a detailed audit of the occurrence of articles in both the WoS and Scopus databases showed that the search engines of one or the other database found only some of the articles indexed in both databases, even though the same keyword structure was used.

The structure of the corresponding author affiliation shows the dominant role of authors associated with scientific centers in the US, which reached 149 articles and is more than one-third of the overall production. The second most influential country is the UK with 33 articles. The contribution of the EU is important when summing up the contribution of all member states. However, the result of 91 articles, if excluding the UK, shows a considerable distance between the EU and the US and the UK's leading position in Europe on this issue. The comparison of the total number of all author affiliations shows a relatively low level of

international cooperation when less than a quarter of the total number of articles is the result of international cooperation.

Content analysis following the second question confirmed the dominance of Porter's generic strategies and Miles and Snow's business strategies typology followed by Kim and Mauborgne's BOS. The articles employing, verifying or modifying Porter's generic strategies and Miles and Snow's typology represent three-quarters of all the articles, and this dominance is emphasized by their impact. The vast majority of the articles that reached at least ten citations per year are based on Porter's generic strategies and Miles and Snow's typology. The content analysis also exposed the dominance of empirical studies in the existing articles, which is obvious in the case of the total number of articles and is valid for all observed theoretical frameworks except for the BOS.

The content analysis also enabled us to capture the influence of quick changes in technology on the business strategy followed by the third question. We identified the stress on the interconnection of IT and business strategy development and implementation, the growing importance of hybrid strategies, and the sustainability of competitiveness in hypercompetitive environments, but these contributions did not go beyond existing strategic concepts. This is in line with the results of the content analysis, which did not find a new influential approach to business strategy per se. This result raises the questions of whether changes in the economy are significant enough to demand a new solution, whether the BOS can fulfil this role and whether the changes do not weaken the applicability of contemporary frameworks. Even from a formal point of view, the terminology used in this field does not show any new influential trend or stream. Nor is there any connection of terminology to the year of publication, journals, the authors, or the country of the corresponding author. The authors use the terms competitive, business, and business-level strategy simultaneously, and no specific rules for the use of that terminology were noted.

The main practical contribution of this review is that although more than forty years have passed since the development of Miles & Snow's typology and Porter's generic strategies, both approaches remain the most influential concepts. Despite a careful review of academic articles, no new ground-breaking approach to defining a business strategy comparable to these two methods has been found. This contribution also poses a challenge to the academic community. The rapid development of technology and changes at the level of the structure of entire economies create such a dynamic environment that the creation of a new business strategy concept is considered highly likely. If only because business strategy is an important instrument influencing the competitiveness of a company and directly impacting all stakeholders.

The credibility of the results is limited by potential bias in the selection of keywords and the subjective choice of the final dataset based on the article content analysis, even though the authors conducted the content analysis independently and resolved disputed items by consensus. Another limitation is the scope of resources, which was limited to journal articles published before the end of 2019 and available in the WoS and Scopus databases.

Future work should focus on a more in-depth analysis of the theoretical frameworks used, business strategy typology, and its connection to the keywords. However, we consider the question of the need for a new approach to business strategy caused by the development of the economic environment to be the biggest challenge to further research.

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Author contributions

JD and ST conceived the study and were responsible for the design and development of the data analysis. All authors were responsible for data collection and analysis. JD and ST were responsible for data interpretation. JD wrote the first draft of the article.

Disclosure statement

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