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Ambidextrous Organization: Literature Review

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ABSTRACT

Among the current concepts suggested for managers to deal with turbulence and multidimensionality in the business climate, organizational ambidexterity is listed. It seems to be quite enticing but difficult to incorporate the idea of incorporating both evolutionary and innovative organizational changes. While it has been widely debated for more than twenty years in management-related literature, it has not been extensively explored and is still an important subject for further research. The purpose of the paper is to examine the contribution of literature to the advancement of the idea of ambidextrous organization and recognize the major problems and trends in research production. The research method aims to address the following questions: (1) What are the main contributions of literature in the field to the concept's development? (2) What are the key topics of study and developments in the field? The applied methodology is a systematic literature survey. For the sampling process, the Scopus database is used as a source. The analysis highlights the following main areas of research interest in the field: (1) ambidexterity and ambidextrous conceptualization of organizations, (2) context of organizational management (including managers) where these assumptions are embedded and studied, (3) innovations, processes of organizational learning and creativity, and (4) aspects of strategic management.

Keywords: Ambidextrous Organization; Ambidexterity, Literature Review,

INTRODUCTION

Today, change is considered to be the only constant in contemporary-rare management. Organizations are expected to follow the paradigm of change and implement both reactive and anticipatory changes. Tushman (1999) has pointed out, "the idea of organizational ambidexterity has been attracted by researchers for two decades and must remain successful for long term periods and managers and organizations, both in terms of incremental and revolutionary changes." The idea of organizational ambidexterity was popularized in the 1990s. The conceptual literature has not yet been revised systematically. The search for the combination of the phrases "ambidextrous organization" and "systematic literature review" in the titles, abstracts and keywords of the publications indexed in the Scopus database contains only one

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item (Alcaide-Muñoz & Gutierrez-Gutierrez, 2017). The literature search focuses on the relationship between Six Sigma and organizational ambidexterity. Consequently, a systematic review of the literature of studies on an ambidextrous organization's concept appears to be a valuable contribution to filling the research gap in the field.

The aim of the paper is to analyze the contribution of literature to the development of the concept of ambidextrous organization and to identify key issues and trends in research output. The research process is geared towards responding to the following questions: (1) What are the key contributions of literature in the field to the development of the concept? (2) What are the key research topics and trends in this field?

THE IDEA OF ORGANIZATIONAL AMBIDEXTERITY

As Raisch and Birkinshaw (2008) observed, "[while Duncan (1976) was the first to use the term organizational ambidexterity, it is the landmark article of March (1991) that has often been cited as the catalyst for the current interest in the concept." March postulated that organizations need both exploitation and exploration to make their organizational learning processes effective. The idea of organizational ambidexterity, which enables organizations to be creative and adaptable while running their businesses using a traditional, proven method, is built into combining and balancing exploration and exploration processes (O'Reilly 3rd & Tushman, 2004).

In recent years, scholars' widespread attention on the idea of organizational ambidexterity has led to an accumulation of knowledge. The literature review by Raisch and Birkinshaw (2008) highlights five research streams and contexts that focus on organizational learning, technological innovation, organizational adjustment, strategic management, and organizational design. Moreover, these authors developed an overview that describes the variety of research perspectives, and literature approaches to identify intra-organizational histories of ambidexterity (i.e., structure, context, and leadership), its external determinants (environmental dynamism and competitive dynamics). Raisch et al. (2009) talked about "central tension in the literature relating to organizational ambidexterity." First of all, the focus is on the separation or integration of exploitation and exploration processes in organizational units. The second major question is whether ambidexterity takes place at the level of the organization or the individual. The third voltage concerns a static or dynamic approach to ambidexterity analysis. Finally, the difference lies in the internal or external approach to organizational exploitation and exploration processes.

Similarly, in the organizational studies of ambidexterity, Zakrzewska-Bielawska (2016, 2017) identifies different sizes and analysis levels. Firstly, sequential and simultaneous ambidexterity are distinguished. Secondly, both organizational and individual ambidexterity can be considered. Thirdly, organizations can achieve the capacity to manage processes of exploitation and exploration through structural ambidexterity, contextual ambidexterity or ambidexterity leadership. Ambidextrous organizations are capable of managing paradoxes and at the same time achieving goals that appear to be diverging or conflicting, like short-term survival and long-term growth, incremental and radical innovations, or competition versus cooperation, etc. (Denhardt & Denhardt, 2015; Luo & Rui, 2009; Zakrzewska-Bielawska, 2016). Never without ambidexterity, which is considered to be an intra-organizational capacity, will require changes and adaptations. Besides, we use the operating definition that describes

both incremental and discontinuous innovation and changes resulting from multiple contradictory organizations, processes, and cultures within the same firm. "Besides, we use both the operational definition describing ambidextrous organizations as those that have integrated efficiency, consistency (Tushman, 1999).

METHOD

As Webster & Watson (2002) highlighted, "[a] review of previous, relevant literature is an essential feature of any scholarly project." A practical review creates a firm foundation for knowledge advancement. It facilitates the development of theory, closes areas where there is a plethora of research, and uncovers areas where research is needed. The systematic literature review methodology was used to achieve the paper's objective, i.e., to analyze the contribution of literature to the concept and identify the key research output issues and trends. "A systematic, explicit, [comprehensive (p. 17)] and reproducible method for identifying the existing body of completed and recorded work produced by researchers, scholars, and practitioners is defined as "systematic, explicit, [comprehensive (p. 17)] and reproducible (Fink, 2019; Okoli & Schabram, 2010).

Contrary to the traditional narrative literature review, using a systematic literature review ensures scientific research rigor (Wojciech Czakon, 2014; Orłowska et al., 2017). The systematic review of literature is determined by a research question and characterized by an unambiguous research sampling. Its objective is to identify and evaluate relevant research works and analyze their contents (Orłowska et al., 2017). The sampling of research is a crucial feature of systematic literature review, as observed by W Czakon (2011). There are three steps in the research sampling process: selecting databases, searching for keywords to identify bibliometric records used as data for further analysis, and 'clearing' the sample, i.e., excluding records that are not relevant for analysis.

Three stages consisted of the research process. To design the research process and the paper structure, the work of Lis (2017) was used as a benchmark. Following Lis (2017) a benchmark, the research area was mapped with the use of the keyword analysis technique. Secondly, to point out the key contributions they made to the field, the abstracts of the publications were analyzed. Third, to study the idea of organizational ambidexterity and identify key research topics and trends in the field, the analysis of full texts was applied.

Publications including the phrase 'ambidextrous organization' in their titles have been retrieved from the following databases in order to select the research sample: Scopus (Sco), Web of Science Core Collection (WoS), Business Source Complete (BSC), JSTOR, Science Direct (SciDir), EconLit and CAIRN. The sampling process was carried out in two stages: stage 1 was limited to documents obtained as of 17 December 2017 from the Scopus database. Stage 2 included all remaining databases and was completed on 04 March 2018. To identify the most relevant pieces of work, the search was restricted to article titles. The truncation technique (searching for the phrase "ambidextrous organization") was applied to incorporate publications using both English spelling standards into the research sample (i.e., British and American English). If the search engine was unable to truncate the service, both spelling standards (i.e., "ambidextrous organization" and "ambidextrous organization") were queried. Research and conference papers were limited to the sample, while interviews, as well as book reviews and introduction, were excluded.

Forty-two pub licenses indexed in Scopus (35 items), Web of Science (7), Business Source Complete (25), JSTOR (1), and Science Direct have been identified as a result of the sampling process (1). There were no relevant records found in the databases of EconLit and CAIRN. One of the papers (Jansen, 2008) was removed from the sample as a result of its unavailability. Finally, 41 papers published between 1996 and 2017 were part of the 'Main Sample.' In recent years, the majority of research productivity within the sample has been observed. Since 2010, two-thirds of the papers have been published.

The study sample shows bias towards 36 papers in English, which is the language. All the remaining works were written in Chinese (1), Spanish (3), French (1), and (1). The dominance of the qualitative approach is observed regarding research methodology. In total, 26 case studies or papers presenting companies' experiences in organizational ambidexterity comprise the sample. The majority (12) are case studies of European companies from France, Germany, Austria, Sweden, and Italy. The cases of American (7) and Asian (6) ambidextrous organizations are studied in other papers. Seven publications follow literature reviews discussing theoretical approaches to the problem of ambidexterity. The quantitative research results based on conducted surveys, interviews, or model testing are presented in only eight papers.

Since ambidextrous organizations have been discussed in different examples in the reviewed literature, it is quite difficult to point out an industry that benefits most from this notion. However, knowing that innovation-inclusive exploration of the future is as essential as the company's ability to successfully exploit the present, it may suggest that companies in the technology-based industries are most likely to adapt to an ambidextrous organization's theory. The other examples of industries presented in the reviewed publications include the automotive industry, electric industry, manufacturing, food and nutrition industry, telecommunications, banking sector, mechanical industry, chemical and pharmaceutical, and media.

The bulk of the main sample (35 items, 83%) is produced by publications indexed in the Scopus database that we have labeled "Scopus Title Sample" and used to analyze keywords. On 17 December 2017, the sampling of the Scopus title was completed. We extended the scope search covering papers, including the phrase "ambidextrous organi? due to the limited size of the samples based on search in paper titles." Ation' in their titles, abstracts and keywords. To validate the findings from keyword analysis based on Scopus Title Sample, the results of the query, labeled as 'Scopus Topic Sample' have been applied. On 4 March 2018, the Scopus Topic sampling was conducted.

RESULT AND DISCUSSION

The next step in the study was to analyze abstracts and complete publication texts, which confirmed vital areas of research and trends in the ambidextrous organizational literature, identified by analyzing keywords. In Table 1, the results of this part of the investigation are presented.

Table 1. The key research areas on the idea of an ambidextrous organization

No.	Publications	Key research areas
110.	Tubilcutions	acy research areas

No.	Publications	Key research areas
	Tushman (1999)	
	Wang & Jiang (2009)	
	López Zapata et al. (2012)	
	Raisch et al. (2012)	Conceptualization of ambidexterity and
1.	Chebbi et al. (2015)	ambidextrous organization
	Güttel et al. (2015)	
	Maier (2015)	
	Agostini et al. (2016)	
	Fernández-Pérez de la Lastra et al. (2017)	
	Pabón et al., (2017)	
	Tushman & O'Reilly III (1996)	
	Tushman (1999)	
	Nobelius (2003)	
	O'Reilly III & Tushman (2004)	
	Martinich (2005)	
	Mahmoud-Jouini et al. (2007)	
	Markides & Chu (2008)	
	Güttel & Konlechner (2009)	
_	Devins & Kähr (2010)	
2.	Dover & Dierk (2010)	Organizational management
	Cao & Zhang (2011)	
	Tahar et al. (2011)	
	Durisin & Todorova (2012)	
	Leybourne & Sainter (2012)	
	Agostini et al. (2014)	
	Chen & Kannan-Narasimhan (2015)	
	Maier (2015)	
	Frederick (2015)	
	Agostini et al. (2016) Sinha (2016)	
	· · · · · · · · · · · · · · · · · · ·	
	Parmentier & Picq (2016) Simon & Tellier (2008)	
	Mirow et al. (2008)	
	Jiang & Kortmann (2014)	
3.	Weng (2016)	Innovation
٥.	Nayak & Bhatnagar (2016)	Illiovation
	Agostini et al. (2017)	
	Mora Pabón (2017)	
	Van Looy et al. (2005)	
	Tay & Lusch (2007)	
4.	Bicen (2007)	Strategic management
	Sarkees et al. (2010)	Stategie management
	Campanella et al. (2020)	
	Vorbach et al. (2016)	
	v 010acii ci ai. (2010)	

Source: own study.

The first of the research areas identified refers to the conceptualization of ambidexterity and ambidextrous organization. The following approaches can be distinguished from the eleven pub

licenses included in it: the explanation of the idea of ambidextrous organization and the importance of organizational ambidexterity, ambidexterity as a multi-level structure and the introduction of ambidextrous organization models. In analyzed papers, the ambidextrous organizational idea and significance of organizational ambidexterity is explained mainly by discussing various cases of businesses where innovations are essential for competitive advantages, such as electronic technology (Tushman & O'Reilly III, 1999) or, for example, packaging, pharmaceuticals and telecoms industries (Maier, 2015). However, theoretical considerations leading to the formulation of a stipulative definition with established criteria allowing future research improvements can also be found in the first category (Mora Pabón et al., 2017).

Three papers represent this with regard to the multilevel approach to organizational ambidexterity by paying attention to the role played by individual and team ambidexterity capabilities in achieving the balance between exploration and exploitation. Using case study analysis, Wang and Jiang (2009) and Güttel et al. (2015) show that becoming an ambidextrous organization requires focusing not only on the whole business's perspective but also on an organization's lower levels, i.e., managers, teams and individual staff. In their proposal of a multilevel theoretical model of building ambidextrous organizations through intellectual capital, Fernández-Pérez de la Lastra et al. (2017) presents the extension of this point of view. This paper links the multilevel strategy to the next noticeable common topic, introducing an ambidextrous organization's models. In addition to the model mentioned above (Fernández-Pérez de la Lastra et al., 2017), the ambidextrous organization has four different integrative models. Using comparative analysis of qualitative data collected in semi-structured interviews, reflects the complex interaction between dimensions of the structural and behavioral context (Raisch et al., 2012). Based on literature analysis, the second of the proposed models presents the integration of an organization's various aspects that affect ambidexterity and provides the beginning for further research (López Zapata et al., 2012). The third, based on quantitative methods, shows that an ambidextrous organization, represented as a higher-order construct according to the second-order theoretical model, positively impacts innovation (Agostini et al., 2016). Whereas the fourth, known as the Provisional Evolutionary Model for Multiunit Ambidextrous Organizations (Chebbi et al., 2015), comprehensively reflect internal and external components and determinants of the transformation process theoretical and empirical research. Therefore, the most frequently cited publications on ambidexterity and the conceptualization of ambidextrous organizations include explaining an idea and its significance, the description of ambidexterity as a multilevel construct and the introduction of ambidextrous organizational models.

The second and largest category of key research topics, organic management, includes publications that seem to make a significant contribution to both knowledges of an ambidextrous organization and business practice. In combining opposing activities, researchers explain how to achieve success: exploitation and exploration to promote innovation. Based on different cases, most of them provide practical recommendations for managers to apply and maintain ambidextrous processes balanced by innovation and effectiveness (e.g., Tushman & O'Reilly III, 1996; Cao & Zhang, 2011; Maier, 2015; Sinha, 2016). Tahar, Niemeyer, and Bouteiller (2011) believe, for example, that public institutions such as universities may be ambidextrous organizations because they need to find a balance between creativity and efficiency. Meanwhile, Frederick (2015) shows how to become an ambidextrous organization in

seniors' housing business. In small videogame companies, as the representatives of SMEs in the creative industries, Parmentier and Picq (2016) investigate organizational ambidexterity management. The importance of managers' abilities to guide the creation of ambidextrous organizations is highlighted by O'Reilly III and Tushman (2004), Martinich (2005), Dover and Dierk (2010) and Maier (2015).

The majority of publications include structural ambidexterity in this research field, focusing on the separation from the rest of organizational business units to create discontinuous innovation (Tushman & O'Reilly III, 1999; Nobelius, 2003; Mahmoud-Jouini et al., 2007; Devins & Kähr, 2010; Chen & Kannan-Narasimhan, 2015). Others reflect a contextual ambidexterity approach that emphasizes behavioral and social aspects that allow exploration and exploitation to be combined at one organizational level (Leybourne & Sainter 2012; Parmentier & Picq, 2016). However, papers that combine structural and contextual approaches can also be discovered (Markides & Chu, 2009; Güttel & Konlechner, 2009; Durisin & Todorova, 2012; Agostini et al., 2014; Agostini et al., 2016). In summary, the case study methodology dominates the set of papers focusing on organizational management to explore, understand, and recommend some successful elements of management processes aimed at becoming an ambidextrous organization.

"Innovation" is the next distinguished key research area, where authors have applied a barrier approach to innovations to link them to various forms of organizational ambidexterity (Mirow et al., 2008) or explore social networks as a source of a creative idea (Simon & Tellier, 2008) as well as the source of ambidexterity in the technological field (Weng, 2016). Besides, the role of dynamic capabilities (Jiang & Kortmann, 2014; Mora Pabón, 2017) or knowledge exploration and exploitation (Agostini et al., 2017) or innovation processes are discussed in several papers. However, one study found a link between HR practices based on commitment and knowledge creation in ambidextrous organizations (Nayak & Bhatnagar, 2016). Innovation is, thus, the subject of a variety of research approaches.

"Strategic management" is the last of the key research areas identified. In this field, exciting research can be found comparing the performance of focused and ambidextrous oriented companies (Van Looy et al., 2005), but also the voice in the discussion on solving the paradox of exploration and exploitation from the point of view of strategic and marketing management (Bicen, 2007). Besides, researchers examine the connections between an ambidextrous organization and certain other aspects, such as technology strategy (Vorbach et al., 2016), business performance in the banking sector (Campanella et al., 2016). They analyze the role played in an ambidextrous approach and firm financial and non-financial performance by implementing the marketing functional strategy (Sarkees et al., 2010); or they even test various competitive strategies in an ambidextrous organization's virtual market (Tay & Lusch, 2007).

CONCLUSION

Making attempts to identify the key study topics and trends observed in research output related to an ambidextrous organization's concept, we have analyzed keywords and the contents of quality publications indexed in the Scopus database. The analysis points out the following main areas of research interest in the field: (1) ambidexterity and ambidextrous organization conceptualization, (2) organizational management context (including managers) where these assumptions are embedded and studied, (3) innovations, organizational learning processes and creativity, and (4) strategic management aspects.

While analyzing and interpreting the findings, the limitations of the research process should be made explicit. First of all, the methodology is limited to the systematic literature survey, while the quality and comprehensive mapping of the research field requires triangulation of research methods, e.g., through descriptive bibliometric studies or co-citation analysis. Secondly, the research sampling process was confined to the Scopus database, which is naturally biased towards papers written in English while neglecting valuable publications in other languages. Thirdly, some aspects of analysis, e.g., clustering keywords, are flawed with a high subjectivity level. Therefore, the gaps above should be filled in further studies.

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