



The status quo of research on entrepreneurial orientation: Conversational landmarks and theoretical scaffolding

William J. Wales^a, Sascha Kraus^{b,*}, Matthias Filser^{c,d}, Christoph Stöckmann^e, Jeffrey G. Covin^f

^a University at Albany, SUNY, School of Business, Department of Management, Albany, United States

^b Free University of Bozen-Bolzano, Faculty of Economics & Management, Bolzano, Italy

^c ZHAW Zürich University of Applied Sciences, School of Management and Law, Winterthur, Switzerland

^d LUT University, School of Business and Management, Lappeenranta, Finland

^e Seeburg Castle University, Department of Management, Seeburgstraße 8, 5201 Seekirchen am Wallersee, Salzburg, Austria

^f Indiana University, Kelley School of Business, 1275 East Tenth Street, Bloomington, IN 47405-1703, USA

ARTICLE INFO

Keywords:

Entrepreneurial orientation
Bibliometrics
Citation analysis
Content analysis

ABSTRACT

This research aims to gain a deeper appreciation of where the entrepreneurial orientation (EO) conversation has gained momentum based upon an analysis of its key conversational landmarks and the studies which have thus far provided its principal theoretical scaffolding. Drawing upon a bibliometric analysis of 62,499 citations from all 822 publications on EO existing so far, thereby building the most comprehensive overview of EO studies collected to date, we are able to identify which studies, journals, and disciplines have offered critical landmarks within the conversation. Moreover, we categorize these influential landmark studies into four primary areas, namely “Defining pieces”, “Methods and measurement”, “Contingencies”, and “Impact”, and discuss how prominent landmarks within the EO conversation have created the current theoretical scaffolding upon which EO research is now building. Notably, our study observes Schumpeter (1934) theory of entrepreneurship and innovation as ‘creative destruction’ as well as Barney (1991) resource-based view (RBV) as landmarks within EO’s present theoretical scaffolding.

1. Introduction

Entrepreneurial orientation (EO) characterizes an organizational orientation towards new entry and value creation, capturing the entrepreneurial decisions, methods, and actions actors use to create competitive advantage (e.g., Covin & Slevin, 1989; Lumpkin & Dess, 1996). EO as an organizational attribute was initially introduced into the scholarly conversation based on the realization that organizations, like individuals, could “be entrepreneurial” (Covin & Wales, 2019). Looking back at a history of almost five decades of research, EO has become one of the most studied research areas in the entrepreneurship literature (Ferreira, Fernandes, & Kraus, 2019), and has expanded into areas including internationalization (e.g., Covin & Miller, 2014; Semrau, Ambos, & Kraus, 2016), family businesses (e.g., Covin, Eggers, Kraus, Cheng, & Chang, 2016), public administration (e.g., Karyotakis & Moustakis, 2016), education (e.g., Ismail et al., 2015), and psychology (Palmer, Stöckmann, Niemand, Kraus, & Kailer, 2019), underscoring the

utility and relevance of EO for a range of scholarly questions. Despite this expanding literature, the theoretical mechanisms of EO and rationale through which EO influences firm performance have not been clearly or consistently specified (Covin & Wales, 2019; Miller, 2011; Wales, 2016; Wiklund & Shepherd, 2011).

Conceptually, the theoretical origins of EO are frequently traced to Mintzberg (1973) description of entrepreneurial organizations as dominated by the active search for new opportunities to make dramatic leaps forward in the face of uncertainty. A student of Mintzberg, Miller (1983) fleshed out the concept of EO as capturing “the entrepreneurial activity of the firm” in his seminal, subsequent landmark study known for its description of organizational EO along three dimensions: innovation, proactiveness, and risk-taking. Yet, it is often overlooked that Miller was inspired by contemporary and historical accounts of entrepreneurship such as Mintzberg (1973) and Schumpeter (1934) when settling on these characteristics (Miller, 2011), which are, as we argue, of great relevance to understanding and enhancing the current EO

* Corresponding author.

E-mail addresses: wwales@albany.edu (W.J. Wales), sascha.kraus@zfk.de (S. Kraus), matthias.filser@zhaw.ch (M. Filser), christoph.stoeckmann@uni-seeburg.at (C. Stöckmann), covin@indiana.edu (J.G. Covin).

<https://doi.org/10.1016/j.jbusres.2020.10.046>

Received 31 August 2020; Received in revised form 14 October 2020; Accepted 16 October 2020

Available online 29 October 2020

0148-2963/© 2020 The Authors.

Published by Elsevier Inc.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

conversation. The purpose of the current study is to identify the key pieces of theoretical and empirical research that are cited within the EO literature as a basis for understanding what writings have shaped the EO conversation. We pursue this purpose using bibliometric analysis which reveals temporal citation patterns and associated linkages among published works.

Specifically, our study of more than four decades of research exploring organizational EO offers several important contributions to the literature. First, by employing bibliometric analysis, we are able to clarify the theoretical foundations upon which EO research has been built within the literature. Given that frequently cited articles may indicate the field's core assumptions, their identification may help to clarify and theoretically ground EO research moving forward (Kuhn, 1962). Our research identifies Schumpeter's theory of entrepreneurship and innovation as 'creative destruction' as the critical foundation upon which EO has been built. This theoretical foundation is underscored within works conceptualizing innovation as the heart of EO (Covin & Miles, 1999; Covin & Wales, 2019; Wales, Gupta, Marino, & Shirokova, 2019).

Second, the dominant explanation of EO's contribution to firm performance has been based upon the resource-based view (RBV), as theorized by Barney (1991). Yet, the value of EO as a resource, per se, might be the biggest misconception that persists within the EO literature to date. That is, evidence suggests that EO may often function as a performance variance-enhancing, rather than, performance mean-enhancing phenomenon, suggesting that critical moderators are essential boundary conditions within the EO-performance relationship which enable firm's to experience a greater percentage of wins (vs. losses) (Wiklund & Shepherd, 2011). In any event, whether and when a firm's EO is performance mean and/or variance enhancing, our bibliometric analysis points to the centrality of resource-based rationales within EO-performance theorizing. This research contends that fitting RBV to EO for explaining firm performance is not as straightforward as past research has often led on.

Third, the maturity of EO research and the versatility of the EO concept has led to a disperse body of knowledge. Beyond identifying the key conversational landmarks upon which EO research has built, our bibliometric analysis offers four distinct topical areas which have predominantly occupied scholarly attention for more than 40 years of conversation. Our analysis reveals the critical scholarly works within each topic area, affording a unique vantage point from which to consider directions for future research and proceeding scholarly discussion.

2. Methodology

EO has notably been the subject of several past reviews (e.g., Wales, Gupta, & Mousa, 2013; Gupta & Gupta, 2015; Wales, 2016) and meta-analyses (e.g., Rauch, Wiklund, Lumpkin, & Frese, 2009; Saeed, You-safzai, & Engelen, 2014; Miao, Coombs, Qian, & Sirmon, 2017). Such studies have helped identify various concepts EO linked to as antecedent, mediator, moderator, or consequence, and theoretical perspectives on EO (e.g., Wales, 2016), as well as discuss EO's conceptual and methodological ambiguities (see, for example, also Covin & Lumpkin, 2011; Wales, Covin, & Monsen, 2020). Through bibliometric analysis, our study builds upon and extends the utility of these previous overview articles by demonstrating and drawing attention to critical conversational points within the past four decades years of research exploring the concept of EO. In this vein, our bibliometric account of EO's theoretical and conceptual anchors across more than 40 years of conversation is based upon the most comprehensive overview of EO studies collected to date, taking into consideration 822 articles on the topic, thereby offering the most expansive overview of EO research presently conducted.

2.1. Bibliometric analysis

Employing a bibliometric citation analysis (Garfield, 1979) enables

an illustration of how an area of study has developed and an evaluation of the intellectual structure of a research domain. Using this approach, we are able to examine the correlation between citing and cited publications, identify the most cited or notable landmark publications, and highlight frequently cited thematic areas, outlets, and disciplines where the EO conversation has been prominently featured. In bibliometric citation analysis, the relevance and importance of a study is defined based upon the qualitative value of citations as contributions to scholarly dialogue (Moed, 2005). Put simply, a frequently cited publication is presumed to be a conversational landmark and represent a foundation upon which further research and contributions are being built (Yue & Wilson, 2004). Bibliometric analysis is a tool that requires periodic updating and revisiting, as citation maps can change as fields mature. While pointing the way to a useful analytical approach, past bibliometric analysis within EO research has been limited to specific journals, period of time, and not raised theoretical considerations such as EO's theoretical scaffolding (e.g., Martens, Lacerda, Belfort, & de Freitas, 2016). Other bibliometric efforts have explored entrepreneurial organizations (Lampe, Kraft, & Bausch, 2020) more broadly rather than focusing on the landmarks studies of EO in particular. This study offers a much needed update and extension to our bibliometric understanding of EO by including virtually *all* peer-reviewed publications on the topic published until 2020, focusing on critical conversational landmarks, and drawing new insights into the theoretic scaffolding and foundational themes within EO scholarship to date.

2.2. Research design

The development and creation of various *topical* or *thematic clusters* within bibliometric citation analysis has been well established and used in comparable studies in neighboring fields of research (Casillas & Acedo, 2007; Sarin, Haon, & Belkhouja, 2018), as it provides the opportunity for an in-depth analysis of the *content* of the analyzed articles.

As a first step, in April 2020 we identified key documents. The original dataset was determined by publications that were either published or accepted for publication in or before 2020 containing the terms "entrepreneurial" and "orientation" in their titles. We browsed the following databases: *ABI Inform/ProQuest*, *EBSCO*, *Emerald*, *Google Scholar*, *ingentaconnect*, *JSTOR*, *MENDELEY*, *ScienceDirect*, *Scopus*, and *Springer*. These databases represent major academic search engines in social science and were selected to facilitate a wide-ranging identification of publications that correspond to the search criteria. In sum, a total of 822 publications and 62,499 citations that fulfill these criteria were identified. The author names, publication year, publication title, output channel/journal and reference type of each publication selected for the analysis as well as the cited references were then manually transcribed into an Excel spreadsheet. The manual data input enabled the dataset to be checked in terms of consistency which enabled the identification and correction of any citation errors, oversights, or overlaps. In addition, the procedure was a necessary step to get consistent data for the analysis software.

The analysis determined the 30 most frequently cited publications and/or authors, the number of citations, and the most frequently cited journals, among others. Our focus on the top 30 most frequently cited publications helps our study achieve the critical objectives of clarity, compactness, and overall practicality (for similar approaches, see Gundolf & Filser, 2013; Prévot, Branchet, Boissin, Castagnos, & Guieu, 2010). We then identified topical areas or thematic clusters based upon content similarities. To be clear, the clusters are not comprised solely of EO-focused articles but, rather, of articles representing the foundation on which EO research builds. Following standard practice within bibliometric analysis (e.g., Xi, Kraus, Kellermanns, & Filser, 2015; Vallaster, Kraus, Lindahl, & Nielsen, 2019), the identification of these clusters and the assignment of each article to a particular cluster were performed based on the authors' subjective evaluation and expertise within EO research. In doing so, we examined the most frequently cited articles in

terms of study subject, research question and findings, and created topic clusters while assigning each article to one of the identified clusters with the results of different coders being compared. In cases of disparities, the assignment was discussed within the team until reaching consensus.

3. Results

3.1. General overview

Based on the aforementioned search method, a final sample of 822 publications were identified. Since 1973, when the first article describes entrepreneurial organizations as dominated by the active search for new opportunities to make dramatic leaps forward in the face of uncertainty (Mintzberg, 1973), the number of scientific articles within EO research has grown steadily, with a marked increase in the year 2010. While before 2010, 122 scientific articles were published, we observe that from 2002 onwards, 700 publication with a focused on EO have been published, illustrating that academic attention paid to this area of research has continued to grow rapidly in the past decade (see Fig. 1). Answering the question of Wales, Gupta et al. (2013) – who had only analyzed data until 2010 in their article – it would appear that the EO conversation has indeed not been a ‘fad or fashion’, but has tapped into a critical and useful area of scholarly inquiry pertaining to the characterization of entrepreneurial organizations.

In terms of scholarly outlets where the EO conversation has been most prominently taking place, as highlighted in Table 1, the journals that published the largest quantity of articles on EO are as follows: *Entrepreneurship Theory and Practice* (38 publications), *Journal of Business Research* (28 publications), and *Journal of Small Business Management* (27 publications). Scholars are advised that the renowned ‘halls’ of these journals have been notably receptive to the ongoing scholarly discourse pertaining to EO as an organizational orientation.

As the journal list (Table 1) shows, there is a trend towards higher quality journals publishing the highest volume of research within the EO conversation (around 40% of all articles being published in the top 3 journals together—all being ranked “A” or “B” in the German and British journal rankings).

Our data further reveal that the majority of materials contributing to EO discourse are journal articles (85%), although a substantial number of books (10%) and book chapters (3%) have also entered the conversation. This may indicate maturity of the field, and that books are needed to explore conceptual and methodological issues within the field. The far lower number of working paper and conference proceeding citations (2% together) is not surprising, given that these outlets are less cited in general, and considering that only a small (but growing) number of papers are presented at major conferences (e.g., Wright & Kellermanns, 2011).

Table 1
Top 10 - Number of published articles per journal.¹

Rank	Journal	No. of published articles	JCR IF (2019)	VHB JQ3 (DE)	ABS (UK)
1	Entrepreneurship Theory and Practice	38	10.750	A	4
2	Journal of Business Research	28	4.874	B	3
3	Journal of Small Business Management	27	3.461	B	3
4	International Entrepreneurship and Management Journal	26	3.472	B/C	1
5	International Small Business Journal	19	3.756	C	3
6	International Journal of Entrepreneurial Behavior and Research	18	3.529	C	2
7	Journal of Business Venturing	16	7.590	A	4
8	Entrepreneurship and Regional Development	11	2.885	B	3
	Industrial Marketing Management	11	4.695	B	3
	Journal of Small Business and Enterprise Development	11	–	C	2
	Journal of Small Business and Entrepreneurship	11	–	C	1
9	Journal of International Entrepreneurship	10	–	C	1
	Management Decision	10	2.723	C	2
10	New England Journal of Entrepreneurship	9	–	–	–
	Family Business Review	9	5.212	B	3

¹ JCR IF: Journal Citation Reports Impact Factor 2019; VHB JQ3: German Academic Association of Business Research (VHB) JOURQUAL3 ranking 2015; ABS: Chartered Association of Business Schools Academic Journal Guide 2018.

Fig. 2 provides an overview of the most frequently cited journals for EO scholarship. Evidencing a strong influence upon thought leadership within the EO conversation, the journals *Entrepreneurship Theory and Practice* (4853), *Strategic Management Journal* (4309), and *Journal of Business Venturing* (3596) received the highest numbers of citations. In sum, the top 20 cited journals account for 28,353 citations, meaning 45.37% of all citations.

Table 2 provides an overview of the citations scores. These scores are weighted based upon the number of published articles on EO in relation to the overall citations received. The journals *Academy of Management Review* (citation score 711.7), *Academy of Management Journal* (citation score 627.7), and *Strategic Management Journal* (citation score 615.6)

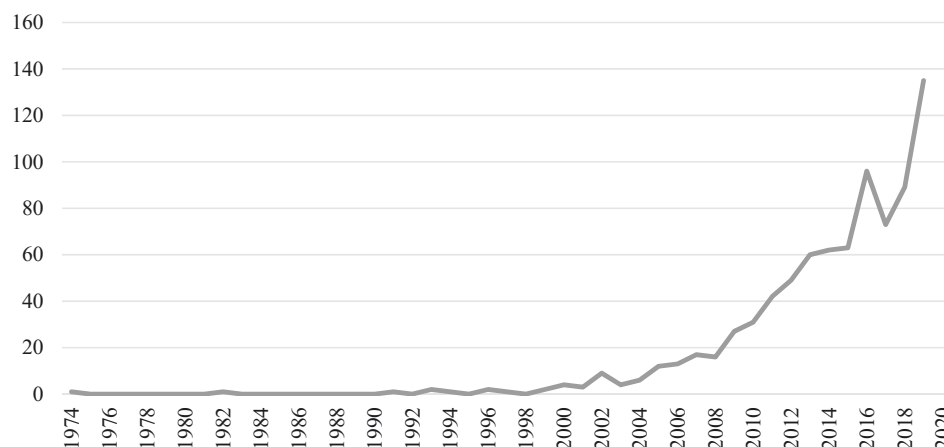


Fig. 1. Number of articles on EO published per year.

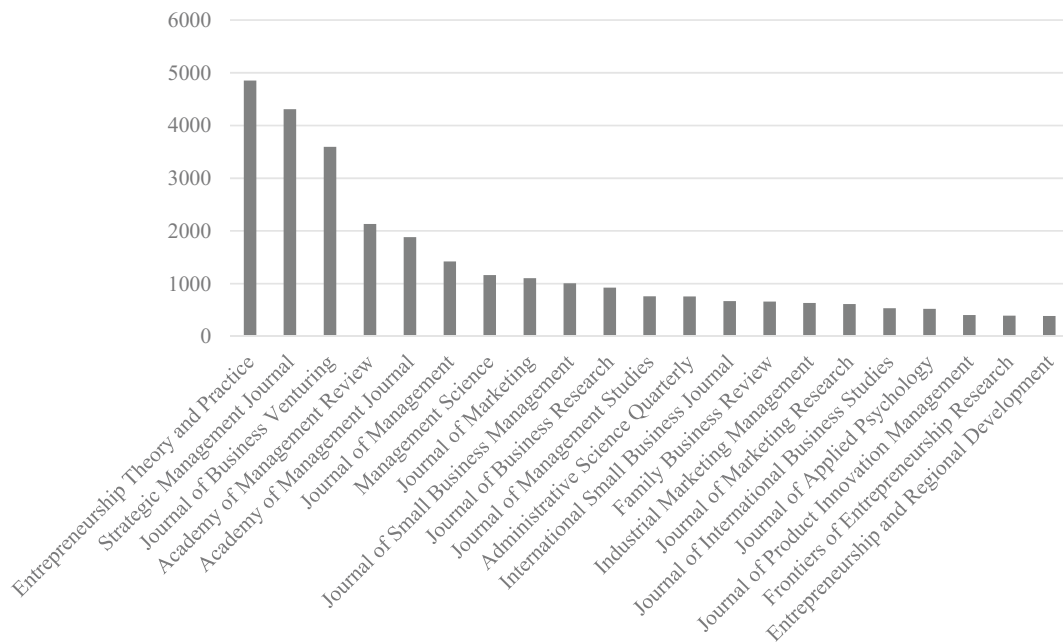


Fig. 2. Top 20 most influential journals within the EO conversation.

Table 2
Categorization of top 20 most influential journals by disciplinary clusters.

Journal	Published articles	Citations received	Citation Score
Academy of Management Review	3	2135	711.7
Academy of Management Journal	3	1883	627.7
Strategic Management Journal	7	4309	615.6
Journal of Product Innovation Management	1	407	407.0
Journal of Management	5	1422	284.4
Journal of Business Venturing	18	3596	199.8
Journal of Management Studies	4	760	190.0
Entrepreneurship Theory and Practice	39	4853	124.4
Academy of Management Executive	2	230	115.0
International Marketing Review	2	199	99.5
Journal of World Business	3	267	89.0
European Journal of Marketing	3	234	78.0
Small Business Economics	8	573	71.6
Organizational Research Methods	2	143	71.5
Technovation	4	282	70.5
R&D Management	2	134	67.0
Family Business Review	10	661	66.1
Research Policy	6	372	62.0
Journal of Operations Management	4	233	58.3
Journal of Organizational Behavior	2	116	58.0

received the highest numbers of citations per article published on EO. This analysis illustrates that *Academy of Management* articles receive significant attention, along with articles appearing in flagship strategy, innovation, and entrepreneurship journal outlets.

When the top 20 cited journals are categorized into distinct disciplinary clusters (see Table 3), it becomes clear that EO publications have mainly been targeted at scholars within Entrepreneurship, Management and Marketing, as well as areas of Management and Business (e.g., Technology and Innovation Management, International Management, and Organizational Science). Thus, the ‘trunk’ of the EO scholarly

discourse has been rooted not only within the domains of Entrepreneurship and Management, but also the Marketing discipline, from which smaller branches are being extended to other related areas. For instance, other less cited areas where EO research is appearing that we observed in our data include Economics, Public Administration, Healthcare, and Education. Moreover, this data highlights the relevance of Entrepreneurship and Marketing as synergistic topical areas (Eggers, Niemand, Kraus, & Breier, 2020) when discussing and investigating ways that organizations may foster new growth opportunities.

Finally, Table 4 and Fig. 3 provide an overview of the citation clusters. The matrix on the left of Fig. 3 reflects the entire network matrix of the bibliometric analysis including all citing and cited publications; the right of the network matrix illustrates the clusters of the most frequently cited references. For reasons of space, and to enhance the figure’s clarity, only the top 30 cited publications and the resulting clusters are shown on the right side of the illustration (a more detailed and expandable image is available from the authors upon request). The number in the upper right corner of each publications (represented by the author/pair of authors) indicates the number of citations. The analysis yields four clusters of the 30 most frequently cited papers. We will discuss these clusters (numbered 1–4) in turn below.

4. Discussion of topical clusters and contributions

In the proceeding sections, we discuss the landmark publications within each topical cluster regarding their key points and contributions to the EO conversation. The publications can be divided into four clusters contributing to different topical areas within the EO conversation. The landmark publications featured within the first cluster capture the central ‘defining pieces’ of EO research and help provide insight into the questions of what is EO and how does it operate? Cluster two, ‘methods & measurement’, comprises landmark publications dealing with the question of how to capture and assess EO. Cluster three encompasses publications dealing with ‘contingencies’ and works on the question of boundary conditions which shape the effects of EO. Finally, cluster four captures landmark publications addressing the ‘impact’ of EO, thus answering questions on the effects of EO. These questions can be considered central to EO research and practice and form a structural basis for how the EO conversation has proceeded.

Table 3
Categorization of top 20 most influential outlets by disciplinary clusters.

Technology and Innovation Management	Marketing	Management	International Management	Organizational Science	Entrepreneurship
Journal of Product Innovation Management	Journal of Marketing Industrial Marketing Management Journal of Marketing Research Journal of Applied Psychology	Strategic Management Journal Academy of Management Review Academy of Management Journal Journal of Management Journal of Management Studies	Journal of International Business Studies	Administrative Science Quarterly Journal of Business Research	Entrepreneurship Theory and Practice Journal of Business Venturing Journal of Small Business Management International Small Business Journal Family Business Review Frontiers of Entrepreneurship Research Entrepreneurship and Regional Development

4.1. Cluster 1: Defining pieces

Cluster one (see Fig. 4) offers the clearest theoretical scaffolding upon which future research may build; research aimed at further clarifying and developing how EO operates within organizations in terms of its theoretical foundations, mechanisms, and assertions. Within the ‘defining pieces’ cluster we identify at least four major theoretical implications of our findings. First, we consider the landmark studies which provide a foundation for viewing EO as a strategic orientation within corporate contexts. Second, we discuss the theoretical contribution of Schumpeterian economics, innovation, and new entry within the EO conversation. Third, we outline the importance of RBV as theoretical scaffolding within past research and discuss how and why RBV can be further developed as a theoretical foundation within future research. Fourth, noting landmark studies we consider the importance of configurational theory within the EO conversation and discuss how the conversation has evolved.

(a) Conceptualization of EO as a strategic orientation

We begin our discussion of cluster 1 with an analysis of its landmark studies for a current point of discussion within the EO literature, the conceptualization of EO as a *strategic* orientation. Does EO capture a *strategic* orientation (e.g., Hakala, 2011), and what precisely is strategic about an organizational orientation? In this vein, Lumpkin and Pidduck (2020) argue that EO need not be constrained to or even best represented as a *strategic* orientation of business enterprise, and may be manifest in a number of more generalized manners that are not necessarily strategic, *per se*, as a various actors such as individuals, teams, organizations, nations, etc. may exhibit a broader, ‘global EO’ and work to create new value under conditions of uncertainty. This is an important perspective (Wales, Corbett, Marino, & Kreiser, 2020), nonetheless, one critical direction in which the EO conversation has clearly been building is around the concept of EO as a strategic orientation of *business* enterprise.

Along these lines, Venkatraman (1989) provided a critical landmark and foundation within the literature for the conceptualization of EO as an *organizational* strategic orientation which captures a set of means or actions (e.g., new entries by the organization, Covin & Wales, 2019) which enable firms’ to obtain certain goals. In the context of an entrepreneurial orientation, these goals are presumably new value creation and its associated benefits for organizational growth and competitive advantage (Wales, Corbett et al., 2020). Venkatraman (1989) describes strategic orientation as a phenomenon which pertains most directly to business-level, or strategic business-unit (SBU) strategy, a view widely adopted in the corporate EO literature. Moreover, Venkatraman (1989) regards strategic orientation as *realized* strategy or a pattern of critical decisions and actions which reflects consistency in the behavior of

organizations over time. This view of strategic orientation has been echoed within subsequent discussions on the pervasiveness of EO as a phenomenon manifest by organizations over time (Wales, Monsen, & McKelvie, 2011). Similar to EO, Venkatraman (1989) adopts a holistic perspective of organizational strategic orientation, rather than focusing on a single function (i.e., R&D).

Thus, as an organizational strategic orientation, EO is conceived based upon firm actions, directed by top management, and manifest as new entries. In this vein, Mintzberg (1973, p. 45) is among the earliest works to conceptualize organizational entrepreneurship as growth-focused strategy-making “dominated by the active search for new opportunities... [and] characterized by dramatic leaps forward in the face of uncertainty.” It is around this time that early usage of the term “entrepreneurial orientation” can be identified, more than 20 year before the work of Lumpkin and Dess (1996), in reference to “managerial perceptions and strategic behavior” and the motivation of firms’ to change and adapt (Anderson & Paine, 1975, p. 819). Lost to the annals of historical management scholarship and till now overlooked by EO scholars, the work of Anderson and Paine (1975) within the *Academy of Management Journal* builds upon the conceptualization of strategy-making ‘modes’ introduced by Mintzberg (1973). Many EO researchers (e.g., Covin & Lumpkin, 2011) seize upon the idea of an entrepreneurial mode (as compared to the planning mode and adaptive mode), where a leader takes bold and risky decisions toward his or her vision of the organization’s future, in a firm’s strategy-making.

A student of Mintzberg, Miller took immediate scholarly interest in the concept of entrepreneurial organizations. The article on archetypes of strategy formulation by Miller and Friesen (1978) is often cited along Mintzberg (1973) as setting the groundwork for the emergence of Miller (1983) description of EO. That is, Miller and Friesen (1978) examined strategy-making in terms of product-market innovation, the proactiveness of decisions, and risk-taking among a myriad of other strategic considerations. According to Miller and Friesen (1978, pp. 922–923), product-market innovation “gauges innovativeness in terms of the number and novelty of new products and services which are introduced, and the new markets which are entered”; proactiveness of decisions “deals with how the firm reacts to trends in the environment: does it shape the environment (high score) by introducing new products, technologies, administrative techniques, or does it merely react”; and risk-taking “rates the degree to which managers are willing to make large and risky resource commitments—i.e. those which have a reasonable chance of costly failure”

Viewed as the origin of the ‘dominant design’ of proceeding EO research to date given its wide-ranging adoption within the literature (Wales et al., 2019), Miller (1983) examined the process of entrepreneurship and the organizational factors that foster or impede entrepreneurship. His characterization of an entrepreneurial firm as one which “engages in product-market innovation, undertakes somewhat risky

Table 4
A clustered categorization of the top 30 landmark articles.

Cluster	Author	Year	Title	Journal	No. of citations
1 - Defining pieces	Lumpkin, Dess	1996	Clarifying the entrepreneurial orientation construct and linking it to performance	Academy of Management Review	682
	Miller	1983	The correlates of entrepreneurship in three types of firms	Management Science	568
	Covin, Slevin	1991	A conceptual model of entrepreneurship as firm behavior	Entrepreneurship Theory and Practice	249
	Miller, Friesen	1982	Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum	Strategic Management Journal	202
	Covin, Lumpkin	2011	Entrepreneurial orientation theory and research: Reflections on a needed construct	Entrepreneurship Theory and Practice	168
	Barney	1991	Firm Resources and Sustainable Competitive Advantage	Journal of Management	152
	Miller, Friesen	1978	Archetypes of strategy formulation	Management Science	114
	Venkatraman	1989	Strategic Orientation of Business Enterprises; The Construct, Dimensionality and Measurement	Management Science	108
	Schumpeter	1934	The Theory of Economic Development		108
	Mintzberg	1973	Strategy-making in Three Modes	California Management Review	99
2 - Methods & Measurement	Kreiser, Marino, Weaver	2002	Assessing the psychometric properties of the Entrepreneurial Orientation Scale: A multi-country analysis	Entrepreneurship Theory and Practice	157
	Covin, Wales	2012	The Measurement of entrepreneurial orientation	Entrepreneurship Theory and Practice	152
	Lyon, Lumpkin, Dess	2000	Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision-making process	Journal of Management	119
	Hughes, Morgan	2007	Deconstructing the relationship between entrepreneurial orientation (EO) and business performance at the embryonic stage of firm growth	Industrial Marketing Management	134
	Naman, Slevin	1993	Entrepreneurship and The Concept of Fit: A Model and Empirical Test	Strategic Management Journal	101
	Knight	1997	Cross-Cultural Reliability and Validity of a Scale to Measure Firm Entrepreneurial Orientation	Journal of Business Venturing	99
3 - Contingencies	Covin, Slevin	1989	Strategic management of small firms in hostile and benign environments	Strategic Management Journal	558
	Lumpkin, Dess	2001	Linking two dimensions of entrepreneurial orientation to the firm performance: The moderating role of environment and industry life cycle	Journal of Business Venturing	358
	Wiklund, Shepherd	2005	Entrepreneurial Orientation and Small Business Performance: A Configurational Approach	Journal of Business Venturing	321
	Wiklund, Shepherd	2003	Knowledge-based resources, entrepreneurial orientation and the performance of small and medium-sized businesses	Strategic Management Journal	284
	Zahra, Covin	1995	Contextual Influences of the Corporate Entrepreneurship-Performance Relationship: A Longitudinal Analysis	Journal of Business Venturing	226
	Covin, Green, Slevin	2006	Strategic process effects on the entrepreneurial orientation - sales growth rate relationship	Entrepreneurship Theory and Practice	229
	Stam, Elfring	2008	Entrepreneurial Orientation and New Venture Performance: The Moderating Role of Intra and Extra Industry Social Capital	Academy of Management Journal	135
	Dess, Lumpkin, Covin	1997	Entrepreneurial Strategy-making and Firm Performance; Tests of Contingency and Configurational Models	Strategic Management Journal	106
4 - Impact	Rauch, Wiklund, Lumpkin, Frese, Wiklund	2009	Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestion for the Future	Entrepreneurship Theory and Practice	399
	Wiklund	1999	The Sustainability of the Entrepreneurial Orientation - Performance Relationship	Frontiers of Entrepreneurship Research	232
	Wang	2008	Entrepreneurial Orientation, Learning Orientation and Firm Performance	Entrepreneurship Theory and Practice	137
	Zahra	1991	Predictors and financial outcomes of corporate entrepreneurship: An exploratory study	Journal of Business Venturing	115
	Dess, Lumpkin	2005	The Role of Entrepreneurial Orientation in Stimulating Effective Corporate Entrepreneurship	Academy of Management Executive	103
	Wales, Gupta, Mousa	2013	Empirical research on entrepreneurial orientation: An assessment and suggestions for future research	International Small Business Journal	115

ventures, and is first to come up with “proactive innovations, beating competitors to the punch”, followed by the notion that entrepreneurship can be viewed “as a composite weighting of these three variables” (p. 771), set direction for today’s understanding of EO as an organizational strategic orientation which comprises three synergistic elements that work in tandem to characterize entrepreneurial activity. This conceptualization led Covin and Slevin (1991) to emphasize the importance of firm behavioral actions within work on organizational EO and introduce a key framework for subsequent research. To this end, the authors conceive of EO as reflected in three types of behaviors: (a) top management risk-taking and strategic actions in the face of uncertainty; (b) extensive and frequent product innovation and tendency toward technological leadership; and (c) firm’s propensity to aggressively and proactively compete with industry rivals. Providing impetus for future

research, they conceptually relate strategic variables, internal variables, and external variables as antecedents and consequences to an organizational EO, as well as moderators of the link between EO and firm performance.

The most recent landmark pertaining to EO as strategic orientation is an introduction to a special issue at *Entrepreneurship Theory and Practice* by Covin and Lumpkin (2011). With respect to the question of whether to EO captures a purely dispositional or behavioral phenomenon, they emphasize both as relevant, but behavior as central echoing Covin and Slevin (1991). Moreover, they propose that past dimensional approaches toward capturing strategic or broader organizational orientation have different foci and uses within the literature depending on the research question at hand, and that no level of dimensional granularity has proven inherently superior. Their argumentation advances the

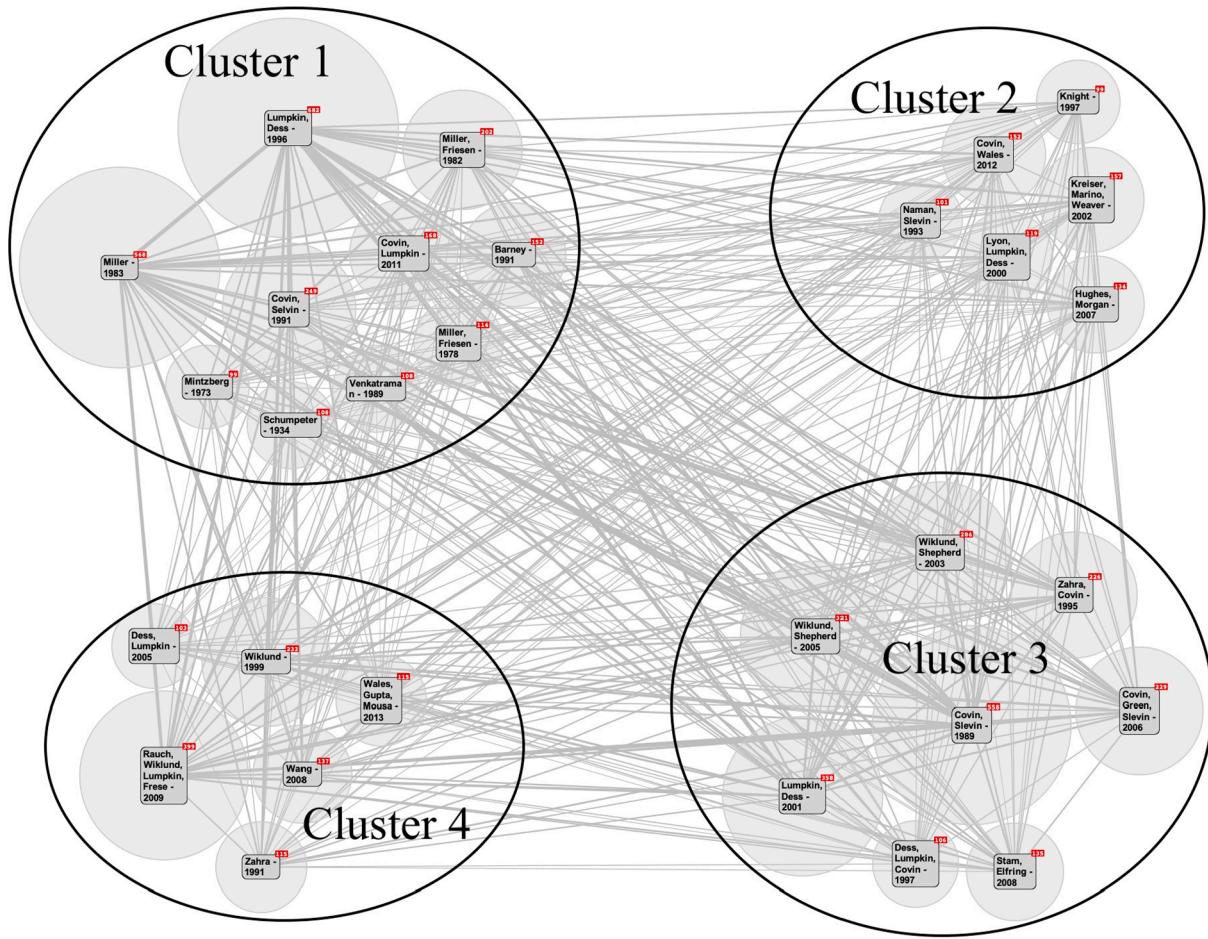


Fig. 3. Citation network matrix.

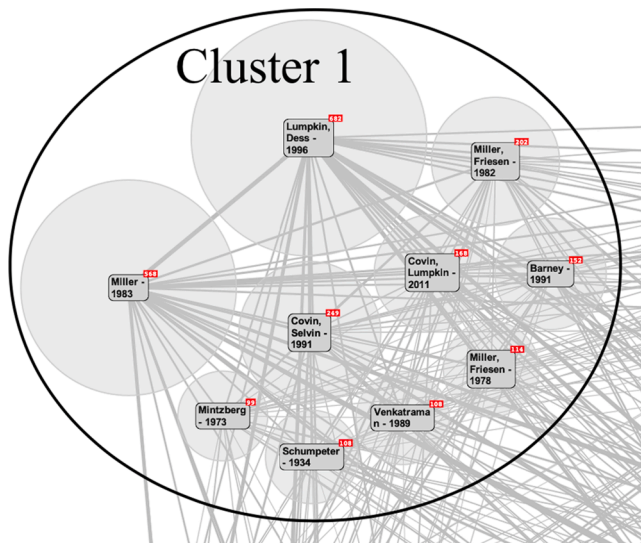


Fig. 4. Cluster 1.

notion of two separate, but complimentary views of EO, providing the groundwork for later assertions of the benefit of further exploring EO within a much broader range of contexts beyond its corporate origins (Lumpkin & Pidduck, 2020). Finally, Covin and Lumpkin (2011) draw attention to the need for greater theoriz(ing) from a variety of perspectives but fall short of situating EO research within particular

theoretic paradigm(s). In the proceeding sections, we address how other identified landmark studies have provided theoretical scaffolding within the EO conversation to date.

(b) *Schumpeterian economics, innovation, and new entry*

The question of theoretical scaffolding is an important one to consider within EO research, as there has been no clear theory of EO advanced thus far. To help develop this theory, we believe it is essential to first consider the conversational landmarks which have created momentum within its conceptual development thus far. In this vein, our study identifies the work of Schumpeter (1934) as a critical element of the theoretical foundation upon which EO has built. Schumpeter’s early work addresses several issues related to a theory of economic development which have resonated with EO scholars. Setting the theoretical backdrop for proceeding research, Miller (1983, p. 770) wrote in the introduction to his seminal article on EO, “the entrepreneurial role stressed by Schumpeter is socially vital but it can be performed by entire organizations which are decentralized.” Much subsequent conversation within EO research relates to Schumpeter’s early ideas. Supporting the notion of organizations as entrepreneurial actors, Lumpkin and Dess (1996) note that Schumpeter “shifted attention away from the individual entrepreneur by arguing that entrepreneurship eventually would be dominated by firms that were capable of devoting more resources to innovation.” (p. 138).

Schumpeter emphasized the role of *innovation* in the entrepreneurial process, a role which has been described as either “important” (Lumpkin & Dess, 1996, p. 142) or “essential” as in “EO’s conceptual ‘heart’” (Wales et al., 2019, p. 98) or “what defines the essence of a firm-level

entrepreneurial posture” (e.g., Covin & Miles, 1999, p. 48). Other works refer to the criticality of innovative Schumpeterian resource (re)combinations when defining EO, such as the introduction of new products, new services, or new technological methods of production when investigating EO (e.g., Kollmann & Stöckmann, 2014). What is clear is that the theoretical foundation of EO’s dimensions are rooted within a Schumpeterian perspective of entrepreneurship. That is, entrepreneurial organizations are defined based upon their new entries (Wales, Corbett et al., 2020), which offer the possibility of “creatively destroying” extant economic regimes and in doing so, new possible areas of growth for the firm. Along these lines, Cowden and Tang (2020) argue that a Schumpeterian perspective on innovation should be at the center of all future conceptual development on EO. Understanding how and when new entries rise to the level of market disruptors is an important and often overlooked consideration within EO research, one which draws directly from a Schumpeterian perspective on innovation and entrepreneurship (Wales, Corbett et al., 2020).

In this vein, another landmark study within past EO research is the work of Miller and Friesen (1982) which characterizes innovation in entrepreneurial firms as self-perpetuating, and proactively pursued unless decision-makers observe caution signs to ‘slow down’. In the view of Schumpeter (1934), innovation is inseparable and embedded within the definition of what characterizes the nature of entrepreneurial actors. That is, Schumpeter (1934) view of the economic system is one of equilibrium that can only be disrupted through the powerful innovations introduced by entrepreneurial actors. These actors are not merely inventors, but innovators that introduce new entries. All entrepreneurial rents or profits are, in the estimation of Schumpeter (1934), the direct result of innovation. To him, other dimensions, such as risk-taking, are important, but less essential compliments to characterizing the entrepreneurial process, as risk can be distributed to other actors such as capitalists and bankers. Our bibliometric analysis points to the relevance of Schumpeterian economics as a theoretical foundation for the EO literature and entrepreneurship as an organizational attribute. Thus, the clearest foundation for describing the extant theoretical scaffolding of EO research is based upon Schumpeterian economics, innovation, and new entry. It is important that future scholars understand and embrace this theoretical foundation within future research when considering and theorizing the importance and role of new entries within future EO scholarship.

(c) Resource-based rationales for performance

Further considering the theoretical scaffolding within EO research, our analysis identifies the work of Barney (1991) on the resource-based view (RBV) of the firm as providing another significant conversational landmark within the study of EO and an often mentioned rationale for why EO enhances firm performance. On occasion of identifying this landmark, we consider the EO conversation pertaining to resources more closely. It has been observed that EO captures how organizations orchestrate, configure, and put their resources to work in new combinations (Anderson & Eshima, 2013; Miao et al., 2017; Wiklund & Shepherd, 2003), essentially consuming resources in the process of opportunity exploration and pursuit of new value creation (Covin & Slevin, 1991; Wales, Covin et al., 2020). Wiklund and Shepherd (2003) argue that within Barney (1991) framework of competitive advantage based upon the presence of valuable, rare, inimitable resources and a firm’s organization to capture value (VRIO), EO captures a firm’s organization (O). This point is echoed in later conceptual works which view organizational configuration as central to the manifestation of EO (Wales, Covin et al., 2020). Miao et al. (2017) view EO as an organizational attribute that captures what firm’s ‘do’ rather than what they ‘are’. In this vein, Brouthers, Nakos, and Dimitratos (2015, p. 1165) view EO as an organizational capability, suggesting that “EO provides an SME with the resource-based capabilities required to better utilize the limited resources it possesses.” Yet, other works also view EO as directly capturing

the competitive advantage conferring resource characteristics of value, rarity, and inimitability. In this vein, Lee, Lee, and Pennings (2001, p. 617) view EO as an intangible resource “embedded in organizational routines”. More recently, Anderson and Eshima (2013, p. 417) suggest that EO covers all elements of the VRIO model as “a valuable, rare, and inimitable organizing gestalt through which firms are able to generate competitive advantage.”

In line with the perspective of EO by Anderson and Eshima (2013) as a valuable, rare, inimitable *organizing gestalt*, it has been argued that the synergistic organization of a firm’s elements and activities can itself be a valuable, rare, and difficult to imitate source of competitive advantage (Porter, 1996). Yet, as an organizational orientation, EO also encompasses the management style, processes, culture, and other elements which produce a configuration of elements and activities that fosters a pattern of new entry (Wales, Covin et al., 2020). In this perspective, it is most defensible to conceptualize EO as a *dynamic capability* itself, which through entrepreneurially-focused management style helps organizations (re)configure their resource bases into new productive combinations (Wales, Parida, & Patel, 2013).

Thus, this research asserts that the question of *why* EO explains performance can be explained based upon the organizational element of the resource-based view’s VRIO model (Barney, 1991) as discussed by Wiklund and Shepherd (2003). And to go one step further, when considering its relationship with firm performance, we argue that EO can be recognized as an organizational dynamic capability which fosters new entries (Eisenhardt & Martin, 2000). We consider this perspective based upon the model of EO as an organizational orientation advanced by Wales, Covin et al. (2020), in which EO captures an entrepreneurial quality or thematic property of organizations that is manifest in terms of top management style, *organizational configuration*, and new entry initiatives characterized by the promotion, support, and execution of innovation, proactivity, and risk-taking. In this model, a highly productive organizational configuration may itself be considered a source of competitive advantage, as conceptualized by scholars such as Lee et al. (2001), though its effects on performance will be most visible in terms of the innovative, proactive, risk-taking product-market entries that emerge from the organization’s entrepreneurial configuration of resources and activities. Moreover, this organizational configuration is unlikely to be static, as firms recognize new opportunities, learn, and adapt based upon successive product-market entries. In this vein, an entrepreneurial management style affords an organization the capability to develop new configurations that better exploit emerging opportunities and, in this way, EO functions as a dynamic capability which through successive experiments, identifies new and better ways of achieving performance and growth.

In this perspective, we are able to answer to the question, why does EO influence firm performance? What is the mechanism which explains the relationship? In summary, rooted in the RBV (Barney, 1991), EO impacts firm performance because having an organizational orientation is predicated upon a synergistic alignment of organizational elements which promote a pattern of new entry initiatives, some of which become tremendous sources of new value creation for the firm. Certainly not all new entries will be successful—many experiments fail, and organizations can be discontinued as a result of resource exhaustion as outlined by Wiklund & Shepherd, 2011—but with each new entry, information is transferred back to the firm which enables it to learn, refine, pivot, and develop new resources with greater potential to be valuable, rare, and inimitable. This resource-based logic aligns with and builds upon lean-startup principles borne out of practitioner experience (Blank, 2013). Any one entry is a guess or gamble. Yet, the odds of getting the gamble correct, in terms of a productive product-market fit, go up with increased market interaction and information transfer. As a theoretic mechanism, continual product-market pioneering captures a firm’s efforts to achieve competitive advantage through sustained regeneration (Covin & Wales, 2019). Taken together, EO captures an organizations configuration of resources as a means to gain a competitive advantage

over rivals (even if that path towards advantage is rocky and highly uncertain, with many entrepreneurial firms not surviving the journey, Wiklund & Shepherd, 2011), and for these reasons, the work of Barney (1991) has and will continue to serve as a landmark study in EO research.

(d) EO as organizational configuration

The landmark study of Lumpkin and Dess (1996) points to the importance of *configurational theory* as additional theoretic scaffolding within EO research. Configurational theory draws upon Miller and Friesen (1977) and has recently saw an increase in prominence within the EO conversation (i.e., McKenny, Short, Ketchen, Payne, & Moss, 2018; Covin et al., 2020). Work in this vein has also been discussed in terms of organizational thematic configuration (see Miller, 1996; Harms, Kraus, & Schwarz, 2009; Wales, Covin et al., 2020).

Providing a broader direction to the EO conversation, Lumpkin and Dess (1996) set out to offer a deeper understanding of EO and propose a contingency framework for the EO-firm performance relationship. Lumpkin and Dess (1996) theorize that the classical elements of EO as an organizational strategic orientation are not sufficiently fine-grained to always capture when organizations are ‘being entrepreneurial’, a point echoed within proceeding thoughtful theorizing by Lumpkin and Pidduck (2020). In this vein, they characterize the manifestation of EO’s dimensions as organizational processes within a multidimensional construct. That is, as a configuration of organizational elements (Covin & Wales, 2012; Wales, Covin et al., 2020), which encompass the dimensions of innovativeness, proactiveness, and risk-taking, as well as introducing competitive aggressiveness, and autonomy. Similar to Venkatraman (1989), Lumpkin and Dess (1996) view competitive aggressiveness as an essential element for characterizing a firm’s business behavior given its motivation towards ‘winning’. Moreover, they view autonomy and freedom as critical to the agency of actors to be entrepreneurial.

When viewing EO through the more parsimonious lens of Miller (1983)/Covin and Slevin (1989), competitiveness is not specifically emphasized as a dimension, but rather, is presumed to be the *goal* of innovation. Moreover, autonomy or agency is also assumed, as in its *absence* proactive behavior and innovation would not come to fruition or be sustained as a pattern of firm behavior over time. This helps illustrate that the inclusion or assumption of dimensional characteristics is a question of granularity vs. parsimony within the research question being investigated (Covin & Wales, 2019). In this vein, the additional granularity of Lumpkin and Dess (1996) could be insightful and aligns well with recent emphasis upon configurational models and theorizing concerning organizational orientation as a thematic alignment of people, processes, and behaviors (Wales, Covin et al., 2020). In this vein, configurational theorizing offers a helpful, strategically grounded, theoretic mechanism for explaining EO-performance relationships based upon synergistic organizational elements (Porter, 1996).

Moreover, configurational theorizing seems particularly adept at providing the necessary theoretic scaffolding for broader global perspectives on EO and entrepreneurial activity across individuals, teams, nations, etc. as discussed by Lumpkin and Pidduck (2020). That is, a configurational approach is also beneficial because it fosters the extension and adaptation of EO to less corporate contexts. For instance, non-profits entrepreneurs or nascent teams, where established constructs, dimensions and measures may provide insufficient granularity to capture the full spectrum of entrepreneurial expression.

4.2. Cluster 2: Methods and measurement

A consideration of methods and measurement has been featured prominently within past EO conversation. In this vein, cluster 2 (see Fig. 5) captures several landmark studies pertaining to EO’s methods and measurement. We organize our discussion of these landmark studies

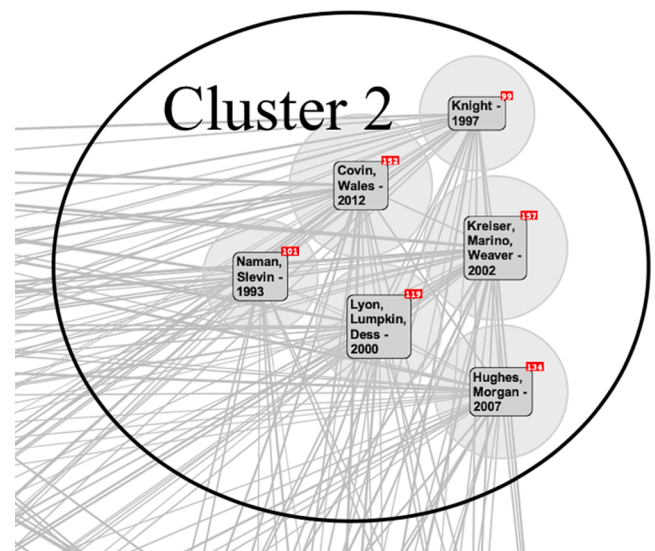


Fig. 5. Cluster 2.

along three principal thematic considerations, EO as a uni- or multi-dimensional concept, measurement techniques in EO, and EO as an internationally useful concept.

(a) EO as a uni- or multidimensional concept

Building upon past research, Covin and Wales (2012) promoted recognition of two dominant, but divergent conceptualizations of EO. In general, the uni-dimensional conceptualization usually associated with the work of Covin and Slevin (1989) emphasizes the common effect of the EO dimensions, whereas the multi-dimensional conceptualization typically associated with the work of Lumpkin and Dess (1996) builds on the idea that each dimension may have its own effect. The study by Kreiser, Marino, and Weaver (2002) has been cited extensively given that it was among the first to assess the psychometric properties of the EO scale and to empirically assess the dimensionality of EO. In this study, they observed that the three-dimensional measure outperforms uni- and two-dimensional measures, and that the three dimensions vary independently of each other in many situations. Based on these results, they suggest modeling and measuring EO either uni- or multi-dimensionally based on a) the researcher’s expectation of differential relationships between the sub-dimensions and key study variables and b) the desired level of accuracy as compared to simplicity. In 2007, Hughes and Morgan (2007, p. 652) claimed that “studies have ignored an analysis of EO dimensions”, and gained attention in the literature for being among the first empirical studies to not only investigate EO sub-dimensions independently, but also to incorporate all five proposed dimensions of EO. A comprehensive qualitative review by Wales, Gupta et al. (2013) reveals that there are a considerable number of studies examining EO multi-dimensionally, but the broad majority of studies examine the concept uni-dimensionally. Intriguingly, observing both commonly shared and unique effects of EO sub-dimensions on performance, Lomberg, Urbig, Stöckmann, Marino, and Dickson (2017) suggest consolidating uni- and multi-dimensional approaches to EO to better understand the consequences of EO, a point considered within subsequent theorizing (Wales, Corbett et al., 2020; Wales, Covin et al., 2020).

While these empirical findings are undoubtedly important, a broad body of research addresses the dimensionality question theoretically (Covin, Green, & Slevin, 2006). Research has asserted that both conceptualizations are unquestionably legitimate (Covin & Miller, 2014) and lead to significant contributions to entrepreneurship research and practice (Covin & Lumpkin, 2011). Along these lines, Covin and

Lumpkin (2011) encourage researchers to acknowledge the distinctiveness of these two conceptualizations and to explicitly recognize the particular conceptualization being chosen for their research and to employ the corresponding definitions and measurement models. Moreover, Wales, Covin et al. (2020) argue that the uni- and multi-dimensional conceptualizations may tap into different, complimentary aspects of EO as an orientation spanning top management style, organizational configuration, and new entry. In brief, what it means to be entrepreneurial within a firms management style, configuration, and new entries is characterized by dimensions such as innovation, proactiveness and risk-taking which can be studied either separately or in aggregate depending on the question at hand.

(b) Measurement techniques in EO

Wales et al. (2019) consider Miller (1983) conceptualization, as captured within the Covin and Slevin (1989) scale, as the “dominant design” (p. 96) of EO given its wide-ranging adoption within the literature. Nevertheless, the importance of alternative measurement techniques has been mentioned in the literature. The landmark study by Lyon, Lumpkin, and Dess (2000) discusses different approaches to the measurement of EO, namely managerial perceptions, firm behaviors, and resource allocations. After discussing the strengths and weaknesses of each approach, proposing differences in regards of reliability and validity, they discuss contingencies regarding the use of the methods and suggest triangulation of methods for enhancing measurement accuracy. In particular, the differentiation between managerial perceptions and firm behaviors has gained broad attention. Research has intensively discussed the Miller/Covin and Slevin scale in terms of its combination of attitudes and behaviors, and consequences for interpreting the inner concept of EO and adequate relationships with external variables (e.g., Covin & Miller, 2014). While triangulation approaches are rare when not considering the mix of measures in the Miller/Covin and Slevin scale a triangulation approach itself (Covin & Wales, 2019), the differentiation between managerial perceptions and firm behaviors is at the heart of a reconceptualization of EO by Anderson, Kreiser, Kuratko, Hornsby, and Eshima (2015). They suggest at times separating managerial attitudes towards risk-taking from the expression of innovativeness and proactiveness as entrepreneurial behaviors when investigating EO. Wales, Covin et al. (2020) go a step further to clarify that EO can be manifest in terms of top management style (i.e., attitudes toward risk-taking), as well as organizational configuration, and new entry (i.e., externally-focused innovative and proactive product-market behavior).

Early conceptualizations of organizational entrepreneurship (e.g., Covin & Slevin, 1991) emphasize EO’s interrelationships with other internal and external variables. In this vein, the landmark study by Naman and Slevin (1993) provided early support for configurational theorizing within EO research by developing and measuring a normative model of fit, which, included entrepreneurial style, mission style, and organizational structure as variables, which must fit with its task environment. Their empirical results based on a developed ‘measure of fit’ reveal the importance adjusting degrees of EO to other focal variables when aiming to understand superior firm performance. The importance of this early fit-based operationalization is apparent when considering the existence of cluster 3 on the contingency effects of EO.

(c) EO as an internationally useful concept

Given the popularity of entrepreneurship worldwide, researchers and practitioners are interested in measuring the EO of organizations and entrepreneurial actors all over the world (Lumpkin & Pidduck, 2020; Wales et al., 2019). The landmark study by Knight (1997) was among the first to present a foreign language translation of the popular EO scale. Using English- and French-speaking managers, the study also tests the instrument’s utility in cross-cultural settings. Results reveal high levels of reliability and validity and a consistent factor structure

across the two cultures, justifying the use of translations of the popular EO scale in different global settings. Several studies such as Kreiser et al. (2002), Hansen, Deitz, Tokman, Marino, and Weaver (2011), Runyan, Ge, Dong, and Swinney (2012) or Rigtering, Eggers, Kraus, Eggers, and Chang (2017) spanning multiple countries further supported the cross-national invariance of the Covin and Slevin (1989) EO scale. However, more recent research (e.g., Bruton, Filatotchev, Si, & Wright, 2013) has cautioned that concepts may profit from further consideration and adaptation, for example when being transferred from developed to emerging markets. Gupta and Dutta (2018) sensitize for the meaningfulness of including aspects that are desirable or important in a specific society. Recently, Wales et al. (2019) suggested that embracing different or more elaborate conceptualizations of EO within international research may increase meaningfulness of EO research within distinct socio-economic cultural clusters.

4.3. Cluster 3: Contingencies

Meta-analysis on the EO-performance relationship (e.g., Rauch et al., 2009) supports the idea that firms often perform better with high levels of EO. Nevertheless, they emphasize the meaning of moderators strengthening or weakening this relationship. This is in line with early conceptualizations of entrepreneurship as firm behavior (e.g., Covin & Slevin, 1991). Landmark studies within cluster three (see Fig. 6) consider the consequences of EO, acknowledging a dependence on critical moderators or boundary conditions that influence EO’s effectiveness. In this section, we consider EO’s dependence on contextual circumstance and the development of supportive organizational contexts as two continuing directions within EO conversation.

(a) EO’s dependence on contextual circumstances

While undoubtedly being seminal for the conceptualization of EO and for providing the most established EO measure today (Covin & Wales, 2012; 2019), the landmark research by Covin and Slevin (1989) is also important for understanding context-dependency of the EO-performance relationship. Their study revealed that EO is not a universal remedy with a simple ‘the more, the better’ effect, but rather that EO affects performance more positively in hostile than in benign environments. The results of Covin and Slevin (1989) research were recently replicated in a study by Lee, Zhuang, Joo, and Bae (2019). In their qualitative review, Wales, Gupta et al. (2013) listed a huge number of environmental and cultural aspects that have been examined as factors

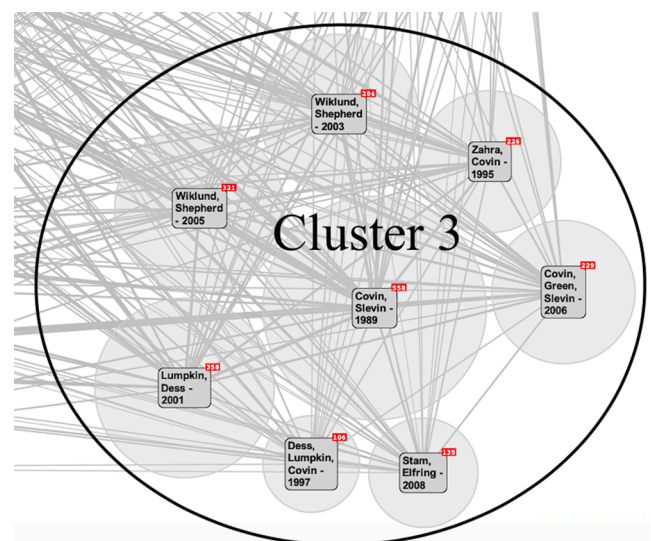


Fig. 6. Cluster 3.

affecting the EO-outcome relationship. The pioneering study by Zahra and Covin (1995) adds time as an important factor for understanding how beneficial EO will be for firm performance. In one of the first long-term studies of the effect of entrepreneurial behavior, they found that the link between entrepreneurial behavior and performance can be modest over the first few years before steadily increasing over time. Moreover, in line with Covin and Slevin (1989), Zahra and Covin (1995) observe support for EO's performance effect being stronger in hostile as compared to benign environments, and that this situation holds over time. This finding aligns with Wiklund (1999) as it supports the idea that EO is not always a quick fix, and reveals that entrepreneurial initiatives may take time to develop their full potential. Thus, this study promotes the criticality of time-lagged or longitudinal approaches in EO research.

Supporting a key premise of Lumpkin and Dess (1996), Lumpkin and Dess (2001) reveals that the effects of proactiveness and competitive aggressiveness on performance are affected differently by environmental and industry variables. The landmark study by Dess, Lumpkin, and Covin (1997) delves into potential circumstances in which EO benefits from taking into account multiple moderators simultaneously. They investigate contingency and configurational models in better understanding the relationship between entrepreneurially oriented strategy-making (ESM) and performance. They find that configurational approaches aligning ESM, strategy, and environment outperform contingency approaches. The preceding landmark study by Wiklund and Shepherd (2005) further considers whether more complex moderation models may increase the explanatory power of EO. Specifically, they propose and observe support for access to capital and environmental dynamism as moderators and find that a configurational approach, i.e. a three-way interaction model, explains more variance in performance than a contingency model which includes only two-way interactions and a main-effects-only model.

(b) Supportive organizational contexts

Beyond external factors, which organizations generally have limited ability to control, organizations can influence the effectiveness of their EO through the development of supportive internal organizational contexts. In this vein, the landmark study by Covin et al. (2006) examines the moderating effects of three strategic process variables, namely strategic decision-making participativeness, strategy formation mode, and strategic learning from failure, on the EO-growth relationship. A positive effect of EO on sales growth is observed, which is stronger among organizations with autocratic decision making, emergent strategy formation processes, and lower proficiency at learning from their strategic failures. As the influential study by Stam and Elfring (2008) shows, organizations should seek to align supportive internal processes with suitable relationships to external environmental actors. That is, the authors examine how the configuration of a founding team's intra- and extra-industry network ties affects the link between EO and new venture performance. They find that the combination of high network centrality and extensive bridging ties strengthens the EO-performance link. They also find that among firms with few bridging ties, centrality weakened the base relationship.

Finally, the landmark study by Wiklund and Shepherd (2003) considers the moderating effect of EO itself, which is remarkable as most studies treat EO as a main effect. As discussed, based on RBV, they argue that EO captures a key component in building a competitive advantage and the way an enterprise is organized. Wiklund and Shepherd (2003) conclude that knowledge-based resources (applied to the identification and exploitation of opportunities) have a beneficial link to business performance and that EO enhances this connection.

4.4. Cluster 4: Impact

A sizable portion of past EO scholarship has been developed to understanding its influence upon firm performance (Wales, Gupta et al.,

2013). Along these lines, in cluster 4 (see Fig. 7) we discuss the influential landmark studies within past research which evidence the well-established EO-performance relationship, as well as the importance of mediators within this relationship.

(a) The EO-performance relationship

Cluster four captures research examining the impact of EO. Notably, firm performance has generally been the central dependent variable which EO scholarship has sought to explain. To this end, the influential landmark study by Rauch et al. (2009) offers a meta-analysis on EO-performance findings. They explore the magnitude of the relationship and observe a moderately large correlation of $r = 0.242$, which as they mention is similar in strength to that of taking sleeping pills and getting a good night's rest. They reveal that the relationship is robust to different operationalizations of EO and performance, and different cultural contexts. Notably, the work of Rauch et al. (2009) won the 2015 Grief Research Impact Award for the most influential and cited entrepreneurship paper in the world published in 2009.

As a conversational landmark, Wiklund (1999) sheds additional light on the sustainability of the EO-performance relationship, observing that the relationship increases over time in line with the findings of Zahra and Covin (1995). Finally, the landmark study by Zahra (1991) is one of only a few studies which not only identifies the consequences of EO, but also explicitly considers its antecedents as well. This study, which uses a different operationalization of EO than the established ones named before, proposes that the external environment, grand corporate strategy, and organizational factors are predictors of EO, which is referred to as corporate entrepreneurship. Additionally, Zahra (1991) links EO to financial performance, emphasizing a bi-directional association, i.e. past high performance may be conducive to EO, which then may result in high performance, promoting a cyclical, associative perspective and drawing attention to the importance of stronger causal models in EO research.

(b) The importance of mediators in the EO-performance relationship

The landmark study by Wang (Wang, 2008) addresses a mediating effect and identifies learning orientation as a missing link in the EO-performance relationship. The author finds empirical support for the mediating effect of learning orientation and reveals that the EO-LO-performance link is stronger for 'prospecting' than 'analyzing' firms. As such, the study directs attention toward the potential of moderated-mediations in EO relationships. The landmark research by Dess and Lumpkin (2005) is a conceptual study aimed at practitioners which reveals the role of EO (as management style and organizational processes

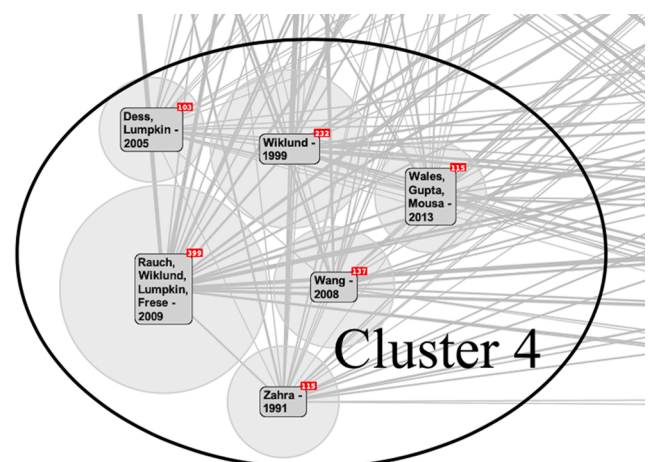


Fig. 7. Cluster 4.

spanning the five dimensions of EO in stimulating effective corporate entrepreneurship. Using examples to illustrate, they suggest that an EO can enhance firms' initiatives directed at corporate entrepreneurship and new venture creation. As such, they differentiate EO from corporate entrepreneurship, which is in line with their earlier work in which they characterize EO as "lead[ing] to new entry" (Lumpkin & Dess, 1996, p. 136), not as 'new entry' itself. In this vein they and proceeding research, such as the study by Kollmann and Stöckmann (2014), have considered 'new entry' as a mediator within the EO-performance relationship. While the landmark research by Wales, Gupta et al. (2013) addresses multiple aspects in the context of EO, their qualitative review indicates that EO researchers seem to favor moderating over mediating effects, which is surprising "[g]iven the pivotal role of mediators in theoretically elaborating the effects of EO". Beyond calling for more research on mediating effects, their research suggests multiple paths for future research.

5. Future research directions and study limitations

Based upon our analysis of the key conversational landmarks which have served as guiding beacons within the EO literature thus far, we attempt in this study to better understand the theoretical scaffolding which is in place as EO research builds towards the future. Reflecting on the clusters, cluster one captures landmark studies which while often cited, should arguably be more thoroughly scrutinized when writing about what EO captures conceptually, and how it operates theoretically as a means of improving firm performance. Drawing upon our discussion above, we now offer a few possible future research considerations that we observe.

To begin, studies exploring EO as an organizational or corporate orientation should work to develop additional insight into how entrepreneurship is leveraged strategically by organizations and their top management. Certainly, EO can be manifest more broadly than a strategic orientation in global sense across various, often non-organizational actors (Lumpkin & Pidduck, 2020), but understanding how and when it is manifest in a strategic manner would also help advance the long-standing literature concerned with EO as an organizational attribute (Covin & Slevin, 1989; Covin & Wales, 2019; Miller, 1983; Mintzberg, 1973). As new entries create new possible sources of value creation, a Schumpeterian-grounded theoretic perspective on entrepreneurship and innovation can be recognized as a theoretic lens at the heart of EO as a strategic orientation. In this vein, future studies should work to further describe when EO leads to radical, market-altering, disruptive innovations (Cowden & Tang, 2020). The literature would also benefit from more concerted efforts to thoughtfully compare and when possible reconcile the various characterizations of organizational entrepreneurship such as corporate entrepreneurship, strategic entrepreneurship, entrepreneurial management, along with entrepreneurial orientation when considering how EO operates as a strategic orientation.

Moreover, EO has been described as a characteristic of organizations which spans top management style, organizational configuration, and new entry initiatives (Wales, Corbett et al., 2020, Wales, Covin et al., 2020). Further scrutiny of the landmark studies suggests that organizational configuration has been an underlying theme throughout past EO research, but only recently has it garnered explicit attention within the literature. That being said, what specifically is being configured has been the subject of discussion, from a configuration of the characteristic dimensions of entrepreneurial activity, e.g., innovation, proactiveness, etc. (Lumpkin & Dess, 1996), to broader organizational configurations of resources which enable sustained patterns of new entry (Wales, Corbett et al., 2020, Wales, Covin et al., 2020). In this vein, the RBV can provide a helpful theoretic lens through which to understand *how* and *why* EO influences firm performance. The notion that top management style may configure an organizations resource bases to produce a sustained pattern of new entries suggests that EO operates as both a state (or attribute) *and* a process (or capability), with some descriptions of EO

being more state (Covin & Wales, 2019) or process (Lumpkin & Pidduck, 2020) focused. Rather, this research raises the possibility that, in line with a metaphor of 'the blind men and the elephant', reconciliation could be helpful (Wales, Corbett et al., 2020, Wales, Covin et al., 2020), and the notion that EO captures an organizational conceptual framework considered. In short, EO likely captures the organization of the firm (the 'O' aspect of the VRIO model, an attribute or state) in terms of how the organization has manifest various entrepreneurial characteristics (innovativeness, proactiveness, etc.) within resources and capabilities (i.e., processes, routines, structures, culture), but also the process of configuration and reconfiguration of a firms entrepreneurially-oriented resources and capabilities in order to create new value for the organization (or actor more broadly stated when considering EO within additional contexts such as individuals, teams, etc. Lumpkin & Pidduck, 2020).

Nonetheless, organizing the landmark studies within EO research into topical clusters reveals that 'defining pieces' has been only one of several prominent topics in the EO conversation alongside 'methods and measurement', 'contingencies', and 'impact'. Cluster two reveals advancements within the measurement and method issues in EO research which are of great importance to enhancing the validity and reliability of study findings. While undoubtedly still useful, several researchers call for complementing the Covin and Slevin (1989) scale with alternative measurement instruments such as non-survey-based approaches like computer-aided text analysis (e.g., Short, Ketchen, Combs, & Ireland, 2010) or secondary data approaches (e.g., Stam & Elfring, 2008). With respect to analytical methods, an enormous effort towards continued development and improvement can be observed. Today's methods enable unprecedented analyses. Examples of recent approaches are *fuzzy-set qualitative comparative analysis* (fsQCA; Kraus, Ribeiro-Soriano, & Schüssler, 2017; Kraus, Kallmuenzer, Stieger, Peters, & Calabrò, 2018) that has been used by Covin et al. (2016), Palmer et al. (2019), or Covin et al. (2020) in the context of EO, or *advanced commonality analysis* that has been used by Lomberg et al. (2017) to align normative theory and empirical testing in EO. The use of experiments to advance knowledge in the EO domain might also prove to be highly productive. While experiments are rare in EO research, useful templates for how such research might be designed are available. For example, a recent article by Rigtering, Weitzel, and Muehlfeld (2019) is a good starting point for demonstrating how experiments pertaining to corporate entrepreneurship can be performed in organizational settings.

Clusters three and four deal with contingencies and impacts of EO. Much has been done in this area. It can be noted that the EO-performance relationship has been examined extensively. Some often-documented (and perhaps overly-replicated) EO effects revealed through studies within the 'impact' cluster may help explain why some scholars have even at times regarded EO as 'an annoying construct' (Covin & Lumpkin, 2011). Nonetheless, there are many other dependent variables with the potential to enhance our understanding of EO left to explore, for example with respect to internal success measures such as employee satisfaction given that EO pervades the whole organization (e.g., Wales et al., 2011). Moreover, a deeper understanding of the impact that EO has on performance is intimately tied to a focus on exploring key contingencies of this relationship; thereby echoing calls for examining *novel* moderating effects within the EO-performance relationship (Rauch et al., 2009) beyond considerations investigated ad nauseum such as task-environmental conditions (Covin & Lumpkin, 2011). EO research has also identified mediating effects (e.g., Wang, 2008; Kollmann & Stöckmann, 2014), and moderated-mediation models would allow for a finer-grained understanding of moderating effects in translating EO into superior performance. We observed only a small number of studies examining the antecedents of EO (a recent exception being Kollmann, Hensellek, Stöckmann, Kensbock, & Peschl, 2020). In order to help organizations to put into place the people, structures, and processes beneficial to EO, future research might pay more attention to the genesis of EO.

As with all research, there are limitations to the objectivity of our analysis' results. First, based on a robust sample, we tried to elaborate a representative overview of the evolution and the current state of EO research. Although we offer the most comprehensive effort of this nature to date, our literature search still may not have captured all EO-related papers. Second, the subjectivity of the researcher regarding the choice of data and the interpretation of its results - especially the clustering - represents another limitation. Third, the application of bibliometric methods induces constraints. Because publications need time to show a significant impact, we can only show trends to date. Fourth, limiting the discussion to the top 30 most frequently cited references in our overall dataset focuses and perhaps restricts our conclusions. With this in mind however, the aim of our bibliometric analysis was to discern the intellectual structure of the field as well as the development of EO research based on the most influential publications. Finally, we acknowledge that despite our best efforts, the clusters' collocation is subjective.

In sum, it is our hope that this bibliometric analysis sparks a deeper level of consideration of EO's theoretic grounding, what the landmark studies have been, and how these studies have and will continue to shape EO's research trajectory into the future.

Acknowledgement

This work was supported by the Open Access Publishing Fund provided by the Free University of Bozen-Bolzano.

References

- Anderson, B. S., & Eshima, Y. (2013). The influence of firm age and intangible resources on the relationship between entrepreneurial orientation and firm growth among Japanese SMEs. *Journal of Business Venturing*, 28(3), 413–429.
- Anderson, B. S., Kreiser, P. M., Kuratko, D. F., Hornsby, J. S., & Eshima, Y. (2015). Reconceptualizing entrepreneurial orientation. *Strategic Management Journal*, 36(10), 1579–1596.
- Anderson, C. R., & Paine, F. T. (1975). Managerial perceptions and strategic behavior. *Academy of Management Journal*, 18(4), 811–823.
- Barney, J. B. (1991). The resource based view of strategy: Origins, implications, and prospects. *Journal of Management*, 17(1), 97–211.
- Blank, S. (2013). Why the lean start-up changes everything. *Harvard Business Review*, 91(5), 63–72.
- Brouthers, K. D., Nakos, G., & Dimitratos, P. (2015). Sme entrepreneurial orientation, international performance, and the moderating role of strategic alliances. *Entrepreneurship Theory and Practice*, 39(5), 1161–1187.
- Bruton, G. D., Filatotchev, I., Si, S., & Wright, M. (2013). Entrepreneurship and strategy in emerging economies. *Strategic Entrepreneurship Journal*, 7(3), 169–180.
- Casillas, J., & Acedo, F. (2007). Evolution of the intellectual structure of family business literature: A bibliometric study of fbr. *Family Business Review*, 20(2), 141–162.
- Covin, J. G., Eggers, F., Kraus, S., Cheng, C.-F., & Chang, M.-L. (2016). Marketing-related resources and radical innovativeness in family and non-family firms: A configurational approach. *Journal of Business Research*, 69(12), 5620–5627.
- Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation-sales growth rate relationship. *Entrepreneurship: Theory & Practice*, 30(1), 57–81.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship: Theory & Practice*, 35(5), 855–872.
- Covin, J. G., & Miles, M. P. (1999). Corporate entrepreneurship and the pursuit of competitive advantage. *Entrepreneurship Theory & Practice*, 23(3), 47–63.
- Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice*, 38(1), 11–44.
- Covin, J. G., Rigtering, J., Hughes, M., Kraus, S., Cheng, C.-F., & Bouncken, R. (2020). Individual and team entrepreneurial orientation: Scale development and configurations for success. 112, 1–12.
- Covin, J. G., & Slevin, D. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(11), 75–87.
- Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behaviour. *Entrepreneurship: Theory and Practice*, 16(1), 7–24.
- Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 36(4), 677–702.
- Covin, J. G., & Wales, W. J. (2019). *Crafting high-impact entrepreneurial orientation research: Some suggested guidelines*. Los Angeles, CA: SAGE Publications Sage CA.
- Cowden, B., & Tang, J. T. (2020). Enhancing entrepreneurial orientation research: From theorizing to measuring. In A. K. Corbett, P., Marino, L. & W. Wales (Eds.), *Entrepreneurial orientation: Epistemological, theoretical, and empirical perspectives*. Bingley: Emerald.
- Dess, G. G., & Lumpkin, G. T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Executive*, 19(1), 147–156.
- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677–695.
- Eggers, F., Niemand, T., Kraus, S., & Breier, M. (2020). Developing a scale for entrepreneurial marketing: Revealing its inner frame and prediction of performance. *Journal of Business Research*, 113, 72–82.
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10), 1105–1121.
- Ferreira, J. J. M., Fernandes, C. L., & Kraus, S. (2019). Entrepreneurship research: Mapping intellectual structures and research trends. *Review of Managerial Science*, 13(1), 181–205.
- Garfield, E. (1979). Is citation analysis a legitimate evaluation tool? *Scientometrics*, 1(4), 359–375.
- Gundolf, K., & Filser, M. (2013). Management research and religion: A citation analysis. *Journal of Business Ethics*, 112(1), 177–185.
- Gupta, V., & Gupta, A. (2015). The concept of entrepreneurial orientation: Foundations and trends in entrepreneurship. *Foundations and Trends in Entrepreneurship*, 11(2), 55–137.
- Gupta, V. K., & Dutta, D. K. (2018). The rich legacy of covin and slevin (1989) and lumpkin and dess (1996): A constructive critical analysis of their deep impact on entrepreneurial orientation research Foundational research in entrepreneurship studies (pp. 155–177): Springer.
- Hakala, H. (2011). Strategic orientations in management literature: Three approaches to understanding the interaction between market, technology, entrepreneurial and learning orientations. *International Journal of Management Reviews*, 13(2), 199–217.
- Hansen, J. D., Deitz, G. D., Tokman, M., Marino, L. D., & Weaver, K. M. (2011). Cross-national invariance of the entrepreneurial orientation scale. *Journal of Business Venturing*, 26(1), 61–78.
- Harms, R., Kraus, S., & Schwarz, E. (2009). The suitability of the configuration approach in entrepreneurship research. *Entrepreneurship and Regional Development*, 21(6), 25–47.
- Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management*, 36(5), 651–661.
- Ismail, K., Anuar, M. A., Omar, W. W., Aziz, A., Seohod, K., & Akhtar, C. S. (2015). Entrepreneurial intention, entrepreneurial orientation of faculty and students towards commercialization. *Procedia-Social and Behavioral Sciences*, 181, 349–355.
- Karyotakis, K. M., & Moustakis, V. S. (2016). Organizational factors, organizational culture, job satisfaction and entrepreneurial orientation in public administration. *The European Journal of Applied Economics*, 13(1), 47–59.
- Knight, G. A. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*, 12(3), 213–225.
- Kollmann, T., Hensellek, S., Stöckmann, C., Kensbock, J. M., & Peschl, A. (2020). How management teams foster the transactive memory system-entrepreneurial orientation link: A domino effect model of positive team processes. *Strategic Entrepreneurship Journal*. <https://doi.org/10.1002/sej.1365>.
- Kollmann, T., & Stöckmann, C. (2014). Filling the entrepreneurial orientation-performance gap: The mediating effects of exploratory and exploitative innovations. *Entrepreneurship Theory and Practice*, 38(5), 1001–1026.
- Kraus, S., Kallmuenzer, A., Stieger, D., Peters, M., & Calabrò, A. (2018). Entrepreneurial paths to family firm performance. *Journal of Business Research*, 88, 382–387.
- Kraus, S., Ribeiro-Soriano, D., & Schüssler, M. (2017). Fuzzy-set qualitative comparative analysis (fsqca) in entrepreneurship and innovation research – the rise of a method. *International Entrepreneurship and Management Journal*.
- Kreiser, P. M., Marino, L. D., & Weaver, K. M. (2002). Assessing the psychometric properties of the entrepreneurial orientation scale: A multi-country analysis. *Entrepreneurship: Theory and Practice*, 26(4), 71–95.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.
- Lampe, J., Kraft, P. S., & Bausch, A. (2020). Mapping the field of research on entrepreneurial organizations (1937–2016): A bibliometric analysis and research agenda. *Entrepreneurship Theory and Practice*, 44(4), 784–816.
- Lee, C., Lee, K., & Pennings, J. M. (2001). Internal capabilities, external networks, and performance: A study on technology-based ventures. *Strategic Management Journal*, 22(6/7), 615–640.
- Lee, Y., Zhuang, Y., Joo, M., & Bae, T. J. (2019). Revisiting covin and slevin (1989): Replication and extension of the relationship between entrepreneurial orientation and firm performance. *Journal of Business Venturing Insights*, 12, Article e00144.
- Lomborg, C., Urbig, D., Stöckmann, C., Marino, L. D., & Dickson, P. H. (2017). Entrepreneurial orientation: The dimensions' shared effects in explaining firm performance. *Entrepreneurship Theory and Practice*, 41(6), 973–998.
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, 16(5), 429–451.
- Lumpkin, G. T., & Pidduck, R. J. (2020). Global entrepreneurial orientation (GEO): An updated, multidimensional view of EO. In A. K. Corbett, P. Marino, & L. W. Wales (Eds.), *Entrepreneurial Orientation: Epistemological, Theoretical, and Empirical Perspectives*. Bingley: Emerald.
- Lyon, D. W., Lumpkin, G. T., & Dess, G. G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of Management*, 26(5), 1055–1085.

- Martens, C. D. P., Lacerda, F. M., Belfort, A. C., & de Freitas, H. M. R. (2016). Research on entrepreneurial orientation: Current status and future agenda. *International Journal of Entrepreneurial Behavior & Research*.
- McKenney, A. F., Short, J. C., Ketchen, D. J., Jr, Payne, G. T., & Moss, T. W. (2018). Strategic entrepreneurial orientation: Configurations, performance, and the effects of industry and time. *Strategic Entrepreneurship Journal*, 12(4), 504–521.
- Miao, C., Coombs, J. E., Qian, S., & Sirmon, D. G. (2017). The mediating role of entrepreneurial orientation: A meta-analysis of resource orchestration and cultural contingencies. *Journal of Business Research*, 77, 68–80.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–791.
- Miller, D. (1996). Configurations revisited. *Strategic Management Journal*, 17(7), 505–512.
- Miller, D. (2011). Miller (1983) revisited: A reflection on eo research and some suggestions for the future. *Entrepreneurship Theory and Practice*, 35(5), 873–894.
- Miller, D., & Friesen, P. (1978). Archetypes of strategy formulation. *Management Science*, 24(9), 921–933.
- Miller, D., & Friesen, P. H. (1977). Strategy-making in context: Ten empirical archetypes. *Journal of Management Studies*, 14(3), 253–280.
- Miller, D., & Friesen, P. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal*, 3(1), 1–25.
- Mintzberg, H. (1973). Strategy making in three modes. *California Management Review*, 16(2), 44–53.
- Moed, H. F. (2005). *Citation analysis in research evaluation*. Dordrecht: Springer.
- Naman, J. L., & Slevin, D. P. (1993). Entrepreneurship and the concept of fit: A model and empirical tests. *Strategic Management Journal*, 14(2), 137–153.
- Palmer, C., Stöckmann, C., Niemand, T., Kraus, S., & Kailer, N. (2019). The interplay of entrepreneurial orientation and psychological traits in explaining firm performance. *Journal of Business Research*, 94, 183–194.
- Porter, M. E. (1996). What is strategy? *Harvard Business Review*, 74(6), 61–78.
- Prévot, F., Branchet, B., Boissin, J.-P., Castagnos, J.-C., & Guieu, G. (2010). The intellectual structure of the competence-based management field: A bibliometric analysis. In R. Sanchez & A. Heene (Eds.), *Research in competence-based management vol. 5: Identifying, building and linking competences* (pp. 231–258). Bingley: Emerald.
- Rauch, A., Wiklund, J., Lumpkin, G., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship: Theory & Practice*, 33(3), 761–787.
- Rigtering, J. C., Weitzel, G. U., & Muehlfeld, K. K. (2019). Increasing quantity without compromising quality: How managerial framing affects intrapreneurship. *Journal of Business Venturing*, 34(2), 224–241.
- Rigtering, J. P. C., Eggers, F., Kraus, S., Eggers, F., & Chang, M. (2017). Entrepreneurial orientation, strategic planning and firm performance: The impact of national cultures. *European Journal of International Management*, 11(3), 301–324.
- Runyan, R. C., Ge, B., Dong, B., & Swinney, J. L. (2012). Entrepreneurial orientation in cross-cultural research: Assessing measurement invariance in the construct. *Entrepreneurship Theory and Practice*, 36(4), 819–836.
- Saeed, S., Yousafzai, S. Y., & Engelen, A. (2014). On cultural and macroeconomic contingencies of the entrepreneurial orientation–performance relationship. *Entrepreneurship Theory and Practice*, 38(2), 255–290.
- Sarin, S., Haon, C., & Belkhouja, M. (2018). A twenty-year citation analysis of the knowledge outflow and inflow patterns from the journal of product innovation management. *Journal of Product Innovation Management*, 35(6), 854–863.
- Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge: Harvard University Press.
- Semrau, T., Ambos, T. C., & Kraus, S. (2016). Entrepreneurial orientation and sme performance across societal cultures. *Journal of Business Research*, 69(5), 1928–1932.
- Short, J. C., Ketchen, D. J., Jr., Combs, J. G., & Ireland, R. D. (2010). Research methods in entrepreneurship: Opportunities and challenges. *Organizational Research Methods*, 13(1), 6–15.
- Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra- and extraindustry social capital. *Academy of Management Journal*, 51(1), 97–111.
- Vallaster, C., Kraus, S., Lindahl, J. M. M., & Nielsen, A. (2019). Ethics and entrepreneurship: A bibliometric study and literature review. *Journal of Business Research*, 99, 226–237.
- Venkatraman, N. (1989). Strategic orientation of business enterprises: The construct, dimensionality and measurement. *Management Science*, 35(8), 941–962.
- Wales, W., Gupta, V. K., Marino, L., & Shirokova, G. (2019). Entrepreneurial orientation: International, global and cross-cultural research. *International Small Business Journal*, 37(2), 95–104.
- Wales, W., Monsen, E., & McKelvie, A. (2011). The organizational pervasiveness of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 35(5), 895–923.
- Wales, W. J. (2016). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal*, 34(1), 3–15.
- Wales, W. J., Corbett, A., Marino, L., & Kreiser, P. (2020). The Future of Entrepreneurial Orientation (EO) Research. In A. K. Corbett, P. Marino, & L. W. Wales (Eds.), *Entrepreneurial Orientation: Epistemological, Theoretical, and Empirical Perspectives*. Bingley: Emerald.
- Wales, W. J., Covin, J. G., & Monsen, E. (2020). Entrepreneurial orientation: The necessity of a multilevel conceptualization. *Strategic Entrepreneurship Journal*.
- Wales, W. J., Gupta, V. K., & Mousa, F.-T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, 31(4), 357–383.
- Wales, W. J., Parida, V., & Patel, P. C. (2013). Too much of a good thing? Absorptive capacity, firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal*, 34(5), 622–633.
- Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice*, 32(4), 635–657.
- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation–performance relationship. *Entrepreneurship Theory and Practice*, 24(1), 37–48.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium sized business. *Strategic Management Journal*, 24(13), 1307–1314.
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configuration approach. *Journal of Business Venturing*, 20(1), 71–91.
- Wiklund, J., & Shepherd, D. A. (2011). Where to from here? Eo-as-experimentation, failure, and distribution of outcomes. *Entrepreneurship Theory and Practice*, 35(5), 925–946.
- Wright, M., & Kellermanns, F. W. (2011). Family firms: A research agenda and publication guide. *Journal of Family Business Strategy*, 2(4), 187–198.
- Xi, J. M., Kraus, S., Kellermanns, F., & Filser, M. (2015). Mapping the field of family business research: Past trends and future directions. *International Entrepreneurship and Management Journal*, 11(1), 113–132.
- Yue, W., & Wilson, C. S. (2004). Measuring the citation impact of research journals in clinical neurology: A structural equation modelling analysis. *Scientometrics*, 90(3), 317–332.
- Zahra, S. (1991). Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6(4), 259–286.
- Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship–performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1), 43–58.

William J. Wales is the Standish Professor of Entrepreneurship at the University at Albany School of Business. His research focuses on entrepreneurship, entrepreneurial orientation, organizational strategic orientations and managerial decision-making. His recent articles include studies on organizations' strategic orientations, CEO narcissism and an assessment of organizational preparedness for corporate entrepreneurship.

Sascha Kraus is Professor of Management at the Free University of Bozen-Bolzano, Italy. He holds a doctorate in Social and Economic Sciences from Klagenfurt University, Austria, a Ph.D. in Industrial Engineering and Management from Helsinki University of Technology and a Habilitation (Venia Docendi) from LUT University, both in Finland. Before that, he held Full Professor positions at Utrecht University, The Netherlands, the University of Liechtenstein, Ecole Supérieure du Commerce Extérieur Paris, France and at Durham University, United Kingdom.

Matthias Filser is Head of the Center for Entrepreneurship at the ZHAW Zürich University of Applied Sciences in Winterthur, Switzerland. He received his Ph.D. from Utrecht University, The Netherlands in 2013. His research focuses on strategic entrepreneurship, family businesses, and innovation. His work has been published widely in leading academic and professional journals such as the Journal of Product Innovation Management, British Journal of Management, Journal of Business Ethics, Journal of Business Research, and Journal of Small Business Management.

Jeffrey G. Covin is the Samuel and Pauline Glaubinger Professor of Entrepreneurship in the Kelley School of Business, Indiana University. Professor Covin teaches in the areas of strategic management and management of technology. His research is largely focused at the intersection of strategic management and entrepreneurship, with the phenomena of entrepreneurial orientation and internal corporate venturing being his most studied research domains.

Christoph Stöckmann is Rector and Professor of Innovation and Entrepreneurship at Seeburg Castle University in Seekirchen/Salzburg, Austria. He holds a doctoral and a habilitation degree in business administration from the University of Duisburg-Essen in Germany. His research focuses on entrepreneurship, innovation and managerial decision-making.