

Bridging past and present entrepreneurial marketing research

A co-citation and bibliographic coupling analysis

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Fabian Most

Business, Ludwig Maximilian University, Munich, Germany

Francisco J. Conejo

*Marketing/Entrepreneurship, University of Colorado Denver, Denver,
Colorado, USA, and*

Lawrence F. Cunningham

Marketing, University of Colorado Denver, Denver, Colorado, USA

Abstract

Purpose – Literature in entrepreneurial marketing (EM) continues to grow in volume and diversity. This paper aims to examine the topical structure of EM's literature toward guiding research in the field.

Design/methodology/approach – A four-phase bibliometric research design is implemented, encompassing co-citation and bibliographic-coupling analyses, network analysis, factor analysis and correspondence analysis.

Findings – In total, 14 EM literature clusters, comprising 7 topical meta-clusters, are mapped and discussed: the 7 clusters are resources and capabilities, entrepreneurial orientation (EO), measurement, EO/marketing orientation (MO) integration, MO, international entrepreneurship and social entrepreneurship.

Originality/value – These topical streams confirm, refine and extend prior bibliometric studies. A more comprehensive, extensive and reliable picture of EM's literature is provided, the result of using over twice as many references as prior studies and peer-reviewed journals only. Results will help guide EM research, contributing toward the field's empirical/theoretical development.

Keywords Marketing, Entrepreneur, Literature, Bibliometric, Co-citation, Bibliographic

Paper type Research paper

Introduction

Marketing and entrepreneurship are key firm activities. The ability to properly define markets and create superior value for consumers via the marketing mix is identified as a critical success factor for young, small firms (Hills and Laforge, 1992). Similarly, an entrepreneurial approach to business, in which opportunities are nimbly identified and exploited, is also found to substantially enhance performance (Morris *et al.*, 2002).

Marketing and entrepreneurship are traditionally considered separate disciplines. However, they are complementary in nature and practice (Drucker, 1954; Webb *et al.*, 2011). Entrepreneurial marketing (EM) reconciles both areas by developing theory at their interface. Hills *et al.* (2011; 2008) review EM's emergence. They conclude that mainstream marketing focuses on the needs of large, formal, resource-abundant businesses. Marketing



theory does therefore not necessarily apply to small business/entrepreneurial settings. Unlike managerial marketing, which assumes markets already there for the taking, EM first identifies and develops opportunities. Only thereafter are marketing techniques applied, tailored to the limited resources and the volatile environments often encountered by ventures. Within this context, entrepreneurial effectuation, comprising creativity, proactiveness and flexibility, plays a major role, so does the nexus between entrepreneurs and consumers, which when properly integrated allows EM to deliver superior performance and value (Lehman *et al.*, 2014; Morrish, 2011; Stokes, 2000).

EM is reaching critical mass and developing as a distinct school of marketing thought (Homburg *et al.*, 2014; Kraus *et al.*, 2012; Uslay and Teach, 2009). EM research is increasingly prominent, approached from multiple perspectives (Gilmore, 2011; Hansen and Eggers, 2010). As EM research becomes large and varied, there is growing need for comprehensive literature reviews, particularly for studies that identify key topics and directions. Such work stands to guide the field's advancement (Hansen and Eggers, 2010; Kraus *et al.*, 2011; Uslay and Teach, 2009).

The present bibliometric study examines EM's topical structure. A four-phase research design is applied, encompassing co-citation/bibliographic-coupling analyses, network analysis, factor analysis and correspondence analysis. Bridging past and present EM research, it identifies and maps seven topical EM meta-clusters:

- (1) resources and capabilities;
- (2) entrepreneurial orientation (EO);
- (3) measurement;
- (4) EO/marketing orientation (MO) integration;
- (5) MO;
- (6) international entrepreneurship (IE); and
- (7) social entrepreneurship.

These topical streams refine and extend prior bibliometric studies. A better understanding of EM's extant literature is offered. This will guide subsequent research, contributing toward the field's empirical/theoretical development.

This paper is organized as follows. A brief overview of EM literature reviews is first provided. Next, the methods applied in this study are described. Results are then discussed, addressing topical streams at both the foundation and forefront of EM research. Future research avenues are also suggested. The paper ends with limitations and some closing remarks.

Entrepreneurial marketing literature reviews

Literature reviews typically follow one of two general approaches. Each has its merits and limitations. One approach is qualitative. These studies address literature bodies thematically, identifying past, present and future research directions. Despite their possible depth and richness, qualitative studies are subjective given their interpretive nature. Qualitative studies also fall short in that they rarely represent an entire body of literature, findings limited to source materials selected (Backhaus *et al.*, 2011; Coombes and Nicholson, 2013).

No comprehensive review qualitatively assesses EM's literature. However, a few studies do address the field's topical direction. One of these studies, Hansen and Eggers (2010), content analyzes discussions from a conference on EM's past and future. They identify

various topics summarized into broad themes such as *marketing, entrepreneurship, small business marketing, EM, research context, research perspective, practical significance and modeling*. Another study, [Hills and Hultman \(2011\)](#), surveys leading EM scholars on the importance of various research questions. Results are compared to those obtained 25 years earlier, revealing EM research areas still needing attention. Studies such as the above are surely useful. They provide important insights on the field's topical direction. However, they are also limited to specific contexts and thus invite focus toward more comprehensive efforts.

The other general way in which literature reviews might be conducted is through bibliometric studies. These approach literature bodies quantitatively, applying mathematical and statistical methods to document bibliographies. Bibliometric studies quantify the impact of individual publications. More importantly, they provide detailed insights of a field's topical structure and direction ([Ball and Tunger, 2005](#); [Verbeek et al., 2002](#)). While not as rich as their qualitative counterparts, bibliometric approaches are systematic, objective and replicable. They are thus untainted by the idiosyncratic biases affecting conceptual reviews ([Gregoire et al., 2006](#)). Bibliometric techniques have thus been welcomed by academic communities, as they provide a strong basis for statements about fields' structure and direction ([McDonald et al., 2015](#)).

Due to ever-rising publication numbers, bibliometric techniques are increasingly applied across science. There is a growing trend toward using these techniques to survey literature bodies ([McDonald et al., 2015](#)). Within business, bibliometrics have been used to assess domains such as management ([Ramos-Rodriguez and Ruiz-Navarro, 2004](#)), entrepreneurship ([Schildt et al., 2006](#)) and marketing ([Baumgartner and Pieters, 2003](#)). Within EM, only two studies use the bibliometric approach: [Kraus et al. \(2011\)](#) and [Kraus et al. \(2012\)](#). Both efforts structure EM's literature into three broad clusters: one on *EM foundations*, another on *marketing issues in small/new ventures* and a third on *specific EM issues*. The more recent study enriches the prior one via a co-citation analysis (CCA). The latter identifies *market orientation* as an additional fourth topical cluster. While not strong enough to constitute a fifth topical cluster, the study also detects a trend toward more applicability within EM's literature.

The efforts of [Kraus et al. \(2011, 2012\)](#) are valuable for providing an initial overview of EM's topical structure. However, the broad, general nature of themes identified is also limiting. More specific, and actionable, topical clusters are still needed. This sets the stage for the present refinement study. Furthermore, the above authors use citations up to 2002 and 2004. Due to the scattered and limited availability of EM research at those moments, both studies also rely on conference proceedings and specialized publications. The present study overcomes the above limitations, extending these efforts. By including a larger data set, with roughly twice as many citations, using peer-reviewed journal articles only and incorporating more recent publications, a more representative and up-to-date picture of EM research is presently offered. Furthermore, by applying a combination of bibliometric methods, namely, co-citation and bibliographic coupling analyses, past and present EM research directions are bridged. This provides a more detailed picture of EM research, uncovering promising future research avenues.

Methodology

Data collection

Bibliometric data were compiled via Thomson-Reuters' Web of Science (WoS) Index, the most widely used citation database given its comprehensive social science publication coverage ([Neuhaus and Daniel, 2008](#); [Verbeek et al., 2002](#)). The query covered all available

years to 2013 inclusive, restricted to English-language peer-reviewed journals. This follows English being science's *lingua franca* (Tardy, 2004) and journal articles being the main communicators of scientific knowledge; their quality certified through the peer-review process (Vogel and Masal, 2014). Using journal articles only, opposed to conference proceedings and monographs, also improves the reliability of bibliometric findings (Ramos-Rodriguez and Ruiz-Navarro, 2004).

Bibliometric data were drawn from EM-related publications, the terms entrepreneur* and *marketing* searched for in titles, abstracts or keywords. These search terms are consistent with those of Kraus *et al.* (2011, 2012). As business and management are the natural domains of marketing and entrepreneurship, the query was focused on these two areas. This follows the process used by Coombes and Nicholson (2013).

Data were then corrected for errors. Most common were differences in initials, inconsistent capitalizations and spelling errors. References to different book editions were also harmonized. The final data set comprised 302 publications, with 18,759 references to 13,488 cited documents.

Analysis

This study applies a four-phase bibliometric procedure consisting of:

- (1) co-citation/bibliographic coupling analyses;
- (2) network analysis;
- (3) factor analysis; and
- (4) correspondence analysis.

The procedure is different than that of prior studies, and each phase is described below.

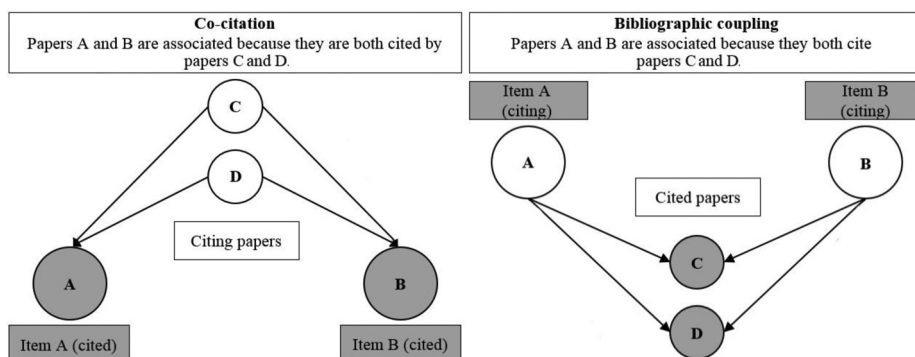
Co-citation/bibliographic coupling analyses. References relate citing and cited documents. Analysis of these relationships, done via journals, articles or authors, reveals underlying structures. The latter allows literature bodies to be topically mapped (Osareh, 1996). This study uses articles to map EM's literature. This follows articles best representing academic domains' informational content, thus the most appropriate unit of analysis (Verbeek *et al.*, 2002). In contrast, journals and authors contribute to multiple academic fields. Not representative of single domains, they result in suboptimal results (Gmür, 2003).

CCA and bibliographic coupling analysis (BCA) are major bibliometric techniques. However, they are fundamentally different. Two documents are co-cited if they are both mentioned in the reference list of a third document. CCA identifies high-impact publications based on their co-citation number. Though co-citations are cumulative, increasing naturally over time. CCA is thus biased toward past publications, representing fields' intellectual history (Jarneving, 2005; Verbeek *et al.*, 2002).

Conversely, two documents are bibliographically coupled if their reference lists share references. BCA identifies similarities between documents regardless of citation frequency. Bibliographically coupled citations are thus static, biased toward present publications. They trace currently relevant topics (that may, however, prove historically unimportant) (Jarneving, 2005; Osareh, 1996). In essence, CCA refers to *cited* documents, addressing scientific output *consumption*, and BCA refers to *citing* documents, addressing scientific output *production*. Figure 1 illustrates these differences, per Osareh (1996, pp. 154-155).

CCA and BCA address different analysis units and time horizons. They are thus usually applied separately (Jarneving, 2005). However, the two methods are complementary. Applying both mitigates individual limitations while retaining advantages. The present analysis uses both techniques. It builds on the efforts of Vogel and Masal (2014), adapted to

Figure 1.
Co-citation vs
bibliographic
coupling



the present context. This study is thus the first to integrate CCA and BCA in a marketing or entrepreneurship setting. The techniques were initially performed independently. Given their common citation basis, results were then merged into a single matrix to be matched (Jarneving, 2005).

Network analysis. The second step reduced citations to a more manageable number. The symmetrical citation matrix was considered an undirected single-mode document relationship network, then analyzed by means of social network analysis (Wasserman and Faust, 1994). To identify central, highly interdependent publications and separate them from less connected ones, a categorical core-periphery model, as proposed by Borgatti and Everett (2000), and implemented by the UCInet Software package, was performed. Rather than relying on experimental or subjective threshold values (Schildt *et al.*, 2006), the procedure calculated the optimal core-periphery structure via an algorithm, core citing documents defined as those connected to at least two other documents (Borgatti and Everett, 2000). This excluded 22 documents for not being coupled to any others and 5 further ones for having only one tie. In total, 173 documents were identified at the core of the co-citation matrix, and 275 documents were left in the coupling matrix for further analysis.

Factor analysis. In line with prior research, Ramos-Rodriguez and Ruiz-Navarro (2004), citation counts were transformed into Pearson correlations. The latter are sound indicators of document similarity. Not only are these relative measures less susceptible to exceptionally high/low citation rates but also produce more balanced clustering results than absolute frequencies (Gmür, 2003).

Publications were then subjected to factor analysis, the standard clustering method within bibliometric research (Nerur *et al.*, 2008; Vogel and Güttel, 2013). Principal components using varimax rotation and Kaiser normalization were sought. Documents with weak loadings (<0.3) were excluded from further analysis. Remaining documents, with loadings ≥ 0.3 , were assigned to their highest loading factor (Hair *et al.*, 2005).

Factor analysis reduced document pools to 159 for co-citation and 240 for bibliographic coupling. Documents within each cluster were analyzed for common themes, interpreted within their context, and labeled accordingly. As documents with the highest loadings are most characteristic of their respective factor, they largely determined cluster labels (McCain, 1990; Vogel and Masal, 2014). Eight factors emerged for CCA and six for BCA. Table I shows factors arranged in descending eigenvalue order. Characteristic references of each factor are shown on the right side.

Correspondence analysis. Correspondence analysis integrated results. Essentially, a multidimensional scaling procedure, correspondence analysis visualizes categorical data, in

Table I.
CCA and BCA
factors

Factor label	No. of documents	Eigenvalue	Variance explained		Most characteristic references (factor loading in brackets)
			(%)	cum (%)	
<i>Co-citation analysis</i>					
Born Global and internationalization	55	39.326	22.472	22.472	1. Knight <i>et al.</i> (2004) (0.940); 2. Moen and Servais (2002) (0.913); 3. Rialp <i>et al.</i> (2005) (0.905)
MO	21	14.169	8.097	30.568	1. Kohli and Jaworski (1990) (0.831); 2. Pelham and Wilson (1996) (0.775); 3. Hurlley and Hult (1998) (0.771)
MD	19	13.774	7.871	38.439	1. Schindehutte <i>et al.</i> (2008) (0.851); 2. Narver <i>et al.</i> (2004) (0.843); 3. Hills and Sarin (2003) (0.824)
EO	21	13.396	7.655	46.094	1. Dess <i>et al.</i> (1997) (0.851); 2. Zahra (1993) (0.788); 3. Miller (1983) (0.783)
Internal EO moderators	9	9.659	5.520	51.614	1. Wiklund and Shepherd (2003) (0.708); 2. Covin <i>et al.</i> (2006) (0.681); 3. Green <i>et al.</i> (2008) (0.631)
Research methods	14	8.186	4.678	56.292	1. Anderson and Gerbing (1988) (0.727); 2. Fornell and Larcker (1981) (0.706); 3. Aiken and West (1991) (0.694)
RBV and DCA	11	6.936	3.964	60.255	1. Barney (1991) (0.730); 2. Grant (1991) (0.706); 3. Peteraf (1993) (0.621)
Scales and boundaries	9	5.999	3.428	63.683	1. Deshpande and Farley (1998) (0.646); 2. Slater and Narver (2000) (0.646); 3. Sinkula <i>et al.</i> (1997) (0.605)
<i>Bibliographic coupling</i>					
Integration of MO and EO	98	86.502	32.157	32.157	1. Merlo and Auh (2009) (0.988); 2. Liu <i>et al.</i> (2002) (0.987); 3. Wei <i>et al.</i> (2013) (0.985)
EM resources and capabilities	53	36.359	13.516	45.673	1. Candi and Saemundsson (2008) (0.950); 2. Arora and Nandkumar (2012) (0.936); 3. Basu <i>et al.</i> (2011) (0.916)
IE	35	30.466	11.326	56.999	1. Freeman <i>et al.</i> (2013) (0.979); 2. Freeman <i>et al.</i> (2006) (0.971); 3. Mort and Weerawardena (2006) (0.969)
Relationship marketing	17	16.909	6.286	63.285	1. De Clercq and Rangarajan (2008) (0.914); 2. Dant <i>et al.</i> (2013) (0.909); 3. Friman <i>et al.</i> (2002) (0.880)
NSC	18	12.800	4.758	68.043	1. Bhatter and Altman (2013) (0.773); 2. Zhang <i>et al.</i> (2008) (0.681); 3. Lechner and Dowling (2003) (0.675)
Social entrepreneurship	19	10.202	3.793	71.836	1. Griskevicius <i>et al.</i> (2012) (0.614); 2. Carrigan <i>et al.</i> (2011) (0.596); 3. Riddle and Brinkerhoff (2011) (0.540)

this case, merged CCA/BCA results, on a single map (Backhaus *et al.*, 2011). BCA factor documents were compared to CCA factor ones. The more documents from a CCA cluster appear referenced by documents in a BCA cluster, the closer both factors are conceptually to each other. The benefit of this approach is the ability to determine relationships between current research (BCA factors) and past research (CCA factors), giving EM research a temporal perspective.

Figure 2 summarizes correspondence analysis results. The map locates EM research within two-dimensional space. Its vertical axis refers to scope, spanning the resource and environment-based strategic management views so often discussed in entrepreneurship. Clusters toward the map's top refer to EM literature on internal resources and capabilities. Clusters toward the bottom refer to EM literature related to the external environment. The horizontal axis refers to domain, spanning the applied theoretical continuum. Clusters toward the map's left refer to EM literature that is more descriptive/qualitative. Clusters toward the right refer to EM literature that is more theoretical/quantitative. Cluster size generally reflects publication numbers in its topical area. White clusters derive from CCA and refer to EM's foundational literature. Black clusters derive from BCA and refer to recent EM literature trends. The more documents from a CCA cluster appear referenced by documents in a BCA cluster, the closer both factors are on the map, and the more conceptually related they are to each other (Vogel and Masal, 2014).

Several points should be noted. First, dimensions are not discrete but operate as continua along which individual documents are located (Vogel and Masal, 2014). Second, publications may influence more than one topical cluster, even EM as a whole. The more they do, the weaker their impact on any single topical cluster (McCain, 1990). Frequently cited EM

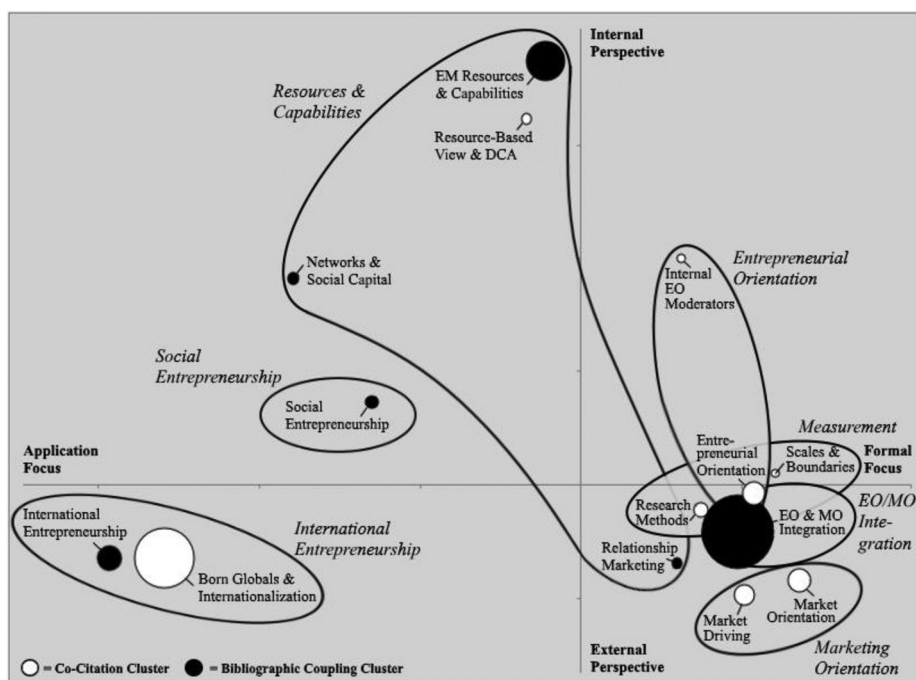


Figure 2.
EM research map

articles thus become obscured within multiple topical groups, e.g. the seminal contributions of [Morris and Paul \(1987\)](#) or [Hills and Laforge \(1992\)](#). Third, clusters are not necessarily less researched/important because of reduced size. Smaller clusters do suggest less literature. Though this might be due to the same few articles being continually cited, in turn suggesting higher agreement as to most relevant publications and findings, these small clusters perhaps are more researched than larger ones. Even though some clusters might be larger, and thus contain more literature, scholars do not necessarily agree as to most important publications/findings. This is particularly true for CCA clusters.

Results

CCA yielded eight thematic EM literature clusters, and BCA yielded six. These 14 clusters were thematically related to produce seven meta-clusters, encircled in [Figure 2](#), above, reconciling past and present EM literature streams. Clockwise from the top, meta-clusters are *resources and capabilities*, *EO*, *measurement*, *EO/MO integration*, *MO*, *IE* and *social entrepreneurship*. Before discussing meta-clusters in relation to prior bibliometric studies, the individual literature clusters making them up will be described. Given space restrictions, extensive discussion of cluster publications/authors is impossible. A general overview of each is instead provided, ordered per [Table I](#).

Entrepreneurial marketing research foundations: co-citation clusters

Born-global/internationalization. The born-global/internationalization literature cluster (39.33 Eigenvalues (EVs), 22.47 per cent variance, 55 documents) combines three topical streams: marketing, entrepreneurship and international business ([Rialp et al., 2005](#)). Its publications address exploiting foreign market opportunities ([Knight et al., 2004](#)) and deriving competitive advantage via resources leveraged across countries ([Oviatt and Mcdougall, 1994](#)). Articles not only refine the born-global approach but also challenge/extend conventional internationalization models ([Knight and Cavusgil, 1996](#)). External internationalization moderators such as market/industry conditions ([Andersson and Victor, 2003](#)) or market foreignness ([Zaheer, 1995](#)) are discussed, as are internal moderators such as human capital ([Coviello and Munro, 1995](#)), venture size ([Oviatt and Mcdougall, 2005](#)) and capabilities ([Moen and Servais, 2002](#)). Internationalization factors spanning the internal/external are also addressed, such as entry mode with respect to firm resources ([Burgel and Gordon, 2000](#)) or capacity to absorb/use environmental information ([Cohen and Levinthal, 1990](#)).

Marketing orientation. The MO literature cluster (14.17 EVs, 8.10 per cent variance, 21 documents) addresses the application of the marketing concept toward firm performance ([Drucker, 1954](#)). Publications approach MO from different perspectives ([Hurley and Hult, 1998](#)). From a behavioral perspective, responding to customer needs ([Kohli et al., 1993](#)); or as a corporate culture aspect ([Deshpande et al., 1993](#)). Despite being an internal disposition, MO is externally focused, hence this cluster's position. Articles contrast MO with other strategic postures ([Noble et al., 2002](#)). MO antecedents and consequences are also investigated, as is the influence of contextual and firm characteristics ([Kirca et al., 2005](#)). A strong MO is found to be especially important for small firms ([Pelham and Wilson, 1996](#)), also compensating for size disadvantages among larger firms ([Narver and Slater, 1990](#)). Excessively, formal organizational structures were also found to undermine MO ([Kohli and Jaworski, 1990](#)).

Market driving. The market driving (MD) literature cluster (13.77 EVs, 7.87 per cent variance, 19 documents) complements the above MO cluster. While MO is traditionally viewed as market-driven, i.e. reactive, publications in this cluster conceive it as market-driving, redefining customer preferences, market structures and competitive dynamics

(Jaworski *et al.*, 2000). Some articles focus on MD behaviors (Narver *et al.*, 2004), others focus on extending MD beyond customers to a broad stakeholder range (Schindehutte *et al.*, 2008). Articles also approach MD from an EO perspective, relating it to entrepreneurial features such as proactiveness (Narver *et al.*, 2004) or innovation (Matsumo *et al.*, 2002). Some efforts are more integrative, approaching MD from both an MO and EO perspective (Atuahene-Gima and Ko, 2001). Other efforts are more specific, addressing particularly suitable MD contexts (Hills and Sarin, 2003).

Entrepreneurial orientation. The EO literature cluster (13.4 EVs, 7.66 per cent variance, 21 documents) addresses different aspects of this construct. Publications discuss EO itself, its taxonomy (Covin and Slevin, 1991) and its organizational manifestations (Lumpkin and Dess, 2001). Articles also look into EO's performance contribution (Zahra and Covin, 1995) and as a source of competitive advantage (Dess *et al.*, 1997). Based on contingency theory (Miller, 1988), environmental conditions moderating EO-firm performance are conceptualized (Covin and Slevin, 1989) and empirically tested (Miller, 1983; Zahra, 1993). Articles also occasionally address internal EO-performance moderators such as firm size or managerial influence (Lumpkin and Dess, 1996). EO's temporal nature is also studied (Wiklund, 1999).

Internal entrepreneurial orientation moderators. The internal EO moderators literature (9.66 EVs, 5.52 per cent variance, nine documents) extends the above EO cluster by addressing resources, capabilities and processes influencing EO-firm performance relationships. Publications offer various models, contemplating factors such as strategic approach and leadership style (Covin *et al.*, 2006), managerial orientation (Dickson and Weaver, 1997) and knowledge-based resources (Wiklund and Shepherd, 2003). Nelson and Winter (1982) emphasize the role of learned capabilities toward firm performance. This research thrust leads to the study of secondary relationships, such as learning and strategic adjustment depending on managerial decision-making style and firm structure (Green *et al.*, 2008). Some models contemplate external factors moderating the EO-firm performance relationship, such as industry and firm size (Rauch *et al.*, 2009). Studies are complemented by articles highlighting measurement issues within this area (Lyon *et al.*, 2000).

Research methods. The research methods literature cluster (8.19 EVs, 4.68 per cent variance, 14 documents) addresses general methodological issues within EM research. Given contingency theory's prominence, works advancing multiple regression (Aiken and West, 1991), structural equation modeling (Anderson and Gerbing, 1988; Fornell and Larcker, 1981) and moderator/mediator relationships (Baron and Kenny, 1986) are frequent. The need for EM measures also explains scale development citations (Gerbing and Anderson, 1988). As EM research often addresses intangible constructs, self-report data are often discussed (Morgan and Hunt, 1994). Means to counteract methodological issues such as social desirability, non-response and common-method bias are also addressed (Podsakoff and Organ, 1986).

Resource-based view and dynamic capabilities approach. The resource-based view (RBV)/dynamic capabilities approach (DCA) literature cluster (6.94 EVs, 3.96 per cent variance, 11 documents) addresses how firms internally achieve competitive advantage. Some articles comment on the competitive advantage notion (Barney, 1991). Other publications address the nature of resources and the fundamental assumptions required to achieve advantage (Grant, 1991; Peteraf, 1993). The RBV perspective appears to dominate EM research. Though to account for dynamic markets, some articles extend the RBV by proposing the DCA, where organizational capabilities and routines re-configure resources as markets evolve (Eisenhardt and Martin, 2000). These dynamic RBV extensions seem particularly relevant to new ventures of frequent interest in EM research.

Scales and boundaries. The scales and boundaries literature cluster (5.99 EVs, 3.43 per cent variance, nine documents) validates and enhances measures relevant to EM, hence its proximity to the research methods, EO and MO clusters. Some publications synthesize different MO scales. Results suggest that MO is best approached behaviorally (Deshpande and Farley, 1998). Other efforts correlate MO and EO measures. Yet, the inability to conclusively isolate EO's impact on firm performance raises concerns of conceptual overlap between both constructs (Slater and Narver, 2000). Other efforts relate organizational learning (OL) to MO activities, such as intelligence generation and responsiveness, and develop OL scales (Sinkula *et al.*, 1997). Thus, a variety of insights on how to distinguish and measure central EM constructs are offered.

Entrepreneurial marketing research forefront: bibliographic coupling clusters

Entrepreneurial orientation/marketing orientation integration. The EO/MO integration literature cluster (86.50 EVs, 36.16 per cent variance, 98 documents) is the map's largest. Its central position, closely surrounded by other clusters, points toward an advanced understanding of EM. Publications address EO/MO integration and interaction (Merlo and Auh, 2009), also done in different contexts, such as specific countries (Van Vuuren and Wörgötter, 2013) and industries (Liu *et al.*, 2002). EM approaches are discussed (Srinivasan *et al.*, 2005), including market-driven/driving firm behaviors (Van Vuuren and Wörgötter, 2013). While some efforts use large firms (Antoncic and Hisrich, 2001), research focuses on the peculiarities of new ventures and small- and medium-sized enterprises (Raju *et al.*, 2011). Frameworks integrate factors, such as managerial influence (Auh and Menguc, 2005), innovation culture (Wei *et al.*, 2013) and OL (Schindehutte *et al.*, 2008). The latter's impact is related to various outcomes (Keh *et al.*, 2007), and mediating roles also addressed (Liu *et al.*, 2002).

Entrepreneurial marketing resources and capabilities. The EM resources and capabilities cluster (36.36 EVs, 13.52 per cent variance, 53 documents) draws on the RBV/DCA literature, hence their proximity. Publications discuss internal resource configurations, such as technology (Arora and Nandkumar, 2012; Basu *et al.*, 2011), and external ones such as networks (Zou *et al.*, 2010). Also studied are capabilities, such as opportunity identification (Gruber *et al.*, 2012), design (Candi and Saemundsson, 2008) or product development (Coviello and Joseph, 2012). Some efforts investigate resource and capability development (Kor and Mahoney, 2005). Others address developmental antecedents, such as experience (Shrader and Simon, 1997), attitude (George *et al.*, 2012) and capital (Zou *et al.*, 2010). Most resources and capabilities are conceived as antecedents or mediators to organizational performance (Barbero *et al.*, 2011). The frequent consideration of market entry behaviors (Li and Liu, 2013), first-mover activities (Michael, 2003) and innovation management (Schubert, 2010) make this cluster highly relevant to current EM research.

International entrepreneurship. The IE literature (30.47 EVs, 11.33 per cent variance, 35 documents) frequently references the born global/internationalization cluster literature, hence their proximity. Publications address different internationalization approaches, i.e. incremental, born global and born-again global (Olejnik and Swoboda, 2012). Contributions also discuss the impact of resource and capability configurations upon internationalization, such as networks and alliances (Freeman *et al.*, 2006), innovation (Zeng *et al.*, 2009) and OL (Gabrielsson and Gabrielsson, 2013). While some studies address consumer and cross-cultural issues (Chandra and Coviello, 2010), most cover internationalization from a firm perspective. As international strategies are highly dynamic (Freeman *et al.*, 2013), a number of studies suggest EO/MO integration as key toward successful internationalization (Mort and Weerawardena, 2006).

Relationship marketing. The relationship marketing literature (16.91 EVs, 6.29 per cent variance, 17 documents) is a remote extension of the resources and capabilities cluster. It investigates the antecedents and consequences of entrepreneurs' ties with different stakeholders (Friman *et al.*, 2002). The often intangible nature of relationships explains the frequent use of structural equation modeling and regression analysis, hence its proximity to the research methods cluster. Business-to-business relationships are this cluster's focus (De Clercq and Rangarajan, 2008). A notable exception is Prause *et al.* (2013), who address customers. Business partner choice is frequently studied (Yehekel *et al.*, 2001) with particular emphasis on franchising relationships (Dant *et al.*, 2013). Some studies evaluate relationships along multiple dimensions such as trust and commitment (Ting *et al.*, 2007). Others focus on single dimensions (Davies *et al.*, 2011) or relational attributes and outcomes (De Clercq and Rangarajan, 2008). The impact of resource levels upon relationships, such as informational asymmetry, is also addressed (Ting *et al.*, 2007).

Networks and social capital. The networks and social capital (NSC) literature (12.80 EVs, 4.76 per cent variance, 18 documents) also extends the resources and capabilities cluster. NSC's internal perspective marks a departure from the previous relationship marketing cluster, where an external view of relationships prevails. NSC addresses how entrepreneurial relationships are constituted, used and value derived from them. Antecedents such as prior occupational experience are studied (Zhang *et al.*, 2008), and so are consequences. NSC is found to be particularly important for new/small ventures, mitigating resource constraints and contributing toward opportunity identification (Bhatt and Altinay, 2013). Publications assess different network aspects, such as relational mix and emphasis (Bizzi and Langley, 2012), dynamics (Corsaro *et al.*, 2012) or physical proximity (Felzensztein *et al.*, 2010). Overreliance on personal networks is also addressed, found to sometimes impede venture's organic development (Lechner and Dowling, 2003).

Social entrepreneurship. The social entrepreneurship literature cluster (10.20 EVs, 3.74 per cent variance, 19 documents) is rather isolated. While still opportunity-driven, social entrepreneurship focuses on creating collective rather than private value (Bloom, 2009). Poverty amelioration, the environment and innovation are general themes. Articles address the impact of adopting new technologies toward business development (Tarafdar *et al.*, 2013). Also important are education and public policy toward empowering and formalizing entrepreneurs (Viswanathan *et al.*, 2012); environmentally friendly firm behaviors and sustainable business models (Carrigan *et al.*, 2011); and the influence of entrepreneurship in stimulating communal behavioral change (Riddle and Brinkerhoff, 2011). As social tendencies are present across organizations to different degrees (Hemingway, 2005), the value of working with human nature to attain social objectives is also addressed (Griskevicius *et al.*, 2012).

Discussion

Given their number and variety, the 14 EM literature clusters identified seem at odds with prior bibliometric studies. However, closer inspection reveals that when aggregated into meta-clusters, they are quite compatible; confirming, refining and extending extant topical structures.

The two prior bibliometric efforts, Kraus *et al.* (2011) and Kraus *et al.* (2012), identify three broad EM literature clusters. The first on *entrepreneurship and marketing's interface* addresses both fields' similarities, differences and interplay. The present study confirms this cluster labeled *EO/MO integration*. As shown in Figure 2 (lower right side), this meta-cluster encompasses both orientations' interaction. Stemming from the BCA, this cluster refers to EM's more recent and growing proprietary literature.

Kraus *et al.* (2012, p. 21) mention that:

Taking a closer look at the interface cluster, it is clear that no further research is needed in this regard. The question if, why, and how entrepreneurship and marketing work together has been answered.

While the present integration cluster is the maps' largest, indicating substantial knowledge, the above claim is deemed premature. Echoing Hills and Hultman (2011), much remains to be learned about both fields' interplay, still fertile ground for inquiry (see future research, below). That said, because of its large literature body, progress in this cluster is likely to be incremental.

Kraus *et al.*'s (2011, 2012) second cluster on *management, entrepreneurship and marketing foundations* does not address EM directly. It instead provides theoretical bases for EM, encompassing concepts from other fields. No such cluster was presently identified. However, when separated into its components, such a cluster would correspond to the currently identified *EO* and *MO* meta-clusters. These surround the above-mentioned *EO/MO* integration cluster, each addressing their own perspective. Stemming from CCA, the *EO* and *MO* meta-clusters constitute, in line with Kraus *et al.*, foundational EM literature streams.

Kraus *et al.*'s (2011, 2012) third cluster on *small/new venture marketing* addresses implementation issues faced by these firms. However, present results are at odd with their findings, with no small/new venture cluster having emerged. Results instead suggest that being new/small is not an underlying research stream in itself, but part of other thematic clusters, venture size and age moderating the various relationships. These findings are consistent with prior research (Pelham and Wilson, 1996; Rauch *et al.*, 2009).

Irrespective of the divergence, this paper agrees with Kraus *et al.* (2011, 2012) as to the importance of tailoring EM to different firm types, particularly to the needs of small/new ventures, where most economic activity takes place. EM scholars are thus encouraged to continue researching these types of ventures. Their relatively less complex settings make empirical relationships more observable, facilitating theoretical development. Of particular interest is how small firms actually market themselves in practice, *vis-à-vis* espoused EM theory (Gross *et al.*, 2014).

Based on their small/new firm cluster, Kraus *et al.* (2011; 2012) posit that EM is becoming more application-oriented, gravitating toward the tactical/instrumental. Present results are also at odds with this conclusion. The emerging *BCA* clusters on social or *IE* do suggest some application-oriented EM research. However, as Figure 2 shows, most EM research is formal, not application-oriented. Furthermore, the main application-oriented cluster, on born global and internationalization, derives from CCA, suggesting a foundational and perhaps fading literature stream. That EM literature instead gravitates toward the theoretical/quantitative is consistent with the natural development of academic disciplines. As these mature, and become more scientific, they move away from the descriptive/qualitative toward more quantitative/causal approaches. Such a progression has been observed in entrepreneurship by Dean *et al.* (2007), supporting present results.

In addition to confirming and refining two of Kraus *et al.*'s (2011; 2012) three literature clusters, present results extend their findings. Four other meta-clusters are identified. These reveal where EM research has been/is taking place.

A first additional meta-cluster on *measurement* is shown in Figure 2 (lower right). Made up of two CCA clusters, *research methods* and *scales and boundaries*, this meta-cluster encompasses older, foundational literature. Its small size indicates just a few types of methods being preminent within EM research, hence the dearth of literature. These

findings are consistent with [Gilmore and Coviello \(1999\)](#), who call for more diverse/mixed EM research methods, and with [Welter and Lasch \(2008\)](#), who call for methodological diversity within entrepreneurship. Thus, alternative research/scaling methods, beyond conventional ones, offer great potential within EM research.

A second meta-cluster on *IE* is shown in [Figure 2](#) (lower left). Its large size indicates a well-developed literature body. Mostly constituted by a large CCA cluster, *born global/internationalization*, its thematic orientation no longer seems on the vanguard of EM literature. However, a small BCA cluster within it, *IE*, indicates ongoing interest in the area. The latter's diverse streams and dynamic nature perhaps set the stage for a resurgence and therefore research opportunities. Alternatively, the large CCA cluster might indicate lack of literary consensus, thus also research opportunities.

A third meta-cluster on *social entrepreneurship* is shown in [Figure 2](#) (mid-left). Its BCA origin makes it an emerging research stream. This would be consistent with the general direction in which business is moving, as reflected by its growing socio-environmental focus ([Conejo and Wooliscroft, 2015](#)). This cluster's small size, as well as missing links to foundational CCA clusters, indicates lack of development and therefore promising research opportunities. Example of this direction's potential is given by [Kannampuzha and Suoranta \(2016\)](#), who investigate how social enterprises market themselves given limited resources and competitive pressures.

The fourth additional meta-cluster on *resources and capabilities* is shown in [Figure 2](#) (top-center). Its small CCA cluster advocates general agreement with the foundational literature, i.e. the *RBV/DCA* literature. The large BCA cluster, *EM resources and capabilities*, suggests that as much research has already focused on the impact of resources and capabilities on firm performance, mostly incremental progress might be made in this area. However, the foundational EM literature appears to only marginally address resource and capability configurations. The two smaller BCA clusters, *NSC* and *relationship marketing*, suggest that these later areas are growing, showing research potential. This is consistent with [Shaw \(1999\)](#), who also found networks to be an important, albeit under-researched, EM area.

Future research

BCA clusters indicate where EM research is currently taking place. Their relative newness offers interesting research opportunities. Though the greatest prospects probably lie within smaller BCA clusters. Likely lacking established literatures and theoretical consensus, substantial research is still needed to fully understand these developing areas. Prime candidates would be *NSC* or *social entrepreneurship*. Opportunities similarly lie within small BCA clusters that extend, refine or even challenge larger CCA clusters, e.g. *IE* with respect to *born global and internationalization*.

Beyond present EM research, several promising cluster-spanning directions also emerge from this study. A first one, directly related to resource and capability development, is *OL*. This topic is sporadically addressed across different EM literature streams such as *MO* ([Kyriakopoulos and Moorman, 2004](#)), *EO* ([Green et al., 2008](#)) and *IE* ([Cohen and Levinthal, 1990](#)). However, research on *OL* remains scarce. Future inquiries could make significant contributions by shedding light on issues related to this field, via, e.g. highly contextualized or longitudinal studies.

Firm-level research is another common denominator across EM literature. The emergence of relationship marketing and social network clusters reveals the need to integrate different stakeholder perspectives. Doing so would increase EM's understanding of value creation ([Corsaro et al., 2012](#)), especially relevant toward improving entrepreneurial business models ([Ehret et al., 2013](#)). The largely neglected customer perspective is

particularly important. EM research might thus address how emerging firms overcome customer trial barriers given the liability of newness and stimulate mid- to long-term loyalty (Prause *et al.*, 2013).

A third cluster-spanning research direction is cross-culturally investigating EM's different aspects. Current EM research focuses on local entrepreneurial efforts. However, comparing the cross-national circumstances in which these efforts are embedded, i.e. their antecedents and consequences, remains neglected. Cultural and national differences appear to moderate MO (Kirca *et al.*, 2005) and EO's impact (Rauch *et al.*, 2009). Specific activities related to these areas also differ across countries and cultures. Research on these differences, for instance, on entrepreneurial decision-making logic, the role and mechanics of planning and the use of resources toward execution, is particularly demanded (Felzensztein *et al.*, 2010). Similarly, customer preferences and value creation networks also need to be cross-culturally addressed.

A fourth research direction entails EM itself. Kraus *et al.* (2011; 2012), as well as Hansen and Eggers (2010), find EM to be mostly based on entrepreneurial literature. Yet, very few publications address entrepreneurship in marketing. This paper wholeheartedly agrees with the above authors, as with Stokes (2000) and McAuley (2011), in that marketing needs to become more entrepreneurial. While marketing is catching up with this integration, the latter might be further stimulated by, e.g. applying the opportunity identification, innovation and risk-taking behaviors so characteristic of entrepreneurs toward the different aspects of marketing's value creation imperative. Not only would this offer substantial research avenues but also would constitute an exceptional opportunity to further extend marketing thought beyond conventional managerial cannons.

A final research direction addresses research methods. The above cluster map reveals how EM research is tending toward the formal/quantitative. However, a significant portion of contributions, particularly in softer areas addressing stakeholder relationships, business networks or socio-environmental aspects, still involve case studies, qualitative descriptions and conceptual frameworks. While these approaches are certainly valuable, and should be continued to be used, a variety of topics across EM literature still need quantitative/causal development, some even non-conventional scaling/measurement approaches, offering further research opportunities.

Limitations

Despite their potential, bibliometric analyses have limitations that equally apply to this study. The data set used comprised a substantial publication number. However, it is still a sample. By no means is exhaustiveness claimed. Furthermore, publication databases are hardly ever complete. While the WoS was chosen for its completeness, some publications may have been excluded. Future research might thus cross-reference multiple databases to increase comprehensiveness.

Another limitation is having used peer-reviewed articles only. While the latter are the highest quality of academic output, they are not the only source of knowledge. Future research might thus contemplate conference proceedings and monographs for a broader, albeit less academically rigorous, perspective. Similarly, the present study used English-language articles only given their preeminence in science. However, there are important EM articles in other languages. Particularly noteworthy are those in German, which seem to form their own research stream. To further expand the data set, future research might also analyze EM contributions in other languages.

Bibliometric analyses assume that all citations are equal. However, the motivations behind citations can vary, ranging from recognition to critique. Implicit citations to

well-established ideas or gratuitous self-citation may also distort data (Verbeek *et al.*, 2002). While inherently objective, bibliometric studies lack the interpretive richness that qualitative approaches provide. Future research might therefore qualitatively assess identified clusters to provide a deeper understanding of them, even use a mixed-method approach.

Conclusion

This study set out to refine and expand the known topical structure of EM literature. This was accomplished. The above limitations notwithstanding, a reasonably representative and detailed picture of the field's different literature streams has been provided. Foundational and current research streams are identified, as well as promising future research avenues. By mapping the former and identifying the degree to which different research streams have been addressed, this study contributes toward EM's theoretical development. Beyond its findings, this research also contributes toward EM's methodological repertoire. The present techniques are applicable to a variety of more specialized contexts able to further EM's understanding.

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Corresponding author

Francisco J. Conejo can be contacted at: francisco.conejo@ucdenver.edu

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