Scientometrics (2017) 112:529–555
DOI 10.1007/s11192-017-2397-8

The dynamic capabilities perspective of strategic management: a co-citation analysis

Cristina Fernandes[1,2] · João J. Ferreira[2] · Mário L. Raposo[2] · Cristina Estevão[1,2] · Marta Peris-Ortiz[3] · Carlos Rueda-Armengot[4]

Received: 24 December 2016 / Published online: 26 April 2017

Abstract Dynamic capabilities currently emerge as a vibrant field of study within the theoretical framework based on resource and strategic management. To this end, and as a complex field of study, we set out to conceptually map this approach. Hence, we carried out a bibliometric study with recourse to co-citations. For the multivariate analysis, we applied cluster analysis and factor analysis. Through the former, we conclude that dynamic capacities concentrate on five approaches: Digital Capabilities, Knowledge Capabilities, Absorptive Capabilities, Strategic Capabilities and Resources. As regards factor analysis, this returns five factors with two of them concentrated into the same approach: Resources and Capabilities. We would also state that the Strategic Capabilities approach spans across the remaining three factors and does not constitute a single factor.

✉ Cristina Fernandes
cristina.fernandes@ipcb.pt

João J. Ferreira
jjmf@ubi.pt

Mário L. Raposo
mraposo@ubi.pt

Cristina Estevão
Cristina.estevao@ipcb.pt

Marta Peris-Ortiz
mperis@doe.upv.es

Carlos Rueda-Armengot
crueda@doe.upv.es

[1] Instituto Politécnico de Castelo Branco, Castelo Branco, Portugal

[2] NECE Research Centre, University of Beira Interior, Covilhã, Portugal

[3] Universitat Politècnica de València, València, Spain

[4] Department of Business Administration, Universitat Politècnica de València, València, Spain

Keywords Dynamic Capabilities · Resources and capabilities based view · Strategic management

Introduction

Strategic management (SM) represents a relative newcomer to the academic field. Its emergence as a defined field of research took place in the 1960s especially due to the classic contributions made by authors such as Chandler (1962), Andrews (1971) and Ansoff (1965) among others.

Right from the outset, SM was perceived as a multidisciplinary field and there has been a correspondingly diverse range of contributions that definitively impacted on the definition of this field of knowledge (Schendel and Hofer 1979; Porter 1980). The two following decades bore witness to rapid growth in the field of SM (Nerur et al. 2008) and with various theories, approaches and perspectives on SM emerging and developing.

One of the major concerns throughout this set of SM theories has always been researching the ways in which companies and firms compete with each other. In particular, in the field of SM, the conquest and sustainability of long lasting and effective forms of strategic advantage have represented a fundamental study focus. Within this scope, the Theory of Resources and Capabilities (TRC), with its roots in Penrose (1959) but attaining maturity with the contributions by Wernerfelt (1984) and Barney (1986, 1991), maintains that the foundations for competitive company advantages stem from these firms applying their own range of resources, both tangible and intangible. The VRIN (valuable, rare, inimitable, non-susbtitutable) characteristics associated with this construct by Barney (1986) seek to classify the capabilities susceptible of incorporation into this concept.

The most frequent criticism of TRC targets its static dimension. In practice, various authors have identified this shortcoming to the original theory. In response to such criticism, David Teece and Gary Pisano (Teece and Pisano 1994) proposed the Dynamic Capabilities (DC) concept in 1994.

In an article written in collaboration with Amy Shuen, presented as a working paper to the Austria located International Institute for Applied Systems Analysis and subsequently published in the Industrial and Corporate Change journal, they introduced the DC notion as a source of competitive advantage. According to these authors, in order to adapt to environments undergoing constant change, companies need both external and internal competences and correspondingly emphasising the central role of the capacity for management.

The corollary to this work came with the 1997 article "Dynamic Capabilities and Strategic Management" (Teece et al. 1997), published in the Strategic Management Journal, in which the authors develop the DC concept and set out its unequivocal interconnection with the field of strategic management before then defining the terms utilised and comparing them with other models applied in the field as well as proposing some applications.

The DC based study of companies has proven an intense field of research in recent years. Classified whether as an approach, perspective or theory, this field of study seeks to explain how companies go about building and maintaining competitive advantages. Originating in TRC, but with the addition of the dynamic dimension, the field has gained a

significant profile and come in for attention throughout the different fields of management but especially in SM.

The motivations underpinning this research stem from the confluence of these factors: the sheer importance of the concept, the recurrent references throughout works in the most diverse areas of the management field—as indeed confirmed by the 1891 references that are contained in the ISI Web of Science database or the 1665 returned by the Scopus database and in addition to the 8680 references from Google Scholar—and as well as the fact that two decades have now lapsed since the concept was first proposed.

That there have been so many articles on this subject represents an additional challenge to carrying out a literature review given how difficult it proves to incorporate all these different contributions. However, this additional difficulty simultaneously represents a stimulus and an opportunity: a stimulus because this broadens the field of research and theoretical study and providing an appealing challenge and opportunity because this opens up a broad field of different perspectives on the nature of DC.

Furthermore, the bibliometric analysis undertaken in this study, making recourse to co-citation data and a quantitative approach in order to map the scientific publications, the intellectual structure and research trends with regard to DC, is correspondingly innovative.

The study specifically seeks to: (1) delineate the intellectual structure to research studies on dynamic capabilities in the academic literature; (2) determine the lines of research constituting this intellectual structure and identifying possible relationships between these areas; (3) identifying the fundamental contributions interweaving two or more of the conceptual domains for research into dynamic capabilities and; (4) bi-dimensionally charting the intellectual dynamic capacity structure through visualising the spatial distances between the subjects interrelated with this theme.

Dynamic capabilities: conceptual background

The DC approach became one of the most vibrant throughout the field of SM (Arend and Bromiley 2009). Ever since the DC approach made its first appearance in the scientific literature (Teece et al. 1997), several hundred articles and studies have conceptually approached this subject (Di Stefano et al. 2010).

The rapid growth in DC focused publications and their theoretical variety and the considerable methodological range within this body of literature render difficult and where not impossible maintaining close control over just how this entire field of research evolved. Recent qualitative reviews and evaluations of the literature existing do provide some useful guidance in this respect (Ambrosini and Bowman 2009; Arend and Bromiley 2009; Barreto 2010; Smith et al. 2009; Helfat and Peteraf 2009; Helfat and Winter 2011; Schreyögg et al. 2007; Wang and Ahmed 2007; Zahra et al. 2006). These works all trace the intellectual origins of the DC approach, setting out summaries of the definitions, discussing the respective components, DC drivers and obstacles, the key empirical results as well as identifying its conceptual shortcomings and the difficulties to its empirical application. One additional problem stems from how the relevant publications have proliferated at a rate that increasingly outpaces the information processing capabilities of any individual researchers. This reflects on the considerable differences between the various points of view on the ways in which DC gets perceived, applied as well as its influence over the development of SM. Arend and Bromiley (2009) conclude that, due to its rather vague or inconsistent theoretical justification, the DC approach is at a disadvantage to other SM approaches.

They also criticise the fact that the DC concept underutilises organisational theory in general and concepts of organisational change such as the "absorptive capacity", "organisational learning" and "change management" in particular. In contrast, Helfat and Peteraf (2009) respond by arguing that the terminological and conceptual variety simply reflects the complexity of the phenomena under study and which require multiple theoretical visions. In the opinion of these authors, the continued exploration of the fundamental questions and the lack of empirical validation are characteristic of any field of research that remains still at an adolescent phase of development. In the light of these fundamental divergences as regards the scope of application and even the utility of the DC approach, a quantitative and structured survey of the literature existing may aid in (1) exploring the scope of the DC approach within the broader field of SM, (2) detecting the choices made in current research and the perspectives contained within the extent of the DC approach, and (3) expanding its boundaries, identifying both those questions not hitherto addressed and unconnected subfields.

Attaining these targets involves justifying and complementing the qualitative literature reviews and criticisms of the DC approach and helping in cross-validating their conclusions and evaluations. In order to provide an alternative to the qualitative reviews, we applied bibliometric methods incorporating the aggregation of large quantities of bibliographic data (Veerbek et al. 2002) and therefore correspondingly considered objective. Over the course of our analysis, we apply bibliographic coupling research (Kessler 1963), which complements the generalised co-citation technique (e.g. Di Stefano et al. 2010) and thereby refocusing attention away from the traditions and onto the trends in the scientific literature. This method furthermore improves bibliometric applications for the analysis of social networks that have hitherto served predominantly for the purposes of visualisation.

What is more, we shall also examine the thematic expansion of the DC approach through analysis of the process of diffusion over the course of time rather than simply analysing the status quo in effect. The bibliographic networks that we hereby identify reveal various distinct subfields nevertheless interrelated in the research dynamically engaged in over the course of time. While the resource-based view (RBV) to SM and organisational learning were originally fundamental components to the DC approach in its initial phases, more recent literature indicates that the field is shifting towards a more integrated research agenda. In particular, we propose the core DC cluster currently captures this emerging field of research, with its identity still weakly defined, as "strategic learning and change". This current concentrates on the learning capabilities and interrelate them with company performance and thereby merging different facets of the theories on organisational and SM. We demonstrate that, in the discourse on the evolution of DC, RBV undertook a "turn in learning" all the while organisational learning experienced a "strategic turning point". In addition, we prove able to identify various peripheral research clusters reflecting this parallel process of differentiation in the field in general. Both trends, that is theoretical integration and theoretical differentiation, testify to the emancipation of the DC vision as a distinct approach to SM.

However, despite the rising number of works focusing on the micro-justifications for this approach—for example, the routines, practices or cognition—the DC approach still lacks consensus based concepts that enable comparisons to be made between empirical studies and advancing with a better theoretical understanding of DC. In the light of our findings, we proceed to discuss some possible directions for future research.

Methods

Research setting

This study holds the objective of undertaking the mapping of the scientific publications, the intellectual structure and the research trends related with dynamic capabilities (DC). This specifically seeks: (1) to define the intellectual structure of research on DC as represented in the literature, (2) determine those lines of research that constitute the intellectual structure and identify any possible relationships between these areas, and (3) bi-dimensionally map the DC intellectual structure through the visualisation of the spatial distances between the subjects interrelated with this theme.

Co-citation analysis represents a methodology deployed to map in detail the relationships ongoing between the core ideas to a specific scientific domain (Small 1973), aiding in the identification of the fundamental scientific articles to this scientific body (Zitt and Bassecoulard 1994) and its influential authors alongside the visualisation of a representative proportion of the literature on a particular field and its interrelationships (White and McCain 1998). Various studies have demonstrated the validity of co-citation analysis for grasping the intellectual structure of a research field (Di Guardo and Harrigan 2012; Ramos-Rodríguez and Ruíz-Navarro 2004).

Two documents become co-cited when jointly cited by one or more published articles (Smith 1981). Producing a co-citation matrix requires two separate procedures: (1) identifying a set of widely cited documents that represent the most relevant research; and (2) identifying just which set of documents cite these cited documents. The co-citation matrix displays two characteristics: (1) this is a symmetrical matrix; (2) the values on the diagonal are equal to zero (given that the same article cannot appear cited twice in the same document). However, in accordance with the significance of co-citations, the diagonal values should reflect the similarities in approximation and hence the diagonal value gets determined through dividing by two the sum of the three highest values on the corresponding line (Culnan 1986; White and Grifith 1981). With the objective of standardising the co-citation to reduce their number of zeros and avoid potential scale effects, we estimated the Pearson's correlation matrix with this then utilised for the diverse analytical procedures.

In order to graphically map the articles, we applied multidimensional scaling (MDS) taking into consideration the desire for a bi-dimensional graph that serves as the means to observe the connections among the co-citations between the articles. Following MDS, we applied hierarchal cluster analysis within the scope of grouping interrelated articles into distinct groups and to this end deploying the MDS graph for displaying such groups. Finally, we applied factor analysis according to the main components methodology and with Varimax rotation in order to extract additional information as regards the research existing on DC, in particular determining which are the articles that share common components as well as those articles holding the greatest weighting for each of the aforementioned factors and the specific values resulting from the analysis indicating the relative importance of each of the factors arising. All of these analytical stages made recourse to the statistical analysis software Stata version 12.0 (StataCorp, College Station, Texas, USA).

We detail the different analytical procedures in Fig. 1.

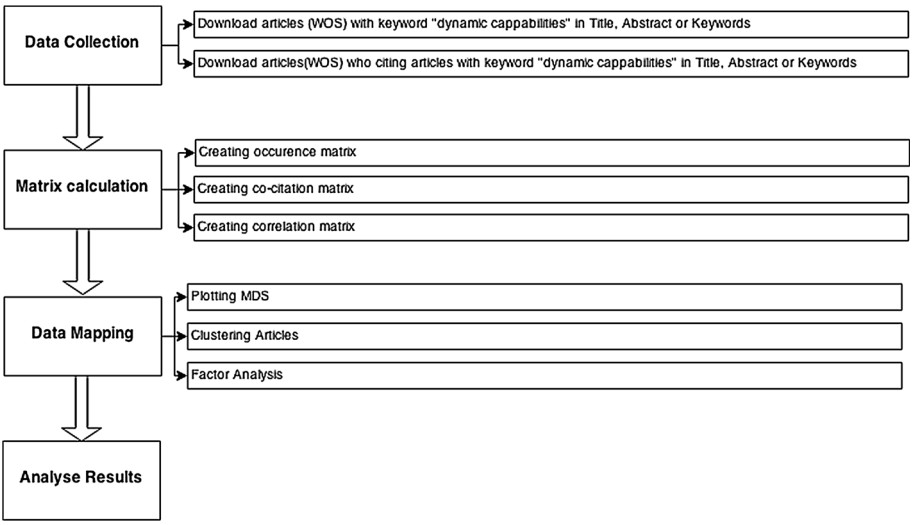

Fig. 1 Steps of co-citation analysis

Data

We gathered the citation and co-citation data from the Science Citation Index Expanded (SCI-Expanded), Social Science Citation Index (SSCI) and Social Science Citation Index (A&H CI) indices compiled by the online Thomson/Reuters-ISI databases that contain many tens of thousands of academic publications and bibliographic information about their authors, their affiliations and citations. The research drew upon the *Web of Science*^{TM} *Core Collection* database and all references published through to 2014 returned by the search for the term "dynamic capabilities" whether in the title, keywords or in the article abstract. The search carried out returned a total of 2481 bibliographic references for the period between 1989 and 2014.

Results

Descriptive analysis

From the resulting set of research references (2481 references), 59.5% (1477 references) date to the period after 2010, inclusive, have been cited by 24,526 articles and with an average of 21.69 citations per article. Figure 1 presents the trend in the number of articles published annually ever since the first publication in 1989, how there were only relatively rare publications on this theme during the 1990s before seeing the rise in publication date to the turn of the century with exponential growth between 2001 and 2012, the year when the largest number of references got published (342), and having subsequently declined in 2013 (322) and 2014 (257) (Fig. 2).

The five articles containing the greatest number of citations are respectively:

1. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533. **(4626 citations)**.

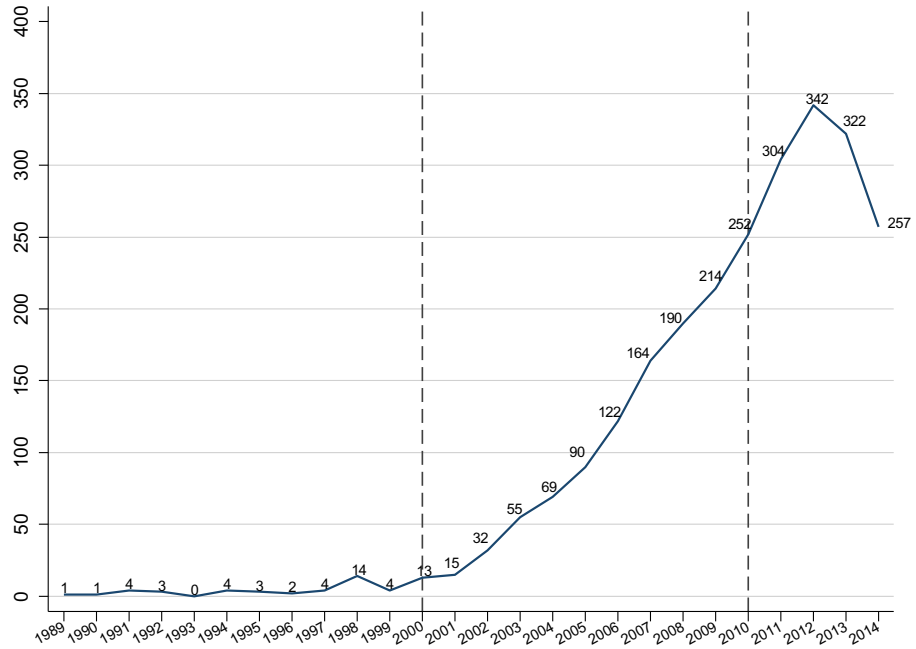

Fig. 2 Number of references by year

2. Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal, 21*(10–11), 1105–1121. **(2266 citations)**.
3. Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review, 27*(2), 185–203. **(1484 citations)**.
4. Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science, 13*(3), 339–351. **(1167 citations)**.
5. Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350. **(781 citations)**.

Table 1 presents the 25 journals receiving the greatest number of references. The Strategic Management Journal receives far and away the single greatest number of references (99) followed by the Journal of Management Studies (53), Organization Science (52), Industrial Marketing Management (46) and International Journal of Technology Management (42). The 25 journals listed contribute with a total of 862 articles, corresponding to 34.7% of the total of references returned by the search.

As regards the journals with the greatest number of citations, the Strategic Management Journal holds the greatest weighting (15,449), followed by the Academy of Management Review (4327), with this the journal with the highest number of citations per article (180.3), Organization Science (3671), MIS Quarterly (2330) and the Journal of Management (2261). The 25 journals with the largest number of citations are presented in Table 2.

Analysing the origins of the authors of the 2481 references (Fig. 3), we encounter how the leading countries are of an Anglo-Saxon background (USA: 835 references; UK: 307 references; Canada: 146 references; and Australia: 123 references) although we would

Table 1 Distribution of source documents by journal (Top 25)

Journals	No.	%
Strategic Management Journal	99	4.0
Journal of Management Studies	53	2.1
Organization Science	52	2.1
Industrial Marketing Management	46	1.9
International Journal of Technology Management	42	1.7
Journal of Business Research	41	1.7
Management Decision	41	1.7
Research Policy	37	1.5
Technovation	37	1.5
Industrial and Corporate Change	36	1.5
Journal of Management	32	1.3
Journal of Product Innovation Management	32	1.3
International Journal of Operations and Production Management	31	1.2
Journal of World Business	30	1.2
IEEE Transactions on Engineering Management	26	1.0
Journal of International Business Studies	26	1.0
British Journal of Management	25	1.0
Academy of Management Review	24	1.0
Journal of Operations Management	24	1.0
International Journal of Management Reviews	22	0.9
International Journal of Production Economics	22	0.9
Journal of Knowledge Management	22	0.9
R&D Management	22	0.9
Academy of Management Journal	20	0.8
Journal of Engineering and Technology Management	20	0.8

highlight the relevant role also played by China (242 references) and Spain (193 references).

Multivariate analysis

In terms of methodology, we applied three multivariate statistical analysis techniques to the co-citation matrix. We first turned to MDS to provide a map with the objective of analysing the relationship between the articles, identifying the dimensions that best explain the similarities and differences between the publications. Secondly, we deployed cluster analysis that enabled the return of homogenous groups of articles. Finally, factor analysis served to identify those articles composing each factor and its level of contribution through the factorial weighting established within each paradigm.

Following the search returning 2481 documents, we needed to define a criteria for the references to serve as the foundation for analysis within the scope of obtaining responses to the study objectives. Accordingly, we selected the criteria of relevance as those articles gaining at least 100 citations that corresponded to exactly 100 articles, with these representing the point of departure for the subsequent analysis. Table 3 details the 100 most cited articles.

Table 2 Distribution of citations by journal (Top 25)

Journal	Total citations	Average citations by article
Strategic Management Journal	15,449	156.1
Academy of Management Review	4327	180.3
Organization Science	3671	70.6
MIS Quarterly	2330	145.6
Journal of Management	2261	70.7
Journal of Management Studies	1998	37.7
Academy of Management Journal	1709	85.5
Journal of Operations Management	1063	44.3
Journal of International Business Studies	1000	38.5
Industrial and Corporate Change	920	25.6
Research Policy	907	24.5
Information Systems Research	739	61.6
Journal of Business Research	687	16.8
Long Range Planning	556	32.7
Industrial Marketing Management	546	11.9
Journal of Business Venturing	535	29.7
International Journal of Management Reviews	523	23.8
Technovation	494	13.4
Journal of the Academy of Marketing Science	492	27.3
Journal of Product Innovation Management	485	15.2
Entrepreneurship Theory and Practice	432	36.0
Journal of World Business	419	14.0
Journal of Marketing	385	42.8
Journal of Management Information Systems	379	42.1
British Journal of Management	375	15.0

The distribution of these 100 sources by journal once again identifies the Strategic Management Journal as containing the greatest number of references among the 100 most cited articles (27), with the Academy of Management Review and the Journal of Management (Table 4) in second and third place with these three publications accounting for almost a half (44.0%) of the references under analysis.

Cluster analysis

Figure 4 presents the bi-dimensional map of the articles obtained via multidimensional analysis of the correlation matrix of the co-citations. The articles appear listed by the number corresponding to their ranking number in terms of the list of most citations (Table 3). The adjustment indices (Stress = 0.08 and RSQ = 0.774) return values conveying how the map represents a good approximation of reality. The group of articles that appear in Fig. 4 of the multidimensional scaling were determined through cluster analysis based on the hierarchal method of Ward. The articles included in each of the five clusters obtained are presented in Table 5. Despite its basis in dimensional scaling, the construction of the axes is arbitrary with the positioning of the articles on the map suggesting the axes

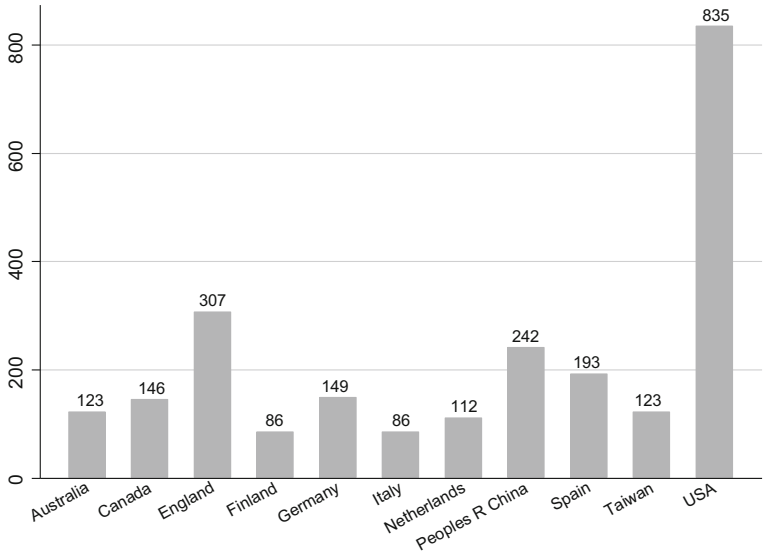

Fig. 3 Number of references by country (Top 10)

hold significance. In observing Fig. 4, we may conclude from the outset that Resources and Capacities form the core approach to the study of both SM and Dynamic Capacities, which empirically strengthens the dynamic capacities as a "legitimate" approach within SM. This finding also corroborates those of Ferreira et al. (2016) in their bibliometric study on SM.

Cluster 1: Digital Capabilities	In this cluster, the authors defend how the capacity to utilise the technological resources available leads companies to gain competitive advantages.
Cluster 2: Knowledge capabilities	This cluster's authors maintain that knowledge and its access raises the dynamic capacities and consequently, the competitive advantages of companies.
Cluster 3: Absorptive Capabilities	The authors in this group stress the absorption and learning capacities and perceive the company as a whole. The development of knowledge absorption capabilities boosts the dynamic capacities that, in turn, raise the potential for competitive advantages.
Cluster 4: Strategic Capabilities	This cluster considers companies as holding unique capacities and capabilities, totally different from each other and that are able to define their identity across various domains. Through the identification of these respective capacities, companies are able to attain competitive advantages.
Cluster 5: Resources and Capabilities	We may consider this cluster as the "umbrella" for all the other clusters. All the other characteristics described in the clusters above fall within the scope of this approach. The resources and capabilities approach essentially defends that companies' best achieve competitive advantages through the best utilisation of their resources that leverages their respective capabilities.

Table 3 The set of 100 articles ordered by frequency of citation (from most to least-cited)

1	Teece et al. (1997)	51	Madhok (2002)
2	Eisenhardt and Martin (2000)	52	Ahuja and Katila (2004)
3	Zahra and George (2002)	53	Galunic and Eisenhardt (2001)
4	Zollo and Winter (2002)	54	Jarzabkowski (2004)
5	Teece (2007)	55	Bhatt and Grover (2005)
6	Benner and Tushman (2003)	56	Zhu (2004)
7	Winter (2003)	57	Wang and Ahmed (2007)
8	Amit and Zott (2001)	58	Santos and Eisenhardt (2005)
9	Helfat and Peteraf (2003)	59	Pavlou and El Sawy (2006)
10	Melville et al. (2004)	60	Lockett and Wright (2005)
11	Sambamurthy et al. (2003)	61	Felin and Hesterly (2007)
12	Subramaniam and Youndt (2005)	62	Mudambi (2008)
13	Wright et al. (2001)	63	King and Tucci (2002)
14	Wade and Hulland (2004)	64	Rothaermel and Hess (2007)
15	Danneels (2002)	65	Lichtenthaler (2009)
16	Knight and Cavusgil (2004)	66	Colbert (2004)
17	Aragon-Correa and Sharma (2003)	67	Jensen and Szulanski (2004)
18	Helfat (1997)	68	Gavetti (2005)
19	Hitt et al. (2001)	69	Haas and Hansen (2005)
20	Rai et al. (2006)	70	O'Reilly and Tushman (2008)
21	Jansen et al.(2005)	71	Holcomb and Hitt (2007)
22	Newbert (2007)	72	Graebner (2004)
23	Zahra et al. (2006)	73	Lepak et al. (2007)
24	Teece (2010)	74	Sher and Lee (2004)
25	Lavie (2006)	75	Swink et al. (2007)
26	Ireland et al. (2003)	76	Piccoli and Ives (2005)
27	Becker and Huselid (2006)	77	Doh (2005)
28	Raisch and Birkinshaw (2008)	78	Teece (2006)
29	Sapienza et al. (2006)	79	Zott and Amit (2007)
30	Zott (2003)	80	Vassolo et al. (2004)
31	Todorova and Durisin (2007)	81	Walter et al. (2006)
32	Zollo and Singh (2004)	82	Rothaermel and Deeds (2006)
33	Zhu and Kraemer (2002)	83	Jacobides et al. (2006)
34	Barua et al. (2004)	84	Hart and Sharma (2004)
35	Becker (2004)	85	Ambrosini and Bowman (2009)
36	Carney (2005)	86	Blyler and Coff (2003)
37	Raisch et al. (2009)	87	Sampson (2005)
38	Teece (2000)	88	Wheeler (2002)
39	Mahoney (1995)	89	Fixson (2005)
40	Rindova and Kotha (2001)	90	Evans and Davis (2005)
41	Lubatkin et al. (2006)	91	Menguc and Auh (2006)
42	Jacobides and Winter (2005)	92	Helfat (2000)
43	Agarwal et al. (2004)	93	Uhlenbruck et al. (2003)
44	Adner and Helfat (2003)	94	Morgan et al.(2009)
45	Vohora et al. (2004)	95	Lichtenthaler and Lichtenthaler (2009)

Table 3 continued

46	Kale and Singh (2007)	96	Volberda et al. (2010)
47	Kang et al. (2007)	97	Luo (2000)
48	Schreyoegg and Kliesch-Eberl (2007)	98	Kraaijenbrink et al. (2010)
49	Song et al. (2005)	99	Verona and Ravasi (2003)
50	Chen et al. (2004)	100	Miller (2003)

Table 4 Distribution of source documents analyzed by journal

Journal	N	%
Strategic Management Journal	27	27.0
Academy of Management Review	10	10.0
Journal of Management	7	7.0
Organization Science	7	7.0
Academy of Management Journal	6	6.0
MIS Quarterly	6	6.0
Journal of Management Studies	4	4.0
Journal of Operations Management	4	4.0
Research Policy	4	4.0
Information Systems Research	3	3.0

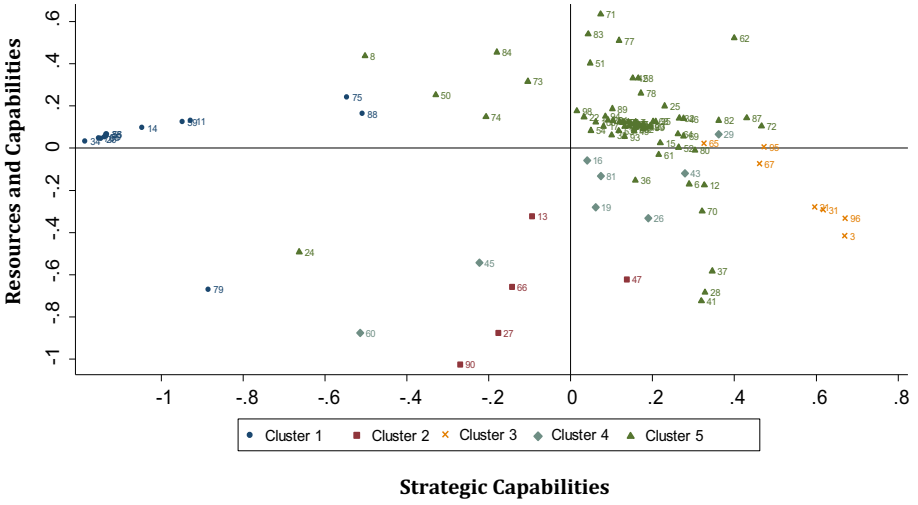

Fig. 4 Multidimensional scaling and cluster analysis

Table 5 Groupings found through MDS and cluster analysis

Cluster 1: Digital Capabilities	
10	Melville et al. (2004)
11	Sambamurthy et al. (2003)
14	Wade and Hulland (2004)
20	Rai et al. (2006)
33	Zhu and Kraemer (2002)
34	Barua et al. (2004)
55	Bhatt and Grover (2005)
56	Zhu (2004)
59	Pavlou and El Sawy (2006)
75	Swink et al. (2007)
76	Piccoli and Ives (2005)
79	Zott and Amit (2007)
88	Wheeler (2002)
Cluster 2: Knowledge Capabilities	
13	Wright et al. (2001)
27	Becker and Huselid (2006)
47	Kang et al. (2007)
66	Colbert (2004)
90	Evans and Davis (2005)
Cluster 3: Absorptive Capabilities	
3	Zahra and George (2002)
21	Jansen et al. (2005)
31	Todorova and Durisin (2007)
65	Lichtenthaler (2009)
67	Jensen and Szulanski (2004)
95	Lichtenthaler and Lichtenthaler (2009)
96	Volberda et al. (2010)
Cluster 4: Strategic Capabilities	
16	Knight and Cavusgil (2004)
19	Hitt et al. (2001)
26	Ireland et al. (2003)
29	Sapienza et al. (2006)
43	Agarwal et al. (2004)
45	Vohora et al. (2004)
60	Lockett and Wright (2005)
81	Walter et al. (2006)
Cluster 5: Resources and Capabilities	
1	Teece et al. (1997)
2	Eisenhardt and Martin (2000)
4	Zollo and Winter (2002)
5	Teece (2007)
6	Benner and Tushman (2003)
7	Winter (2003)
8	Amit and Zott (2001)
9	Helfat and Peteraf (2003)
12	Subramaniam and Youndt (2005)
15	Danneels (2002)
17	Aragon-Correa and Sharma (2003)
18	Helfat (1997)
22	Newbert (2007)
23	Zahra et al. (2006)
24	Teece (2010)
25	Lavie (2006)
28	Raisch and Birkinshaw (2008)
30	Zott (2003)
32	Zollo and Singh (2004)
35	Becker (2004)
36	Carney (2005)
37	Raisch et al. (2009)
38	Teece (2000)
39	Mahoney (1995)
40	Rindova and Kotha (2001)
41	Lubatkin et al. (2006)
42	Jacobides and Winter (2005)
44	Adner and Helfat (2003)
46	Kale and Singh (2007)
48	Schreyoegg and Kliesch-Eberl (2007)
49	Song et al. (2005)
50	Chen et al. (2004)
51	Madhok (2002)
52	Ahuja and Katila (2004)
53	Galunic and Eisenhardt (2001)
54	Jarzabkowski (2004)
57	Wang and Ahmed (2007)
58	Santos and Eisenhardt (2005)
61	Felin and Hesterly (2007)
62	Mudambi (2008)
63	King and Tucci (2002)
64	Rothaermel and Hess (2007)
68	Gavetti (2005)
69	Haas and Hansen (2005)

Table 5 continued

	70	O'Reilly and Tushman (2008)
	71	Holcomb and Hitt (2007)
	72	Graebner (2004)
	73	Lepak et al. (2007)
	74	Sher and Lee (2004)
	77	Doh (2005)
	78	Teece (2006)
	80	Vassolo et al. (2004)
	82	Rothaermel and Deeds (2006)
	83	Jacobides et al. (2006)
	84	Hart and Sharma (2004)
	85	Ambrosini and Bowman (2009)
	86	Blyler and Coff (2003)
	87	Sampson (2005)
	89	Fixson (2005)
	91	Menguc and Auh (2006)
	92	Helfat (2000)
	93	Uhlenbruck et al. (2003)
	94	Morgan et al. (2009)
	97	Luo (2000)
	98	Kraaijenbrink et al. (2010)
	99	Verona and Ravasi (2003)
	100	Miller (2003)

Factor analysis

Factor analysis strives to identify just which articles constitute each one of the factors and discover the influence of each one in the respective conceptual approach through factor loadings. This analysis took place in accordance with Varimax rotation in keeping with the example of earlier studies. The data applied in the analysis stemmed from the co-citation matrix.

Based on factor analysis, we deemed that an article falls within the scope of a trend when returning a factor loading equal to or greater than 0.4 and correspondingly taking into consideration how articles making a highly relevant contribution to the corresponding paradigm attain factor loadings equal to or greater than 0.7.

Table 6 presents the factor analysis results. Based upon the Scree Plot, we find evidence that the five factors explain 46% of variance. A significant proportion of the references attain a factor loading of in excess of 0.7 and thus corroborating the importance of these works within the scope of their associated paradigms. We would equally observe how some works attain factor loadings of greater than 0.4 for more than one factor and thus may be considered mediators between paradigms and examples of the potential links that get formed between paradigms.

Based on the results set out in Table 6, we find that some of the five groups identified hold a mutual relationship. For example, cluster 4 "Strategic Capabilities" ends up

Table 6 Factor analysis (rotated factor loadings)

Article	Components				
	Resources and Capabilities	Digital Capabilities	Absorptive Capabilities	Resources and Capabilities	Knowledge Capabilities
Wang and Ahmed (2007)	0.98	0.03	0.09	0.10	0.09
Helfat and Peteraf (2003)	0.97	0.01	0.10	0.10	0.09
Helfat (2000)	0.97	−0.01	0.06	0.10	0.09
Teece (2007)	0.97	−0.05	0.09	0.14	0.07
Winter (2003)	0.97	−0.02	0.11	0.12	0.04
Helfat (1997)	0.97	−0.04	0.13	0.15	0.08
Zollo and Winter (2002)	0.97	−0.05	0.16	0.12	0.04
Blyler and Coff (2003)	0.97	0.01	0.07	0.11	0.10
Luo (2000)	0.96	−0.01	0.09	0.15	0.04
Miller (2003)	0.96	0.10	0.03	0.07	0.11
Mahoney (1995)	0.96	−0.03	0.03	−0.01	0.19
Adner and Helfat (2003)	0.96	−0.07	0.07	0.16	0.08
Zott (2003)	0.96	0.04	0.15	0.16	0.07
Rindova and Kotha (2001)	0.95	−0.02	0.03	0.19	0.04
Teece et al. (1997)	0.95	−0.03	0.14	0.16	0.04
Newbert (2007)	0.95	0.10	−0.04	0.02	0.19
Ambrosini and Bowman (2009)	0.95	−0.01	0.12	0.15	0.06
Schreyoegg and Kliesch-Eberl (2007)	0.95	−0.06	0.14	0.19	0.08
Zahra et al. (2006)	0.95	−0.08	0.19	0.12	0.01
Eisenhardt and Martin (2000)	0.95	−0.10	0.11	0.15	0.14
Aragon-Correa and Sharma (2003)	0.94	0.09	0.08	0.15	0.12
King and Tucci (2002)	0.94	−0.03	0.08	0.23	0.04
Gavetti (2005)	0.94	−0.12	0.12	0.10	0.08
Teece (2000)	0.94	0.03	0.15	0.10	0.14
Menguc and Auh (2006)	0.94	0.08	0.14	0.11	0.06
Morgan et al. (2009)	0.94	0.03	0.05	0.07	0.11
Verona and Ravasi (2003)	0.94	−0.06	0.20	0.17	0.02
Uhlenbruck et al. (2003)	0.93	−0.07	0.10	0.11	0.06
Jarzabkowski (2004)	0.93	−0.03	−0.11	0.18	0.05
Galunic and Eisenhardt (2001)	0.93	0.02	0.03	0.28	0.08
Song et al. (2005)	0.93	0.02	0.23	0.14	0.06

Table 6 continued

Article	Components				
	Resources and Capabilities	Digital Capabilities	Absorptive Capabilities	Resources and Capabilities	Knowledge Capabilities
Becker (2004)	0.93	−0.09	0.15	0.10	0.04
Fixson (2005)	0.92	0.03	0.02	0.13	0.06
Kraaijenbrink et al. (2010)	0.92	0.07	0.04	−0.07	0.19
Teece (2006)	0.90	−0.14	0.03	−0.06	−0.10
Lavie (2006)	0.90	−0.05	0.25	0.00	−0.04
Jacobides and Winter (2005)	0.89	−0.16	−0.08	−0.11	0.00
Zollo and Singh (2004)	0.89	−0.13	0.21	0.12	−0.05
Danneels (2002)	0.88	−0.12	0.19	0.38	0.10
Kale and Singh (2007)	0.88	−0.14	0.27	0.10	−0.06
Rothaermel and Hess (2007)	0.88	−0.15	0.33	0.17	0.06
Santos and Eisenhardt (2005)	0.88	−0.17	−0.09	−0.06	−0.01
Ahuja and Katila (2004)	0.86	−0.19	0.29	0.26	0.02
Haas and Hansen (2005)	0.85	−0.07	0.45	0.08	0.07
Madhok (2002)	0.83	−0.08	−0.20	−0.14	0.02
Rothaermel and Deeds (2006)	0.81	−0.21	0.31	0.12	−0.06
Felin and Hesterly (2007)	0.81	−0.18	0.20	−0.03	0.42
Vassolo et al. (2004)	0.81	−0.18	0.25	0.41	−0.01
Lichtenthaler (2009)	0.81	−0.15	0.54	0.09	0.00
Sapienza et al. (2006)	0.81	−0.19	0.29	0.07	−0.01
Knight and Cavusgil (2004)	0.80	−0.08	0.19	0.04	0.08
Lepak et al. (2007)	0.79	−0.11	−0.30	−0.24	0.26
Walter et al. (2006)	0.78	−0.17	0.05	0.17	−0.05
Sher and Lee (2004)	0.78	0.57	0.13	0.08	0.01
Carney (2005)	0.77	−0.24	−0.07	0.30	0.26
Agarwal et al. (2004)	0.76	−0.23	0.22	0.23	−0.02
Sampson (2005)	0.74	−0.22	0.35	0.13	−0.13
Jacobides et al. (2006)	0.74	−0.28	−0.37	−0.20	−0.04
Doh (2005)	0.73	−0.05	0.09	−0.26	0.01
Chen et al. (2004)	0.72	0.45	−0.10	−0.07	0.05
Graebner (2004)	0.71	−0.21	0.30	0.22	−0.09
Hitt et al. (2001)	0.69	−0.21	−0.04	0.20	0.04
Lichtenthaler and Lichtenthaler (2009)	0.69	−0.30	0.59	0.03	−0.09
Benner and Tushman (2003)	0.68	−0.14	0.19	0.67	0.08

Table 6 continued

Article	Components				
	Resources and Capabilities	Digital Capabilities	Absorptive Capabilities	Resources and Capabilities	Knowledge Capabilities
Hart and Sharma (2004)	0.67	−0.10	−0.23	−0.03	0.03
Subramaniam and Youndt (2005)	0.67	−0.25	0.36	0.32	0.45
Jensen and Szulanski (2004)	0.66	−0.25	0.61	0.00	0.10
Ireland et al. (2003)	0.64	−0.28	0.07	0.29	0.00
Holcomb and Hitt (2007)	0.64	−0.20	−0.15	−0.29	0.06
Mudambi (2008)	0.60	−0.30	0.15	−0.16	−0.03
O'Reilly and Tushman (2008)	0.57	−0.22	0.06	0.75	0.02
Wheeler (2002)	0.57	0.79	−0.05	0.01	−0.04
Amit and Zott (2001)	0.52	0.07	0.53	−0.20	−0.20
Swink et al. (2007)	0.51	0.55	−0.11	0.07	0.01
Vohora et al. (2004)	0.42	−0.22	0.04	0.10	−0.14
Sambamurthy et al. (2003)	0.09	0.98	−0.04	−0.07	−0.08
Wade and Hulland (2004)	−0.06	0.98	−0.08	−0.10	−0.06
Pavlou and El Sawy (2006)	0.05	0.98	0.05	−0.08	−0.11
Melville et al. (2004)	−0.18	0.96	−0.09	−0.11	−0.08
Rai et al. (2006)	−0.21	0.96	−0.06	−0.10	−0.09
Bhatt and Grover (2005)	−0.19	0.96	−0.07	−0.11	−0.09
Piccoli and Ives (2005)	−0.21	0.95	−0.07	−0.09	−0.10
Zhu (2004)	−0.15	0.94	−0.15	−0.13	−0.09
Barua et al. (2004)	−0.24	0.93	−0.13	−0.12	−0.10
Zhu and Kraemer (2002)	−0.15	0.93	−0.16	−0.13	−0.10
Zahra and George (2002)	0.23	−0.28	0.86	−0.04	−0.12
Volberda et al. (2010)	0.30	−0.30	0.84	−0.02	−0.12
Todorova and Durisin (2007)	0.36	−0.24	0.83	0.05	−0.06
Jansen et al. (2005)	0.38	−0.27	0.82	0.08	−0.05
Zott and Amit (2007)	−0.01	−0.28	0.60	−0.27	−0.29
Teece (2010)	0.28	−0.27	0.54	−0.21	−0.27
Lubatkin et al. (2006)	0.16	−0.27	0.08	0.90	0.06
Raisch and Birkinshaw (2008)	0.20	−0.25	0.09	0.89	0.04
Raisch et al. (2009)	0.30	−0.25	0.11	0.86	0.04
Becker and Huselid (2006)	0.05	−0.22	−0.01	−0.03	0.96

Table 6 continued

Article	Components				
	Resources and Capabilities	Digital Capabilities	Absorptive Capabilities	Resources and Capabilities	Knowledge Capabilities
Evans and Davis (2005)	−0.16	−0.24	0.00	−0.01	0.94
Colbert (2004)	0.27	−0.08	−0.05	0.11	0.92
Wright et al. (2001)	0.56	−0.08	−0.02	0.03	0.82
Kang et al. (2007)	0.32	−0.32	0.19	0.21	0.79
Lockett and Wright (2005)	0.02	−0.21	0.05	0.07	−0.19
Eigenvalues	59.07	13.08	5.77	4.78	3.63
% of variance explained	55.45	12.92	7.13	5.60	5.23

breaking down into five factors and does not get defined in any clear isolation. This leads us to reflect on the strategic capabilities present in all of the other approaches and once again conveying how DC represents an approach within the field of SM.

Research findings and discussion

Digital Capabilities

Zhu and Kraemer (2002) define a set of constructs for measuring how the e-commerce abilities of Internet organizations get enhanced. The e-commerce capability metrics are composed of four dimensions: information, transaction, personalization and connection to the supplier. Based on the perspective of dynamic capabilities and company resource theory, a number of hypotheses have been developed. They showed that e-commerce tends to be associated with increases in cost of sales for traditional manufacturing companies but there is an opposite relationship for technology companies. This result highlights the role of complementary resources to the business value of traditional e-commerce companies, that is there is a great need for alignment between the ability to do e-commerce and its existing Information Technology infrastructure to reap the benefits of e-commerce. Sambamurthy et al. (2003) argue that agility is critical to the innovative and competitive performance of companies in contemporary business environments. Companies increasingly rely on information technology, including knowledge and communication technologies to improve their agility. The purpose of this article was to expand the understanding of the strategic role of information technology by examining the nomological networks of influence, through which impacts occur on business performance.

Despite the importance for researchers and policy makers that information technologies contribute to organizational performance, there is some uncertainty about what we know and do not know about this issue. Melville et al. (2004) developed a model of information technology business value based on the theory of resources and capabilities enterprise integrating the different strands of research into a single structure. The main finding shows that the extent and the dimensions are dependent on internal and external factors, including the complementary

organizational resources of the company and its trading partners as well as the macro and competitive environments. According to Piccoli and Ives (2005), the role of information systems in the creation and appropriation of economic value has a long tradition of research, which falls within the literature on the sustainability of competitive advantages in information technology. This study formally sets up the notion of strategic initiative in technology research and applies the same to frame a literature review on the sustainability of competitive advantage rooted in which information systems to use. The findings convey how the exploratory research and the significant theoretical development may have occurred in this area, but there is a dearth of research that provides rigorous testing of the theoretical propositions.

Rai et al. (2006) give examples of good practices which suggest that digital platforms play a critical role in the management of activities and partnerships that generate performance gains for the value chain companies. However, there is no academic research on why and how information technology can create performance gains for companies in a management context of the value chain. The results suggest that integrated information technology infrastructures enable companies to develop a capacity for the higher-order integration of supply chain processes. This capability allows companies to separate the physical flows of information flows, while sharing information with their supply chain partners to create approaches based on the information to plan a higher demand.

Swink et al. (2007) focused on the integration of strategic objectives and process knowledge in the manufacturing industry. Then, they concluded that each type of integration activity has unique benefits and drawbacks. These results extend previous studies of integrated manufacturing and supply chains, extending the theory on strategic integration. The results also provide implications for production managers seeking to design integration and implementation strategies associated with resource policies.

Knowledge Capabilities

A resource-based view (RBV) of the company has influenced the field of strategic management of human resources (Wright et al. 2001). Wright et al. (2001) explore the impact of the RBV theoretical and empirical fields of SM of human resources. Colbert (2004) considers the implications for research and practice in strategic human resource management in a complex extension of living RBV systems. He did this to show that the concepts of complexity align well with RBV considering critical aspects, but commonly identified in RBV strategy literature as difficult. An integrated platform for the strategic management of human resources is presented, allowing the application of complex principles at the appropriate level of abstraction in the human resources system. Evans and Davis (2005) provide a theoretical framework illustrating how the internal social structure of the organization may mediate the relationship between high performance work systems and organizational performance. High performance work systems positively influence the internal social structure, facilitating network ties, generalized norms of reciprocity, shared mental models and organizational citizenship behavior. Although the high-performance work systems are seen as human resource practice systems, each category of human resource practices holds a differential relationship with the mediating variables. High work performance systems may lead to: (a) financial performance through efficient administration and (b) sustainable performance through flexibility resulting from the coordination and operation of knowledge resources.

Becker and Huselid (2006) identify the key challenges facing the SM of human resources: focusing on a clearer articulation of the "black box" between human resources and the company's performance, and emphasizing the integration of strategy

implementation as the central mediating variable in this relationship. The authors emphasize the importance of differentiated human resources architecture not only between companies but also in companies.

Theories of competition based on knowledge emphasize the company's ability to trigger as well as to explore knowledge as a source of value creation (Kang et al. 2007).

Absorptive Capabilities

Zahra and George (2002) apply the construction absorption capacity to explain various organizational phenomena. In this article, the authors present a literature review to identify key dimensions of absorption capacity in order to offer a reconceptualization of this construct. Based on the view of dynamic capabilities of the company, this may distinguish between the potential and the actual ability of a company. The authors propose a model that defines the conditions under which potential and actual capaciades of a company may differentially influence the creation and maintenance of its competitive advantage. Jansen et al. (2005) explored organizational antecedents that affect the business potential and realized the great impact the potential of organizations has on absorptive capacity. The results indicate that the organizational mechanisms associated with coordinating capabilities (multi-function interfaces, participation in decision-making, and job rotation) mainly increase the potential absorption capacity of an enterprise. Todorova and Durisin (2007) suggest a reintroduction to "recognize the value," an alternative understanding of "transformation", a clarification of "potential absorptive capacity", an elaboration of the impact of socialization mechanisms, and an investigation into the role of "power relations".

Lichtenthaler (2009), based on the absorptive capacity of the process, identifies technological and market knowledge as two critical components of the prior knowledge of absorptive capacity organizational learning processes. The results emphasize the multidimensional nature of the absorptive capacity, stressing the importance of dynamic capabilities in contexts characterized by high levels of technological and market turbulence.

Strategic Capabilities

According to Hitt et al. (2001), entrepreneurship involves identifying and exploiting business opportunities. However, to create more value entrepreneurial companies also need to act strategically. This implies an integration of entrepreneurial and strategic thinking. For Ireland, Ireland et al. (2003), strategic entrepreneurship simultaneously involves looking for opportunities and searching for competitive advantage behaviors, resulting in far superior performance levels. In relative terms, in small businesses, entrepreneurs are effective in identifying opportunities but are less successful in developing the competitive advantages necessary for the appropriate value of construction of these opportunities. In contrast, large companies are often relatively more effective in creating competitive advantages, but are less able to identify new opportunities. Knight and Cavusgil (2004) study the globally born as pioneers of internationalization adopters—that is, companies that expand into foreign and international markets show how business talent outperforms. A possible explanation highlights the critical role of innovation culture, as well as the knowledge and skills in this unique type of international business. Lockett and Wright (2005) studied how the commercialization of university research has become an increasingly important issue, given the concerns over licensing and the university wish to maximize intellectual property returns. In this study, the authors assess the impact of the resources and capabilities of the university and the routines in the creation of spin-out

companies. The results suggest that universities and policy makers need to pay attention to training and employ technology recruitment officers with a broad base of business skills.

Sapienza et al. (2006) refer to recent criticism of models of internationalization processes and question the wisdom of delaying internationalization. Late internationalization allows companies to bring together resources and gain experience but also ensures inertia prevents them from developing. These effects are moderated by the organizational age management experience, and fungibility of resources.

This cluster, that gets "diluted" by the five factors presented in the factor analysis, thus encapsulates how strategy proves a constant factor in all of the different resource and capability approaches.

Resources and Capabilities

According to Teece et al. (1997), the framework of DC analyzes the sources and methods of wealth creation and capture by private companies operating in environments of rapid technological change. The competitive advantage of enterprises is seen as redeployed in different processes (ways to coordinate and match), molded by (specific) company asset positions (such as the company's portfolio of knowledge assets that are difficult to trade and complementary assets), and in the way evolution(s) are adopted or inherited. The importance of path dependency is amplified in the sense that there are the conditions for increasing returns. Whether and how the competitive advantage of a company is eroded depends on demand stability, and ease of replicability (expanding internally) and imitatabilty (replication by competitors). Eisenhardt and Martin (2000) focus on the dynamic capabilities and, more specifically, on the company resource based view. This argues that dynamic capabilities are a set of specific, identifiable processes such as product development, strategic decision making, and alliancing. Subramaniam and Youndt (2005) examine how aspects of intellectual capital influence several innovative capabilities in organizations.

RBV is one of the most commonly studied theories in SM. However, to date no systematic evaluation of the empirical support level of RBV has been conducted (Newbert 2007). In response, a sample of RBV based empirical papers was analyzed which found that the RBV has received only modest general support and that this support varies considerably with the independent variables and theoretical approaches employed. According to Teece (2010), when a company is established, it either explicitly or implicitly employs a particular business model that describes the design or architecture of the value creation, delivery, and capture mechanisms it employs. The essence of a business model is the definition, in the way the company delivers value to customers, entices customers and converts those payments to profit. Thus, this reflects management hypotheses about what customers want, how they want it, and how the company can organize to best meet these needs as well as how to make profits. The purpose of this research is to understand the importance of these business models and explore their connections with business strategy, innovation management, and economics.

Conclusion and future research suggestions

The results of this study convey the amplitude of the diverse territory spanned by the DC approach to SM. The networks we drew out of the existing literature based upon the shared references open up an impressive insight into the densely interconnected documents

incorporated into this field of research. The bibliometric analysis of the diffuse literature on the DC approach, based upon a dynamic perspective, reveals the different facets to the emerging research on DC.

This research study has enabled the mapping of the intellectual structure around DC. In the sense of defining the boundaries to such a vast field of research, we may say that we encountered five distinctive approaches: Digital Capabilities, Knowledge Capabilities, Absorptive Capabilities, Strategic Capabilities and Resources and Capabilities. Through this demarcation, we verify that all of the research carried out under the auspices of DC converges towards one or more of these five approaches. We would furthermore highlight how those authors that specifically study the resource and capability approach attain the highest profile and collectively represent the main pillar to all the other approaches. This conclusion stems from the factor analysis that obtained two factors based upon the authors concentrated into cluster 5. We would also emphasise how Strategic Capabilities are diluted as regards the results of the factor loadings across all the factors and thereby demonstrating how strategy provides the core for all of the resource and capability based approaches.

In these terms, our analysis reaches beyond the traditional scope of bibliometric studies. Furthermore, through this methodologically innovative approach, we were able to capture and identify the trajectory of research fields within the scope of the DC approach in order to set out potential paths for new research projects.

We believe that our study contributes towards the literature in various different ways. Firstly, this study provides an input into the evolution and consolidation of the DC concept, both strengthening its importance as a theme and its overall relevance to the SM field. In the same way, this makes an important contribution towards the conceptual clarification of DC revealing the ongoing trends in the literature.

Another study contribute emerges from the fact this fills an important shortfall in the research on DC to the extent its findings take into account bibliometric quantitative techniques for the intellectual mapping of the literature and therefore ensuring a deeper level of discussion around the essential trends in DC while also analysing them from a multidimensional perspective. Of great importance to future research is the observation of the thematic expansion of the DC approach having here adopted a dynamic perspective, comparing two visions of the DC network: with one covering the period from 1994 to 2010 and the other spanning the entire period from 1994 onwards.

References

Adner, R., & Helfat, C. E. (2003). Corporate effects and dynamic managerial capabilities. *Strategic Management Journal, 24*(10), 1011–1025. doi:10.1002/smj.331.

Agarwal, R., Echambadi, R., Franco, A. M., & Sarkar, M. B. (2004). Knowledge transfer through inheritance: Spinout generation, development, and survival. *Academy of Management Journal, 47*(4), 501–522.

Ahuja, G., & Katila, R. (2004). Where do resources come from? The role of idiosyncratic situations. *Strategic Management Journal, 25*(8–9), 887–907. doi:10.1002/smj.401.

Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews, 11*(1), 29–49. doi:10.1111/j.1468-2370.2008.00251.x.

Amit, R., & Zott, C. (2001). Value creation in e-business. *Strategic Management Journal, 22*(6–7), 493–520. doi:10.1002/smj.187.

Andrews, K. (1971). *The concept of corporate strategy*. Irwin.

Ansoff, H. I. (1965). *Corporate strategy*. New York: McGraw-Hill.

Aragon-Correa, J. A., & Sharma, S. (2003). A contingent resource-based view of proactive corporate environmental strategy. *Academy of Management Review, 28*(1), 71–88.
Arend, R. J., & Bromiley, P. (2009). Assessing the dynamic capabilities view: Spare change, everyone? *Strategic Organization, 7*(1), 75–90. doi:10.1177/1476127008100132.
Barney, J. (1986). Strategic factor markets: Expectations, luck and business strategy. *Management Science, 32*(10), 1231–1241.
Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. doi:10.1177/014920639101700108.
Barreto, I. (2010). Dynamic capabilities: A review of past research and an agenda for the future. *Journal of Management, 36*(1), 256–280.
Barua, A., Konana, P., Whinston, A. B., & Yin, F. (2004). An empirical investigation of net-enabled business value. *MIS Quarterly, 28*(4), 585–620.
Becker, M. C. (2004). Organizational routines: A review of the literature. *Industrial and Corporate Change, 13*(4), 643–677. doi:10.1093/icc/dth026.
Becker, B. E., & Huselid, M. A. (2006). Strategic human resources management: Where do we go from here? *Journal of Management, 32*(6), 898–925. doi:10.1177/0149206306293668.
Benner, M. J., & Tushman, M. L. (2003). Exploitation, exploration, and process management: The productivity dilemma revisited. *Academy of Management Review, 28*(2), 238–256.
Bhatt, G. D., & Grover, V. (2005). Types of information technology capabilities and their role in competitive advantage: An empirical study. *Journal of Management Information Systems, 22*(2), 253–277.
Blyler, M., & Coff, R. W. (2003). Dynamic capabilities, social capital, and rent appropriation: Ties that split pies. *Strategic Management Journal, 24*(7), 677–686. doi:10.1002/smj.327.
Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice, 29*(3), 249–265. doi:10.1111/j.1540-6520.2005.00081.x.
Chandler, A. D. (1962). *Strategy and strcuture: Chapters in the history of the industrial enterprise*. Cambridge, MA: Harvard University Press.
Chen, I. J., Paulraj, A., & Lado, A. A. (2004). Strategic purchasing, supply management, and firm performance. *Journal of Operations Management, 22*(5), 505–523. doi:10.1016/j.jom.2004.06.002.
Colbert, B. A. (2004). The complex resource-based view: Implications for theory and practice in strategic human resource management. *Academy of Management Review, 29*(3), 341–358.
Culnan, M. J. (1986). The intellectual development of management information systems, 1972–1982: A co-citation analysis. *Management Science, 32*(2), 156–172. doi:10.1287/mnsc.32.2.156.
Danneels, E. (2002). The dynamics of product innovation and firm competences. *Strategic Management Journal, 23*(12), 1095–1121. doi:10.1002/smj.275.
Davidsson, P. (2006). Nascent entrepreneurship: Empirical studies and developments. *Foundations and Trends® in Entrepreneurship, 2*(1), 1–76. doi:10.1561/0300000005.
Di Guardo, M. C., & Harrigan, K. R. (2012). Mapping research on strategic alliances and innovation: A co-citation analysis. *The Journal of Technology Transfer, 37,* 789–811.
Di Stefano, G., Peteraf, M., & Verona, G. (2010). Dynamic capabilities deconstructedz: A bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and Corporate Change, 19*(4), 1187–1204.
Doh, J. P. (2005). Offshore outsourcing: Implications for international business and strategic management theory and practice. *Journal of Management Studies, 42*(3), 695–704. doi:10.1111/j.1467-6486.2005.00515.x.
Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal, 21*(10–11), 1105–1121. doi:10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E.
Evans, W. R., & Davis, W. D. (2005). High-performance work systems and organizational performance: The mediating role of internal social structure. *Journal of Management, 31*(5), 758–775. doi:10.1177/0149206305279370.
Felin, T., & Hesterly, W. S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Management Review, 32*(1), 195–218.
Ferreira, J., Fernandes, C., & Ratten, V. (2016). A co-citation bibliometric analysis of strategic management research. *Scientometrics, 109,* 1–32. **(online first)**.
Fixson, S. K. (2005). Product architecture assessment: A tool to link product, process, and supply chain design decisions. *Journal of Operations Management, 23*(3–4), 345–369. doi:10.1016/j.jom.2004.08.006.
Galunic, D. C., & Eisenhardt, K. M. (2001). Architectural innovation and modular corporate forms. *Academy of Management Journal, 44*(6), 1229–1249. doi:10.2307/3069398.

Gavetti, G. (2005). Cognition and hierarchy: Rethinking the microfoundations of capabilities' development. *Organization Science, 16*(6), 599–617. doi:10.1287/orsc.1050.0140.

Graebner, M. E. (2004). Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journal, 25*(8–9), 751–777. doi:10.1002/smj.419.

Haas, M. R., & Hansen, M. T. (2005). When using knowledge can hurt performance: The value of organizational capabilities in a management consulting company. *Strategic Management Journal, 26*(1), 1–24. doi:10.1002/smj.429.

Hart, S. L., & Sharma, S. (2004). Engaging fringe stakeholders for competitive imagination. *Academy of Management Executive, 18*(1), 7–18.

Helfat, C. E. (1997). Know-how and asset complementarity and dynamic capability accumulation: The case of R&D. *Strategic Management Journal, 18*(5), 339–360. doi:10.1002/(SICI)1097-0266(199705)18:5<339::AID-SMJ883>3.0.CO;2-7.

Helfat, C. E. (2000). Guest editor's introduction to the special issue: The evolution of firm capabilities. *Strategic Management Journal, 21*(10–11), 955–959. doi:10.1002/1097-0266(200010/11)21:10/11<955::AID-SMJ136>3.3.CO;2-J.

Helfat, C., & Peteraf, M. (2009). Understanding dynamic capabilities: Progress along a developmental path. *Strategic Organization, 7*(1), 91–102.

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal, 24*(10), 997–1010. doi:10.1002/smj.332.

Helfat, C. E., & Winter, S. G. (2011). Untangling dynamic and operational capabilities: Strategy for the (N)ever-changing world. *Strategic Management Journal, 32*(11), 1243–1250. doi:10.1002/smj.955.

Hitt, M. A., Ireland, R. D., Camp, S. M., & Sexton, D. L. (2001). Guest editors' introduction to the special issue: Strategic entrepreneurship: Entrepreneurial strategies for wealth creation. *Strategic Management Journal, 22*(6–7), 479–491. doi:10.1002/smj.196.

Holcomb, T. R., & Hitt, M. A. (2007). Toward a model of strategic outsourcing. *Journal of Operations Management, 25*(2), 464–481. doi:10.1016/j.jom.2006.05.003.

Ireland, R., Hitt, M., & Simon, D. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management, 29*(6), 963–989.

Jacobides, M. G., Knudsen, T., & Augier, M. (2006). Benefiting from innovation: Value creation, value appropriation and the role of industry architectures. *Research Policy, 35*(8), 1200–1221. doi:10.1016/j.respol.2006.09.005.

Jacobides, M. G., & Winter, S. G. (2005). The co-evolution of capabilities and transaction costs: Explaining the institutional structure of production. *Strategic Management Journal, 26*(5), 395–413. doi:10.1002/smj.460.

Jansen, J. J. P., den Bosch, F. A. J., & Volberda, H. W. (2005). Managing potential and realized absorptive capacity: How do organizational antecedent's matter? *Academy of Management Journal, 48*(6), 999–1015.

Jarzabkowski, P. (2004). Strategy as practice: Recursiveness, adaptation, and practices-in-use. *Organization Studies, 25*(4), 529–560. doi:10.1177/0170840604040675.

Jensen, R., & Szulanski, G. (2004). Stickiness and the adaptation of organizational practices in cross-border knowledge transfers. *Journal of International Business Studies, 35*(6), 508–523. doi:10.1057/palgrave.jibs.8400107.

Kale, P., & Singh, H. (2007). Building firm capabilities through learning: The role of the alliance learning process in alliance capability and firm-level alliance success. *Strategic Management Journal, 28*(10), 981–1000. doi:10.1002/smj.616.

Kang, S.-C., Morris, S. S., & Snell, S. A. (2007). Relational archetypes, organizational learning, and value creation: Extending the human resource architecture. *Academy of Management Review, 32*(1), 236–256.

Kessler, M. M. (1963). Bibliographic coupling between scientific papers. *Journal of the Association for Information Science and Technology, 14*(1), 10–25. doi:10.1002/asi.5090140103.

King, A. A., & Tucci, C. L. (2002). Incumbent entry into new market niches: The role of experience and managerial choice in the creation of dynamic capabilities. *Management Science, 48*(2), 171–186. doi:10.1287/mnsc.48.2.171.253.

Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies, 35*(2), 124–141. doi:10.1057/palgrave.jibs.8400071.

Kraaijenbrink, J., Spender, J.-C., & Groen, A. J. (2010). The resource-based view: A review and assessment of its critiques. *Journal of Management, 36*(1), 349–372. doi:10.1177/0149206309350775.

Lavie, D. (2006). The competitive advantage of interconnected firms: An extension of the resource-based view. *Academy of Management Review, 31*(3), 638–658.

Lepak, D. P., Smith, K. G., & Taylor, M. S. (2007). Value creation and value capture: A multilevel perspective. *Academy of Management Review, 32*(1), 180–194.
Lichtenthaler, U. (2009). Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of Management Journal, 52*(4), 822–846. **(Retracted article. See vol. 56, p. 1830, 2013)**.
Lichtenthaler, U., & Lichtenthaler, E. (2009). A capability-based framework for open innovation: Complementing absorptive capacity. *Journal of Management Studies, 46*(8), 1315–1338. doi:10.1111/j.1467-6486.2009.00854.x.
Lockett, A., & Wright, M. (2005). Resources, capabilities, risk capital and the creation of university spin-out companies. *Research Policy, 34*(7), 1043–1057. doi:10.1016/j.respol.2005.05.006.
Lubatkin, M. H., Simsek, Z., Ling, Y., & Veiga, J. F. (2006). Ambidexterity and performance in small- to medium-sized firms: The pivotal role of top management team behavioral integration. *Journal of Management, 32*(5), 646–672. doi:10.1177/0149206306290712.
Luo, Y. D. (2000). Dynamic capabilities in international expansion. *Journal of World Business, 35*(4), 355–378. doi:10.1016/S1090-9516(00)00043-2.
Madhok, A. (2002). Reassessing the fundamentals and beyond: Ronald Coase, the transaction cost and resource-based theories of the firm and the institutional structure of production. *Strategic Management Journal, 23*(6), 535–550. doi:10.1002/smj.247.
Mahoney, J. T. (1995). The management of resources and the resource of management. *Journal of Business Research, 33*(2), 91–101. doi:10.1016/0148-2963(94)00060-R.
Melville, N., Kraemer, K., & Gurbaxani, V. (2004). Review: Information technology and organizational performance: An integrative model of IT business value. *MIS Quarterly, 28*(2), 283–322.
Menguc, B., & Auh, S. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the Academy of Marketing Science, 34*(1), 63–73. doi:10.1177/0092070305281090.
Miller, D. (2003). An asymmetry-based view of advantage: Towards an attainable sustainability. *Strategic Management Journal, 24*(10), 961–976. doi:10.1002/smj.316.
Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal, 30*(8), 909–920. doi:10.1002/smj.764.
Mudambi, R. (2008). Location, control and innovation in knowledge-intensive industries. *Journal of Economic Geography, 8*(5), 699–725. doi:10.1093/jeg/lbn024.
Nerur, S. P., Rasheed, A. A., & Natarajan, V. (2008). The intellectual structure of the strategic management field: An author co-citation analysis. *Strategic Management Journal, 29*, 319–336.
Newbert, S. L. (2007). Empirical research on the resource-based view of the firm: An assessment and suggestions for future research. *Strategic Management Journal, 28*(2), 121–146. doi:10.1002/smj.573.
OReilly, C. A., & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's dilemma. In B. Brief & A. P. Staw (Eds.), *Research in organizational behavior* (Vol. 28, pp. 185–206). An annual series of analytical essays and critical reviews. Bingley: Emerald Group Publishing Limited. doi:10.1016/j.riob.2008.06.002.
Pavlou, P. A., & El Sawy, O. A. (2006). From IT leveraging competence to competitive advantage in turbulent environments: The case of new product development. *Information Systems Research, 17*(3), 198–227. doi:10.1287/isre.1060.0094.
Penrose, E. T. (1959). *The theory of the growth of the firm*. New York: Wiley.
Piccoli, G., & Ives, B. (2005). Review: It-dependent strategic initiatives and sustained competitive advantage: A review and synthesis of the literature. *MIS Quarterly, 29*(4), 747–776.
Porter, M. (1980). *Competitive strategy*. New York: The Free Press.
Rai, A., Patnayakuni, R., & Seth, N. (2006). Firm performance impacts of digitally enabled supply chain integration capabilities. *MIS Quarterly, 30*(2), 225–246.
Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management, 34*(3), 375–409. doi:10.1177/0149206308316058.
Raisch, S., Birkinshaw, J., Probst, G., & Tushman, M. L. (2009). Organizational ambidexterity: Balancing exploitation and exploration for sustained performance. *Organization Science, 20*(4), 685–695. doi:10.1287/orsc.1090.0428.
Ramos-Rodríguez, A.-R., & Ruíz-Navarro, J. (2004). Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980–2000. *Strategic Management Journal, 25*(10), 981–1004. doi:10.1002/smj.397.
Rindova, V. P., & Kotha, S. (2001). Continuous "morphing": Competing through dynamic capabilities, form, and function. *Academy of Management Journal, 44*(6), 1263–1280. doi:10.2307/3069400.

Rothaermel, F. T., & Deeds, D. L. (2006). Alliance type, alliance experience and alliance management capability in high-technology ventures. *Journal of Business Venturing, 21*(4), 429–460. doi:10.1016/j.jbusvent.2005.02.006.

Rothaermel, F. T., & Hess, A. M. (2007). Building dynamic capabilities: Innovation driven by individual-, firm-, and network-level effects. *Organization Science, 18*(6), 898–921. doi:10.1287/orsc.1070.0291.

Sambamurthy, V., Bharadwaj, A., & Grover, V. (2003). Shaping agility through digital options: Reconceptualizing the role of information technology in contemporary firms. *MIS Quarterly, 27*(2), 237–263.

Sampson, R. C. (2005). Experience effects and collaborative returns in R&D alliances. *Strategic Management Journal, 26*(11), 1009–1031. doi:10.1002/smj.483.

Santos, F. A., & Eisenhardt, K. A. (2005). Organizational boundaries and theories of organization. *Organization Science, 16*(5), 491–508. doi:10.1287/orsc.1050.0152.

Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review, 31*(4), 914–933.

Schendel, D., & Hofer, C. (1979). *Strategic management: A new view of business policy and planning*. Little Brown editions.

Schreyoegg, G., & Kliesch-Eberl, M. (2007). How dynamic can organizational capabilities be? Towards a dual-process model of capability dynamization. *Strategic Management Journal, 28*(9), 913–933. doi:10.1002/smj.613.

Sher, P. J., & Lee, V. C. (2004). Information technology as a facilitator for enhancing dynamic capabilities through knowledge management. *Information & Management, 41*(8), 933–945. doi:10.1016/j.im.2003.06.004.

Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science, 24,* 265–269.

Smith, J., Flower, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. London: Sage Publications.

Smith, L. C. (1981). Citation analysis. *Bibliometrics, Library Trends, 30*(1), 83–106. **(Summer)**.

Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal, 26*(3), 259–276. doi:10.1002/smj.450.

Subramaniam, M., & Youndt, M. A. (2005). The influence of intellectual capital on the types of innovative capabilities. *Academy of Management Journal, 48*(3), 450–463.

Swink, M., Narasimhan, R., & Wang, C. (2007). Managing beyond the factory walls: Effects of four types of strategic integration on manufacturing plant performance. *Journal of Operations Management, 25*(1), 148–164. doi:10.1016/j.jom.2006.02.006.

Teece, D. J. (2000). Strategies for managing knowledge assets: The role of firm structure and industrial context. *Long Range Planning, 33*(1), 35–54. doi:10.1016/S0024-6301(99)00117-X.

Teece, D. J. (2006). Reflections on "profiting from innovation". *Research Policy, 35*(8), 1131–1146. doi:10.1016/j.respol.2006.09.009.

Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319–1350. doi:10.1002/smj.640.

Teece, D. J. (2010). Business models, business strategy and innovation. *Long Range Planning, 43*(2–3), 172–194. doi:10.1016/j.lrp.2009.07.003.

Teece, D. J., & Pisano, G. (1994). The dynamic capabilities of firms: An introduction. *Industrial and Corporate Change, 3*(3), 537–556.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509–533.

Todorova, G., & Durisin, B. (2007). Absorptive capacity: Valuing a reconceptualization. *Academy of Management Review, 32*(3), 774–786.

Uhlenbruck, K., Meyer, K. E., & Hitt, M. A. (2003). Organizational transformation in transition economies: Resource-based and organizational learning perspectives. *Journal of Management Studies, 40*(2), 257–282.

Vassolo, R. S., Anand, J., & Folta, T. B. (2004). Non-additivity in portfolios of exploration activities: A real options-based analysis of equity alliances in biotechnology. *Strategic Management Journal, 25*(11), 1045–1061. doi:10.1002/smj.414.

Veerbek, A., Debackere, K., Luwel, M., & Zimmerman, E. (2002). Measuring progress and evolution in science and technology–I: The multiple uses of bibliometric indicators. *International Journal of Management Reviews, 4*(2), 179–211.

Verona, G., & Ravasi, D. (2003). Unbundling dynamic capabilities: An exploratory study of continuous product innovation. *Industrial and Corporate Change, 12*(3), 577–606. doi:10.1093/icc/12.3.577.

Vohora, A., Wright, M., & Lockett, A. (2004). Critical junctures in the development of university high-tech spinout companies. *Research Policy, 33*(1), 147–175. doi:10.1016/S0048-7333(03)00107-0.

Volberda, H. W., Foss, N. J., & Lyles, M. A. (2010). Absorbing the concept of absorptive capacity: How to realize its potential in the organization field. *Organization Science, 21*(4), 931–951. doi:10.1287/orsc.1090.0503.

Wade, M., & Hulland, J. (2004). Review: The resource-based view and information systems research: Review, extension, and suggestions for future research. *MIS Quarterly, 28*(1), 107–142.

Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venturing, 21*(4), 541–567. doi:10.1016/j.jbusvent.2005.02.005.

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews, 9*(1), 31–51. doi:10.1111/j.1468-2370.2007.00201.x.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*, 171–180.

Wheeler, B. C. (2002). NEBIC: A dynamic capabilities theory for assessing net-enablement. *Information Systems Research, 13*(2), 125–146. doi:10.1287/isre.13.2.125.89.

White, H. D., & Grifith, B. C. (1981). Author cocitation: A literature measure of intellectual structure. *Journal of the American Society for Information Science, 32*(3), 163–171.

White, H. D., & McCain, K. W. (1998). Visualizing a discipline: An author co-citation analysis of information science, 1972–1995. *Journal of the American Society for Information Science, 49*(4), 327–355.

Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal, 24*(10), 991–995. doi:10.1002/smj.318.

Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource based view of the firm. *Journal of Management, 27*(6), 701–721.

Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review, 27*(2), 185–203. doi:10.2307/4134351.

Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A review, model and research agenda. *Journal of Management Studies, 43*(4), 917–955. doi:10.1111/j.1467-6486.2006.00616.x.

Zhu, K. (2004). The complementarity of information technology infrastructure and e-commerce capability: A resource-based assessment of their business value. *Journal of Management Information Systems, 21*(1), 167–202.

Zhu, K., & Kraemer, K. L. (2002). e-Commerce metrics for net-enhanced organizations: Assessing the value of e-commerce to firm performance in the manufacturing sector. *Information Systems Research, 13*(3), 275–295. doi:10.1287/isre.13.3.275.82.

Zitt, M., & Bassecoulard, E. (1994). Development of a method for detection and trend analysis of research fronts built by lexical or cocitation analysis. *Scientometrics, 30,* 333–351.

Zollo, M., & Singh, H. (2004). Deliberate learning in corporate acquisitions: Post-acquisition strategies and integration capability in US bank mergers. *Strategic Management Journal, 25*(13), 1233–1256. doi:10.1002/smj.426.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science, 13*(3), 339–351. doi:10.1287/orsc.13.3.339.2780.

Zott, C. (2003). Dynamic capabilities and the emergence of intraindustry differential firm performance: Insights from a simulation study. *Strategic Management Journal, 24*(2), 97–125. doi:10.1002/smj.288.

Zott, C., & Amit, R. (2007). Business model design and the performance of entrepreneurial firms. *Organization Science, 18*(2), 181–199. doi:10.1287/orsc.1060.0232.