Chapter 1

Effectuation Theory and International Business Research: A Bibliometric Overview

Juan M. Gil-Barragan^{*,‡}, Andrés Aguilera-Castillo^{†,§}
and Sergio Andres Salas Amaya^{*,¶}

**Universidad EAN, Bogotá, Cundinamarca, Colombia*

†University of Urbino, Urbino, Italy

‡jmgilbar@universidadean.edu.co

§a.aguilercastillo@campus.uniurb.it

¶sasalas@universidadean.edu.co

Abstract

This chapter aims to provide a better understanding of effectuation theory by analysing 328 articles collected from the Scopus database. For this purpose, a bibliometric analysis and a bibliographic coupling were performed. Despite the growing interest of effectuation theory in international entrepreneurship research, the development of this research remains in a nascent stage. Therefore, the aim of this chapter is to identify the main research themes, the intellectual structure and the main trends of this academic field to guide international business researchers in possible areas of future research.

Keywords: Effectuation; Entrepreneurship; Bibliometric analysis; Co-citation analysis; Intellectual structure.

Introduction

The traditional body of international entrepreneurship research is based on rational decision-making models, called causation (Sarasvathy, 2001). Causation is a goal-driven approach in which the future is predictable; therefore, it usually involves actions such as analysing long-run opportunities and selecting the ones that might deliver the best returns; designing a strategy to take advantage of resources and capabilities; developing business plans; doing market research; analysing the competitor's environment; and implementing and controlling the process to achieve these goals (Chandler *et al.*, 2011).

In contrast, effectuation is a means-driven approach in which the future is unpredictable (Sarasvathy, 2001). Effectuation logic is a decision-making process which consists of mobilising resources and capacities within the control of their network to co-create the future (Sarasvathy *et al.*, 2014). It also focuses on opportunity development and on taking advantage of unexpected outcomes (Chetty *et al.*, 2015; Sarasvathy and Dew, 2005b). The effectual approach is based on the following principles: (1) available means, including who I am, what I know and whom I know; (2) experimentation, which means trying different approaches before starting the venture; (3) affordable loss, which refers to estimating how much loss is affordable rather than calculating expected returns; (4) flexibility to explore new opportunities; and (5) pre-commitments within the network to control the future (Sarasvathy, 2008). From a practical point of view, effectuation is appropriate in contexts of uncertainty (Gil-Barragan *et al.*, 2020b; Sarasvathy and Dew, 2005b). Therefore, effectuation theory has been used to explain how firms are created (Sarasvathy, 2001), how entrepreneurs identify international opportunities (Mainela *et al.*, 2014; Reuber *et al.*, 2016, 2018), how the decision-making process is affected by uncertainty (Dew *et al.*, 2009) and how entrepreneurs successfully create international ventures (Andersson, 2011; Galkina and Chetty, 2015; Harms and Schiele, 2012; Sarasvathy *et al.*, 2014; Schweizer *et al.*, 2010).

Since Sarasvathy's (2001) seminal article, effectuation has become one of the dominant theories in entrepreneurship (Alvarez *et al.*, 2016), and has garnered considerable scholarly attention over the last 20 years in international entrepreneurship studies and opportunity development (Karami *et al.*, 2019; Kujala and Törnroos, 2018; Perry *et al.*, 2012; Read *et al.*, 2016). An explanation of the growing attention is that effectuation theory recognises uncertainty as inherent to the

internationalisation process (Sarasvathy, 2001), which is largely ignored in the causation approach (Sarasvathy, 2008). Consequently, effectuation has been connected to the Uppsala model and the Born Global theories (Harms and Schiele, 2012; Jones *et al.*, 2011; Schweizer *et al.*, 2010). However, this research field is still in a nascent stage (Perry *et al.*, 2012, Gil-barragan *et al.*, 2020a). It means that theory development is characterised by open-ended research questions, mainly addressed by qualitative methods (Edmondson and McManus, 2007). Therefore, a better understanding of the effectuation theory will contribute to the development of international entrepreneurship research (Karami *et al.*, 2019).

To our knowledge, two literature reviews have documented the development of this field (Matalamäki, 2017; Perry *et al.*, 2012). In the first review, using classification systems, Perry *et al.* (2012) analysed 29 articles to identify the relevance of effectuation to explain entrepreneurs' behaviour. Matalamäki (2017) complemented this literature review by increasing the analysed articles to 81. However, there is a lack of bibliometric literature review. Bibliometric methods complement traditional literatures reviews by applying statistical methods to determine quantitative and qualitative changes in a given scientific research topic, to establish the profile of publications on the topic and to detect tendencies within a discipline (Tranfield *et al.*, 2003; Zupic and Čater, 2015). Therefore, the aim of this chapter is to identify the structure and development of the effectuation theory over time, to determine its structure and key trends. This chapter presents a review of the literature on the theory of effectuation theory by analysing 328 articles collected from the Scopus database. The references were obtained considering all the documents published between 2001 and 2019 in the journals indexed in Scopus, which has broader coverage than the Web of Science (WOS) database (Zupic and Čater, 2015).

Using Bibexcel, VOSviewer, Pajek and Tree of Science to analyse the data, we applied mathematical and statistical methods to classify the literature and identify its structure and key trends. The results of the bibliometric analysis are based on the evaluation of the most influential authors, articles and journals. The impact of the articles was evaluated, and the structure of the research field was identified. This methodology is based on two approaches (Cobo *et al.*, 2015). The first approach is to use a series of indicators to evaluate the impact of the articles in a given field of study. The second approach is to identify the structure and dynamic aspects of the research field. This approach entails performing bibliographic

coupling and co-citation analysis. Bibliographic coupling consists of studying the citing documents, whereas co-citation analysis consists of exploring the cited documents (Van Eck and Waltman, 2014). This chapter is organised as follows: First, we describe the state of the art of the theory of effectuation. Second, the method is described, and a brief description of bibliometric methods is given. Third, the results of the bibliometric analysis are presented, and the conceptual structure of the literature is explained. Finally, conclusions, limitations and research opportunities are presented.

Method

Bibliometric analysis is a quantitative and qualitative research methodology that allows the evaluation of the development of a particular research field and its influence on the development of knowledge (Leeuwen, 2006). This methodology also permits us to identify the impact of the citations of the actors in this area and connections within the research field (Cobo *et al.*, 2015). Bibliometric analysis is a methodology that complements the traditional structured literature review (Zupic and Čater, 2015). Its main contribution is analysis and science mapping, which allows the evaluation of the research and reveals the structure and dynamics of the scientific field (Cobo *et al.*, 2015), supporting a qualitative method to identify current research, analysing the various research questions and evaluating the future research questions. Moreover, it is based on statistical methods to analyse data from an objective and quantitative perspective (Merigó *et al.*, 2015). The bibliometric methodology utilises co-citation analysis of a research field. This analysis contributes to identify the cited documents that received the highest number of citations from a third document. In other words, if most of the documents cite a specific article, it means that this article has been influential on the development of the research field.

The publications analysed in this paper were gathered from the Scopus database because it contains a large number of high-impact and academically relevant documents (Mongeon and Paul-Hus, 2016). To select the relevant literature, we searched for the keywords “effectuation”, “effectual”, “causation” and “effectuation theory” in the topic (i.e. title, abstract or keywords) of published documents and then studied the abstracts to select only those that were directly related to the subject of this study (Leeuwen, 2006). Moreover, the year 2001 was selected as the

starting year because the seminal article that gave basis to formulate the effectuation theory was published in that year (Perry *et al.*, 2012). The study selected 298 articles, 23 book chapters and 7 books; in total, 328 documents were obtained. The search process in Scopus was limited to research that was published between 2001 and 2019.

Results of the Bibliographic Analysis

General Results

Table 1 shows a summary of the general results of the bibliometric analysis. The H index shows that among the analysed documents, 43 had been cited at least 43 times, which reflects the importance of a specific group of articles (Martínez *et al.*, 2014). On average, the 328 documents have been cited almost 16 times.

According to Figures 1 and 2, since the publication of Sarasvathy's (2001) seminal article, research on effectuation has increased significantly. Particularly, the number of publications per year shows that the authors' productivity has increased significantly since 2007. However, most of the documents have been published in the last five years (67%). Similarly, the influence of this research area has grown more in the last 5 years. The number of citations shows that there have been an increasing number of international researchers who study the phenomena (Merigó *et al.*, 2016).

Most Influential Documents

Table 2 shows the top-ranking influential documents. To select these documents, a co-citation analysis of the 328 documents from Scopus was

Table 1: Overall Summary of Results

Criteria	Quantity/Scopus
Number of published articles	328
Total times cited	5.230
Average citations per item	15.95
H index	43
Number of authors	501

Source: Compiled by the authors based on Scopus data.

Figure 1: Number of Publications Per Year

Source: Compiled by the authors based on WoS data.

Figure 2: Number of Citations Per Year

Source: Compiled by the authors based on WoS data.

performed. Table 2 displays the documents with the highest number of citations among the 328 analysed documents. The article “Causation And Effectuation: Toward A Theoretical Shift From Economic Inevitability To Entrepreneurial Contingency” (Sarasvathy, 2001) is the most cited article in the collection, with 263 citations. This study introduces the framework that defines the principles of effectuation logic. Dew, Read,

Table 2: Most Influential Documents

No.	Authors	Title of the Article	Citations by the 328 Documents from Scopus	Total Citations Scopus
1	Sarasvathy (2001)	Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency	263	1.895
2	Dew <i>et al.</i> (2009)	Effectual versus predictive logics in entrepreneurial decision-making: Differences between experts and novices	98	276
3	Chandler <i>et al.</i> (2011)	Causation and effectuation processes: A validation study	97	243
4	Sarasvathy and Dew (2005b)	New market creation through transformation	95	221
5	Fisher (2012)	Effectuation, causation, and bricolage: A behavioural comparison of emerging theories in entrepreneurship research	80	244
6	Perry <i>et al.</i> (2012)	Entrepreneurial effectuation: A review and suggestions for future research	78	162
7	Read <i>et al.</i> (2009)	Meta-analytic review of effectuation and venture performance	77	169
8	Yin (2003)	Case study research: Design and methods	71	
9	Wiltbank <i>et al.</i> (2006)	What to do next? The case for non-predictive strategy	68	266
10	Eisenhardt (1989)	Building theories from case study research	67	n/a
11	Wiltbank <i>et al.</i> (2009)	Prediction and control under uncertainty: Outcomes in angel investing	63	167
12	Read and Sarasvathy (2005)	Knowing what to do and doing what you know: Effectuation as a form of entrepreneurial expertise	60	n/a
13	Brettel <i>et al.</i> (2012)	Corporate effectuation: Entrepreneurial action and its impact on R&D project performance	60	137
14	Shane and Venkataraman (2000)	The promise of entrepreneurship as a field of research	60	5.012
15	Baker and Nelson (2005)	Creating something from nothing: Resource construction through entrepreneurial bricolage	59	1.251

Source: Authors' elaborations based on WOS database.

Sarasvathy and Wiltbank are the authors of the second-most influential document, “Effectual Versus Predictive Logics in Entrepreneurial Decision-Making: Differences Between Experts and Novices”, with 98 citations. In this article, Dew *et al.* (2009) demonstrate that expert entrepreneurs make decisions using effectuation logic, while novice entrepreneurs tend to use causation logic. The third most influential document is “Causation and Effectuation Processes: A Validation Study”, accounting 97 citations. In this study, Chandler *et al.* (2011) develop and validate measures of causation and effectuation. The fourth most cited article, “New Market Creation Through Transformation”, proposes that new market creation is a dynamic process that includes effectual thinking and networks (Sarasvathy and Dew, 2005b). The article “Effectuation, Causation, And Bricolage: A Behavioural Comparison of Emerging Theories in Entrepreneurship Research” sheds light on the contrast and similarities among effectuation, bricolage and causation frameworks (Fisher, 2012).

Most Influential Authors

There are 501 single authors in the sample of articles analysed. Table 3 reveals the top-ranking influential authors. In order to classify and understand their importance, we ranked them based on the total number of citations. According to the data, Sarasvathy, Dew, Read and Wiltbank are the most influential authors, with 1,094, 631, 552 and 420 citations, respectively. Sarasvathy is the author of the article “Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency”, considered the seminal work of this theory (Arend *et al.*, 2015). Moreover, Sarasvathy S. and Dew N. are the co-authors of the articles “New market creation through transformation” (Sarasvathy and Dew, 2005b); “Entrepreneurial logics for a technology of foolishness” (Sarasvathy and Dew, 2005a); and “Innovations, stakeholders & entrepreneurship” (Dew and Sarasvathy, 2007). Likewise, Sarasvathy, Dew, Read and Wiltbank are co-authors of the following influential articles: “Effectual versus predictive logics in entrepreneurial decision-making: Differences between experts and novices” (Dew *et al.*, 2009); “What to do next? The case for non-predictive strategy” (Wiltbank *et al.*, 2006); “Marketing under uncertainty: The logic of an effectual approach” (Read *et al.*, 2009); “Prediction and control under uncertainty: Outcomes in angel investing” (Wiltbank *et al.*, 2009); “Designing organizations that design environments: Lessons from entrepreneurial

Table 3: Most Influential Authors

Rank	Authors	Citations Among the Analysed Documents	Documents	Average Citation Per Document
1	Sarasvathy S	1094	35	31.3
2	Dew N	631	21	30.0
3	Read S	552	16	34.5
4	Wiltbank R	420	15	28.0
5	Chandler G	213	7	30.4
6	Mauer R	163	10	16.3
7	Shane S	162	6	27.0
8	Venkataraman S	160	7	22.9
9	Song M	145	3	48.3
10	Mckelvie A	141	5	28.2
11	Detienne D	130	5	26.0
12	Eisenhardt K	125	8	15.6
13	Barney J	121	6	20.2
14	Mumford T	112	2	56.0
15	Coviello N	106	10	10.6
16	Simon H	106	7	15.1
17	Brettel M	105	5	21.0
18	March J	85	5	17.0
19	Baker T	81	3	27.0
20	Fisher G	80	1	80.0

Source: Authors' elaborations based on WOS database.

expertise" (Sarasvathy *et al.*, 2008); and "Outlines of a behavioural theory of the entrepreneurial firm" (Dew *et al.*, 2008). It means that the main most influential authors developed research together, especially between the years 2005 and 2009. Finally, Sarasvathy, Dew, Read and Wiltbank are also the most productive authors with the publication of 35, 21, 16 and 15 documents, respectively.

In relation to the number of documents by an author, we observed that Sarasvathy and Dew are the most productive authors, with 35 and 21 documents each, respectively. However, when reviewing the average citation per document, Mumford and Song have the higher average.

The average citation per document of Mumford corresponds to the articles “Issues of research design and construct measurement in entrepreneurship research: the past decade” (Chandler *et al.*, 2007) and “Causation and effectuation processes: A validation study” (Chandler *et al.*, 2011). The documents with the higher number of citations of Song are “Marketing under uncertainty: The logic of an effectual approach” (Read *et al.*, 2009) and “A meta-analytic review of effectuation and venture performance” (Read *et al.*, 2009). In both articles, Read is the main author.

Most-cited References

To identify the co-occurrence relationship of the 328 documents included in the sample, a co-citation analysis was performed. The network of co-cited articles shows the grouping of different articles in four clusters. Each cluster includes both articles on effectuation and articles from other disciplines that have had a profound impact on the development of the effectuation theory. As Figure 3 shows, the first cluster — red colour — consists of articles related to international entrepreneurship

Figure 3: Network of Co-citation of Articles

Source: VOSviewer based on Scopus data.

(e.g. Andersson, 2011; Gabrielsson and Gabrielsson, 2013; Oviatt and McDougal, 1994). The second cluster — blue colour — comprises articles about marketing and innovation (e.g. Baker and Nelson, 2005; Read *et al.*, 2009; Sarasvathy and Dew, 2005). The third cluster — green colour — consists of theoretical reviews (e.g. Fisher, 2012; Perry *et al.*, 2012) Finally, the fourth cluster — yellow — consists of the development of uncertainty (e.g. McMullen and Shepherd, 2006; Wiltbank *et al.*, 2006, 2009).

Figure 3 also shows that the seminal article “Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency” (Sarasvathy, 2001) has the greater number of connections with and within the clusters. Moreover, the articles of Sarasvathy, Dew, Read and Wiltbank are points of departure of the clusters.

Figure 4 shows the citation relationship of the most cited authors. Cluster 1 — red colour — reveals the authors that question the systematic planning view of different theories. For instance, the studies of Knight (1921), Weick (1979), March (1982, 1991), March and Simon (1958),

Figure 4: Network of Co-cited Authors

Source: VOSviewer based on Scopus data.

Mintzberg (1978), Mintzberg and McHugh (1985) and Sarasvathy (2001) are well known for proposing different approaches to the systematic planning. Authors in the second cluster — yellow — are scholars from international entrepreneurship (e.g. Coviello, Oviatt, Ellis, Chetty, Gabrielsson and Zahra). The third cluster — green colour — comprises authors who debate the effectuation theory. For instance, Goel and Karri (2006) argue that effectuation supposes over-trust. Arend *et al.* (2015) state that effectuation theory has an unsatisfactory level of testability. Finally, Garud and Gehman (2016) explain that effectuation theory lacks unanimous framework. The fourth cluster — blue colour — comprises authors who study entrepreneurial behaviour (e.g. Chandler, Read, Fisher, Perry).

Conceptual Structure

Based on the analysed data from Scopus, we were able to identify the conceptual structure of the theory of effectuation. For this purpose, and following Robledo *et al.* (2014), we constructed the tree of science of effectuation theory (Figure 5). This tree has three categories. The first one

Figure 5: Tree of Science of Effectuation Theory

Source: Tree of Science based on Scopus data.

is the root, which contains the articles that provide the theoretical and conceptual foundations for this area of research. This category shows that effectuation theory is based on the non-systematic planning approach (March, 1982; Mintzberg, 1978; Sarasvathy, 2001); on the explanation of the effectuation principles, such as uncertainty (Dew *et al.*, 2009; Sarasvathy and Dew, 2005b; Wiltbank *et al.*, 2006, 2009); on entrepreneurial bricolage (Baker and Nelson, 2005); and on case study methodology (Eisenhardt, 1989; Yin, 2003). Regarding international entrepreneurship research, the root also includes the Uppsala model (Johanson and Vahlne, 1977) and the Born Global theory (Oviatt and McDougal, 1994).

The second category is the trunk, which contains the articles that have developed this area of research. These are classified into four areas. The first area consists of articles that use effectuation theory to investigate marketing and innovation (Brettel *et al.*, 2012; Chesbrough, 2010; Coviello and Joseph, 2012). The second area uses effectuation theory to investigate SMEs' internationalisation process (Andersson, 2011; Harms and Schiele, 2012; Schweizer *et al.*, 2010). This area has been developed through five sub-areas: (1) decision-making process (Chetty *et al.*, 2015; Kalinic *et al.*, 2014); (2) international entrepreneurship (Nowiński and Rialp, 2013; Sarasvathy *et al.*, 2014); (3) marketing (Evers *et al.*, 2012; Mort *et al.*, 2012); (4) networks and recognition of international opportunities (Evers and O'Gorman, 2011; Fuerst and Zettinig, 2015; Galkina and Chetty, 2015); and (5) survival in International Business (Gabrielsson and Gabrielsson, 2013).

The third area uses effectuation theory to investigate entrepreneurial bricolage (Fisher, 2012). The fourth area comprises articles that advance the literature review and measurement instruments (Chandler *et al.*, 2011; Perry *et al.*, 2012).

The third category is the leaves, which consist of the most recent influential articles. These articles show that effectuation is being oriented towards furthering research in marketing and innovation (Berends *et al.*, 2014), venture creation (Reymen *et al.*, 2015) and a deeper research on SMEs' internationalisation process. An interesting aspect to observe is the influence of the international entrepreneurship researchers. Kalinic *et al.* (2014) research the decision-making process of entrepreneurs during internationalisation. Galkina and Chetty (2015) explore the impact of effectuation on knowledge acquisition, identification of international opportunities and networking. Gabrielsson and Gabrielsson (2013) study growth and survival of SMEs in international markets. Finally, Sarasvathy

et al. (2014) propose recommendations for future research at the intersection of IE and effectuation research. Note that these articles represent 60% of the articles in the leaves category. This indicates the importance of the effectuation theory in this research field. It also shows that the development of research on effectuation theory might be driven by answering the questions how and why SMEs use effectual logic (Ahi *et al.*, 2017; Crick and Crick, 2016; Laine and Galkina, 2017); how the capabilities of the firm affect this process (Kujala and Törnroos, 2018; Nemkova, 2017); and the identification of the effects of effectual logic on the enterprise (Chandra, 2017; Chandra *et al.*, 2015; Deligianni *et al.*, 2017; Ripollés and Blesa, 2017; Yang and Gabriellsson, 2017).

Conclusion and Research Opportunities

By employing bibliometric analysis, this study presents a comprehensive view of the effectuation theory. Considering the co-citation analysis, the graphic mapping and the tree of science, effectuation theory is analysed from different points of view. From an overall perspective, the results show that IE research has had a significant growing interest. The bibliometric analysis of 328 effectuation research documents gathered from the Scopus database shows that the formulation of the effectuation theory is based on criticisms about the systematic planning approach, entrepreneurial bricolage and case studies. It also shows that the disciplines that have had a profound impact on the development of the effectuation theory are international entrepreneurship, venture creation, marketing and innovation. The most recent articles are oriented towards furthering research in these categories. However, among them, international entrepreneurship seems to be most prolific.

Our review reveals three areas for further research (see Table 4). The first one is related to a need for a deeper understanding of the effectuation principles. Effectuation theory is based on the following five principles: the bird-in-hand principle which is confirmed by means of “Who I am”, “What I know” and “Who I know”; the affordable loss principle that consists of evaluating opportunities based on whether the downside is acceptable, rather than on the attractiveness of the predicted upside; the crazy quilt principle which is about forming partnerships to jointly co-create the future; the lemonade principle that consists of embracing surprises that arise from uncertain situations; and the pilot-in-plane principle which

explains that the future is created rather than predicted (Sarasvathy, 2008). However most of the research has mainly focused on the bird-in-hand and crazy quilt principles (Read *et al.*, 2016). Therefore, further research might provide a deeper understanding about how and why SMEs implement the neglected effectuation principles (Ahi *et al.*, 2017; Crick and Crick, 2016; Laine and Galkina, 2017).

The second area for further research is related to the analysis of the context of the firm. On the one hand, it is well known that institutions can influence firm behaviour (Mesquita and Lazzarini, 2008; North, 1990; Wright *et al.*, 2005; Yamakawa *et al.*, 2008) and the internationalising SMEs' networking activities (Laine and Galkina, 2017). Hence, it would be interesting to use the lens of Institutional theory to advance research on effectuation. On the other hand, the main unit of analysis of effectuation theory is entrepreneurs or SMEs. Therefore, applying effectuation theory to explain the decision-making process of larger firms seems to be promising. This comparison may help to comprehend how the differences in the capabilities of the firm affect the effectual logic (Kujala and Törnroos, 2018; Nemkova, 2017). Moreover, studies that address the differences between developed and emerging economies are needed. For instance, recent literature shows that the internationalisation process of SMEs differs in developed and emerging economies (Ellis, 2011; Musteen *et al.*, 2010). Similarly, when firms face cultural differences, an adapted strategy might be more appropriate (Audretsch *et al.*, 2017; Chung *et al.*, 2012; Dimitratos *et al.*, 2012). These areas may provide important steps to our understanding of how the effectuation decision-making process changes according to the specific context of the firm (Karami, Wooliscroft, and McNeill, 2019).

Finally, future research should consider the effects of effectuation theory on the international performance of the firm. Although international entrepreneurship research has made great advances in measuring firm performance (Brouthers *et al.*, 2015; Gerschewski *et al.*, 2015; Stoian *et al.*, 2017), there is scant research on the effects of effectuation theory on firm performance. Indeed, recent articles are taking the first steps to identify foreign market entry performance (Andersson, 2011); growth and survival (Gabrielsson and Gabrielsson, 2013); marketing performance (Yang and Gabrielsson, 2017); diversification and performance (Deligianni *et al.*, 2017); and overall firm performance (Ahi *et al.*, 2017; Laine and Galkina, 2017).

Table 4: Promising Theoretical Areas for Future Research

Future Directions		
To have a deeper understanding of the effectuation principles	To analyse the importance of context	To identify the effects on the international performance
1. The bird-in-hand principle	1. Institutional theory	1. Product performance
2. The affordable-loss principle	2. Larger firms	2. Financial performance
3. The crazy-quilt principle	3. Contextual difference between developed and emerging economies	3. Growth and survival
4. The lemonade principle	4. Cultural differences	4. Foreign market entry performance
5. The pilot-in-plane principle		5. Marketing performance
		6. Diversification and performance

Source: Authors' elaborations.

Limitation of the Study

This study is restricted to the use of only one database as a source of data collection. This leaves the results valid within this scope, but not necessarily within a larger database. Further studies might extend the research by including other databases such as Google Scholar. Another drawback is the nature of the bibliometric approach, which assumes that authors cite works that they consider important (Leeuwen, 2006), ignoring the complex nature of citing behaviour. Finally, future researchers can also use different types of meta-analytic techniques to analyse the literature.

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