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Intellectual Structure of International New Venture Research: A Bibliometric Analysis and Suggestions for a Future Research Agenda

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Intellectual Structure of International New Venture Research: A Bibliometric Analysis and Suggestions for a Future Research Agenda

ABSTRACT

We examine the intellectual structure of the international new venture (INV) literature using bibliometric citation and co-citation analysis. We aim to identify the most influential papers/authors, publication outlets, and key research topics. We focus on the top 100 most-cited papers in this field published between 1994 and 2015. In the post-hoc reading, we supplement our main bibliometric techniques with the qualitative content analysis method to shed light on a number of theoretical and empirical issues. We find that the literature has grown significantly in the past two decades. However, the main factors that hinder the field are the diversity of applicable theoretical perspectives and the inconsistencies between theoretical concepts and measurements of variables in empirics. We outline a detailed future research agenda to address these inconsistencies and recommend using new lenses from international business to examine the INV phenomenon.

KEYWORDS: international new venture; born global versus born regional; bibliometric analysis; citation and co-citation analysis.

Intellectual Structure of International New Venture Research: A Bibliometric Analysis and Suggestions for a Future Research Agenda

INTRODUCTION

The seminal study on international new ventures (INVs) by Oviatt and McDougall (1994), which received the Journal of International Business Studies Decade Award, has inspired a substantial number of subsequent studies (Gamboa and Brouthers, 2008, Schildt *et al.*, 2006, Young *et al.*, 2003). Scholars use a wide range of terminologies to describe this type of infant firm with the distinctive features of early and rapid internationalization from inception. Such a business is referred to as an INV which is defined as "a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries" (Oviatt and McDougall, 1994: p.49). They are also known as "born global firms" (Gabrielsson and Kirpalani, 2004, Knight and Cavusgil, 1996, 2004, Madsen and Servais, 1997, Rennie, 1993, Sharma and Blomstermo, 2003). Other scholars have referred to them as early internationalizing firms (Rialp *et al.*, 2005, Schwens and Kabst, 2009), instant internationals (Fillis, 2001), instant exporters (Coviello and McAuley, 1999), born international small and medium enterprises (Kundu and Katz, 2003), global start-ups (Oviatt and McDougall, 1995), rapidly internationalizing ventures (Cesinger *et al.*, 2012), and born-regional firms (Almodóvar, 2011, 2012, Almodóvar and Rugman, 2014, Lee, 2010, 2013, Lee and Marvel, 2009, López *et al.*, 2009, Rugman and Almodóvar, 2011, Rugman *et al.*, 2015). The disparity in terminology creates confusion, especially when the terms are used interchangeably (Baum *et al.*, 2011, Paliwoda *et al.*, 2009, Svensson, 2006, Svensson and Payan, 2009).

The literature, however, lacks consensus on a basic definition of INVs. More specifically, there is no commonly accepted threshold to measure the "degree of newness," or how many years after inception it takes a firm to internationalize. Similarly, there is no consensus about the threshold for measuring the "degree of internationalization." On the other hand, Rialp *et al.* (2005) and Rialp *et al.* (2010) have found that the literature mainly focuses on the distinctive characteristics of this type of firm rather than on the determining factors of these firms' next evolutions. These features include technological innovation, focus on niche markets, the promoters' previous experience, and participation in international networks (Knight and Cavusgil, 1996, Oviatt and McDougall, 1994, Sharma and Blomstermo, 2003, Zahra and George, 2002).

Furthermore, there is a mismatch between theoretical arguments and empirical evidence in the INV and "born global" literature (Rugman *et al.*, 2015, Verbeke *et al.*, 2014). Most INVs actually adopt a narrow geographic focus and generate the majority of their export sales in the home region of the broad triad of North America, Europe, and the Asia Pacific. In numerous studies, these INVs have been categorized as born regional, not born global (Almodóvar and Rugman, 2014, Beleska-Spasova and Glaister, 2010, Cerrato and Piva, 2015, Lee, 2010, 2013, Lee and Marvel, 2009, López *et al.*, 2009, Rugman and Almodóvar, 2011, Rugman *et al.*, 2015). Recently, Verbeke *et al.* (2018) have highlighted the fact that firms with an extensive geographic scope from inception are still exceptions rather than the rule. We, therefore, agree with the notion that "born globals" are an extreme case of INVs (Verbeke *et al.*, 2018).

Additionally, there are few common theoretical grounds in the INV literature (García-Lillo *et al.*, 2016, 2017, Servantie *et al.*, 2016). Some scholars have argued that the Uppsala theory on the incremental internationalization process and the network approach are not sufficient to explain the INV phenomenon (Coviello and McAuley, 1999, Knight and Cavusgil, 1996, McDougall *et al.*, 1994). They have also maintained that INVs challenge the validity of the

Uppsala theory, which models the development of knowledge and experiential learning based on organizational learning and increasing foreign market commitments (Johanson and Vahlne, 1977). The Uppsala theory assumes that firms internationalize after a certain time has passed since their inception. Madsen and Servais (1997) have argued that born global firms evolve in a manner that relates to the network approach (Johanson and Mattson, 1988) and the evolutionary theory of the firm (Nelson and Winter, 1982).

On the other hand, McDougall *et al.* (1994) have developed a theoretical model to explain INVs based on the integration of international business, entrepreneurship, and strategic management fields. The INV perspective emphasizes the role of individual knowledge (Oviatt and McDougall, 1994) to argue that INVs do not require organizational experiences, routines, or capabilities to enter their first foreign market. Rather, the past experiences of founders and other key managers can substitute for such organizational experience. Individual foreign knowledge can, therefore, help the venture to "leapfrog" the incremental processes suggested by the stage-based process perspective (Oviatt and McDougall, 2005).

Autio *et al.* (2000) have used knowledge-based and learning theories to examine international growth in entrepreneurial firms, revealing that earlier internationalization and knowledge intensity is associated with faster international growth. Coviello and McAuley (1999) have suggested that the internationalization of smaller firms is better explained by integrating the main theoretical frameworks into a more holistic approach. As a result, the literature is characterized by conceptual frameworks that incorporate different theoretical perspectives (García-Lillo *et al.*, 2017). One inherent weakness of this approach, however, is to create more ambiguity than clarification, because it becomes difficult to link the test results back to the confirmation, extension, or refutation of any particular theory (Kirca *et al.*, 2011).

All these theoretical and empirical developments reveal the need for more systematic research (Axinn and Matthyssens, 2001, Jones and Coviello, 2005, Zahra and George, 2002). We suggest

that it is time to conduct a critical review and assessment of the current state of the art of the INV literature to understand its achievements and possible areas for further development. We aim to answer two interrelated research questions:

(1) What is the intellectual structure of the INV literature (i.e., the most influential articles, authors, and publication outlets, and the main theoretical and empirical research topics)?

(2) How can we advance our knowledge in this research stream?

To address our research questions, we use the bibliometric techniques of citation and co-citation analysis on a sample of 428 journal articles with 10,297 citations. We focus our analysis on the top 100 most-cited articles between 1994 and 2015 following the publication of Oviatt and McDougall (1994)'s paper. Citation and co-citation analysis are statistical techniques that provide quantitative analysis of academic literature. This approach has been used in previous bibliometric review papers (Baier-Fuentes *et al.*, 2018, García-Lillo *et al.*, 2016, 2017, Servantie *et al.*, 2016).

Additionally, in the post-hoc reading, we use the content analysis method, which is defined as a qualitative method to interpret meaning from the content of the articles that have been included in the bibliometric analysis, as well as other recent articles. As discussed by Furrer *et al.* (2008), bibliometrics and content analysis are complementary, because the latter is required to identify the motives underlying the citations.

Previous literature review papers have tended to concentrate on the broader international entrepreneurship (IE) field, or on comparative international entrepreneurship research rather than in the INV literature per se (Coviello and Jones, 2004, Jones *et al.*, 2011, Keupp and Gassmann, 2009, Rialp *et al.*, 2005, Terjesen *et al.*, 2016, Zou and Stan, 1998). There is a substantial number of literature reviews on IE using the traditional method that analyzes emerging themes from a set of primary papers (Coombs *et al.*, 2009, Coviello *et al.*, 2015, De Clercq *et al.*, 2012, Etemad and Lee, 2003, Jones *et al.*, 2011, Keupp and Gassmann, 2009, Kiss

et al., 2012, Peiris *et al.*, 2012, Rialp *et al.*, 2005, 2014, Terjesen *et al.*, 2016). Bibliometric reviews in the IE field, however, are quite scarce (Baier-Fuentes *et al.*, 2018).

García-Lillo *et al.* (2016) have contributed to the debate about whether or not IE is a research field by applying a bibliometric analysis. They have used the main performance indicators of an emerging field including a concentration of publications of critical contributors and universities, key dates of social events, the creation of a journal dedicated to the topic, and the co-concurrence of keywords. A co-citation analysis demonstrates that IE is structured as a stable body of references, organized into five key clusters, and distinct from other disciplines of international business and entrepreneurship.

García-Lillo *et al.* (2017) have used the bibliometric method of citation and co-citation analysis as well as the analysis of social networks to identify and visualize the intellectual structure of research concerning the phenomenon of born global firms and INVs. They have found that there is a diversity of applicable theoretical approaches and a combination of different theoretical perspectives in the INV literature.

Baier-Fuentes *et al.* (2018) have provided a bibliometric review of the IE literature using bibliometric performance analysis (h-index, productivity, and citations) and visual mapping of the references in the field (co-citation, bibliometric coupling, and co-occurrence of keywords). They have focused on journals, papers, authors, institutions, and countries. They have found that the United States of America (US) is the most influential country in the field of IE research because it is home to the leading authors and institutions in this research field.

Given that the available INV literature is growing, further literature reviews using different methods are warranted. Our study makes three new contributions to the literature. First, we provide a systematic review of the intellectual structure and the current status of INV research using the bibliometric analysis method. We identify the most influential journals, countries, studies, authors, and institutions. We outline the evolution of this area of study from its

beginning in 1994 up to 2015 and present the literature organized into topics/factors of research. In this way, our study complements the previous works of Baier-Fuentes *et al.* (2018), García-Lillo *et al.* (2016, 2017), Servantie *et al.* (2016) by providing an overview of the INV research based on the main bibliometric approach.

Second, in the post-hoc reading, we use the qualitative content analysis method to offer a critical assessment of some of the theoretical debates, and we identify inconsistencies between theoretical conceptualization and measurements in empirical works in the extant literature. The qualitative content analysis method is aligned with the traditional literature review approach (De Clercq *et al.*, 2012). This approach differentiates our study from previous bibliometric reviews because it enables us to provide an in-depth analysis of some theoretical and empirical issues. Previous bibliometric reviews have tended to provide a brief description of some theoretical perspectives. They have not identified and discussed potential inherent limitations underlying the assumptions of some of these theoretical models and the potential mismatch between theoretical arguments and measurements of variables for empirical tests.

Third, we provide suggestions for future research to address the inconsistencies identified in our study. We also recommend that "new" internalization theory is a conceptual framework within which future INV research can be built upon. Furthermore, this approach also differentiates our study from previous bibliometric reviews, which have tended to focus on analyzing past primary studies without providing suggestions for future research. Overall, our study enhances our understanding of the phenomenon of INVs and offers new, useful insights. It is therefore particularly relevant for academics, practitioners, and policymakers in identifying critical factors that support INVs' efforts and desired outcomes.

METHODOLOGY

We examined the intellectual structure and theoretical and empirical approaches that have been used to explain INVs. We used the bibliometric techniques of citation/co-citation analysis to

critically assess publications in this area in journals from the Social Sciences Citation Index (SSCI), which are available online through the Web of Science (WoS).

In the post-hoc reading, we supplemented our primary analytical method of bibliometric techniques with a qualitative content analysis (Duriau *et al.*, 2007). The content analysis method (Duriau *et al.*, 2007) has been used in previous review papers by De Clercq *et al.* (2012), Nguyen (2017), and Jormanainen and Koveshnikov (2012). We carefully read articles by examining the title, abstract, keywords, introduction, findings, conclusion, and journal outlet. An essential feature of our analysis was to highlight each article's achievements and progress and identify the inherent limitations of underlying assumptions in theoretical arguments, along with any mismatch between conceptualization and measurements in the empirical literature.

Most bibliometric analyses tend to use three data sources, namely Thomson Reuters' WoS, Google Scholars, and Elsevier's Scopus (Harzing and Alakangas, 2016, Mongeon and Paul-Hus, 2016). After considering the strengths and weaknesses of each data source, we selected the WoS database for several reasons. First, it covers the oldest publications, beginning in 1990 (Falagas *et al.*, 2008). Second, it performs significantly better than Scopus in terms of the accuracy of journal classification (Wang and Waltman, 2016). Third, its citations are more widely covered in WoS (Leydesdorff and Bornmann, 2016). Fourth, several authors have mentioned that Google Scholar offers low accuracy for citation analysis (Falagas *et al.*, 2008, Mongeon and Paul-Hus, 2016). Finally, WoS provides precise information to identify the most frequently cited sources and is the primary data source for bibliometric analysis (García-Lillo *et al.*, 2016).

We selected journals in the WoS that are listed in the SSCI because the impact factor in the Journal Citation Report (Social Science Edition) ranks most of its journals. The SSCI collects articles from 3,000 of the world's leading social science journals across more than 50 disciplines. We only included full-length scholarly articles and excluded unpublished theses,

dissertations, and working papers. Published articles are considered "certified knowledge" that has been evaluated and accepted through a rigorous peer-review process (Fernández-Alles and Ramos-Rodríguez, 2009, Ramos-Rodríguez, 2004).

Because the literature has used a wide variety of terminology to refer to the concept of INVs, we had to cover a full range of alternatives. Thus, in line with Baier-Fuentes *et al.* (2018), we used 22 keywords to search papers. These include *international new venture(s), born global(s), international entrepreneur, international entrepreneurial, international entrepreneurship, international start-up(s), global start-up(s), instant start-up(s), born regional(s), born international(s), born local(s), accelerated internationalization, rapid internationalization, early internationalization, instant internationalization, instant international(s), instant multinational(s), accidental exporter(s), innate exporter(s), instant exporter(s), international high-technology start-up(s), early-stage venture(s).* As such, our definition of INVs is broad and inclusive of many subtopics.

The final search was completed 24 June 2015. After this date, the number of citations increased. However, the essence of the bibliometric study remains unchanged because it includes the core of the literature about INVs, which is relatively stable. The databases generated 428 records in WoS-SSCI. However, some of these do not deal with the INV topic or are "stray citations" where slight differences in the way of writing the reference results in duplicate outputs for the same paper (Harzing and Alakangas, 2016). Thus, we developed a manual process to filter the results.

We built a rank-ordered list of frequently cited articles using the bibliometric techniques. We followed the approach of Ramos- Rodríguez and Ruiz- Navarro (2004), who have used 100 articles for citation and co-citation analysis (the "Top-100" list will be made available upon request).

Bibliometrics: citation and co-citation analysis

Bibliometric analysis is based on the premise that citations can be used as indicators of past and present activities of scientific work (Garfield *et al.*, 1978, Garfield *et al.*, 1964, Small, 1973). The use of citations from research articles is the standard practice for the bibliometric study because it increases the reliability of the results (García-Lillo *et al.*, 2016).

We conducted the bibliometric analysis in two different stages. The first stage consisted of a citation analysis of the Top-100. The second stage focused on a co-citation analysis based on the most cited references made by the Top-100 to trace relationships between them with the goal of identifying the intellectual structure and the main topics in the INV literature. To develop all these bibliometric analyses, we employed BibExcel, UCINET, and Netdraw.

Citation analysis is a reliable indicator of scientific communication (Gmür, 2003) and objective measure (Cole and Cole, 1967, Garfield, 1973, Ratnatunga and Romano, 1997). The underlying assumption of citation analysis is that when a researcher cites an article, it means that the article is useful (i.e., the more the article is cited, the more important it is in scholarly research) (Harter and Nisonger, 1997). Nevertheless, there are criticisms against citation analysis because certain authors have a "halo effect," meaning that citations are biased in their favor (May, 1967). The literature documents that review articles (Woodward and Hensman, 1976) and methodological articles (Margolis, 1967) are likely to be cited more frequently. We, therefore, generated a table of frequencies that can be used to order articles.

Co-citation analysis counts how many times a set number of articles have been cited in the literature simultaneously. The frequency of co-citations is a measure of the similarity of content (Culnan, 1986, Price, 1965). It assumes that those articles that are cited at the same time are closely related to each other (Schildt and Sillanpää, 2004, Small, 1973).

First, we had to identify the most referenced articles in the Top-100. Because many co-citations in an article may be unrelated, a sufficiently large sample of cited articles allows researchers to

mitigate random "noise" created by articles focusing on diverse topics (Schildt and Sillanpää, 2004). There is no consensus in the literature regarding the threshold of co-citations (Eom, 1996). Fernández-Alles and Ramos-Rodríguez (2009) have set a threshold of eight citations. Some studies have only used articles with at least 15 co-citations (Casillas and Acedo, 2007, García-Lillo *et al.*, 2016, Ramos-Rodríguez and Ruíz-Navarro, 2004, Schildt *et al.*, 2006). Schildt and Sillanpää (2004) have chosen articles with at least 25 citations. Based on previous studies and suggestions by Small and Greenlee (1980), we chose articles with at least 20 citations. We found 40 references that are co-cited at least 20 times. These are referred to as the "Top-40" (the Top-40 list will be made available upon request).

Second, we ran a factor analysis with a varimax rotation of the correlation matrix to reduce the data and build factors (McCain, 1990, Rowlands, 1999, White and Griffith, 1981, White and McCain, 1998).

Finally, we followed Ramos-Rodríguez and Ruiz-Navarro (2008) and Fernández-Alles and Ramos-Rodríguez (2009) to provide a clear picture of the central studies in the INV literature and developed graphs to illustrate the relationships of these articles with a correlation index higher than ±0.7. Figure 1 presents the methodology of this study.

Figure 1 here

ANALYSIS AND DISCUSSION OF THE RESULTS

Regarding citation analysis, Ferreira *et al.* (2011) have argued that the study of the most frequently cited articles is relevant because it identifies those articles that have a higher impact in a particular field of research. Furthermore, a citation implies a tie between the citing and the cited works, because citation patterns are used to identify influential publications in the literature (De Bakker *et al.*, 2005, Martyn, 1975). When we analyzed the number of citations per year, we found that the relevance of the INV literature is increasing in academic discourse. As Figure 2 illustrates, the number of citations per year of the Top-100 has grown exponentially.

Growing citations in the last decade suggest a rapid development of the literature that is transitioning from the "infancy" stage (Aldrich, 2000, Coviello and Jones, 2004, Keupp and Gassmann, 2009) into the "adolescence" stage (Terjesen *et al.*, 2016).

Figure 2 here

We found 24 different journals that have published papers from the Top-100; however, only half of them have published three or more papers. Among them, five entrepreneurship journals have published influential articles: *Journal of Business Venturing* (9 papers), *Entrepreneurship Theory and Practice* (6), *Strategic Entrepreneurship Journal* (4), *Entrepreneurship and Regional Development* (3), and *Small Business Economics* (3). The other seven journals belong to the international business, marketing, and management fields and include *Journal of International Business Studies* (17 papers), *Journal of World Business* (12), *Journal of International Marketing* (10), *International Business Review* (9), *International Marketing Review* (9), *Academy of Management Journal* (3), and *European Management Journal* (3).

Our findings reveal the interdisciplinary nature of the INV literature. Scholars in the field have disseminated their research to various journals, not just restricted to entrepreneurship, to share and build upon related findings in other disciplines. This is an encouraging sign indicating the promise and prominence of INV research. Furthermore, these articles use a wide variety of data sources (primary/secondary data) and methods and integrate literature from different fields, thus making significant contributions to multiple areas.

Furthermore, we found that there are 185 influential authors in the Top-100. Table 1 lists authors who have contributed with three or more papers to the Top-100. Patricia McDougall is the author of eight papers, followed closely by Benjamin Oviatt with seven papers. Additionally, half of the most influential authors are North American scholars, and the other half are European, Asian, and Australian scholars. Our findings are similar to those of Terjesen

et al. (2016) but contrary to Davidsson (2013) who has reported that North American scholars publish the most.

Table 1 here

Co-citation analysis identifies influential studies and the relationships between them and provides an overview of the intellectual structure of a field (Shafique, 2013). We used the principal component analysis and obtained nine factors. We followed the criterion of a minimum eigenvalue of one (White and McCain, 1998), and only four factors were extracted. Table 2 lists the eigenvalues for the principal component analysis and the varimax rotation.

Table 2 here

We found that these four factors explain 91.43% of the variance. The result of this analysis generates information about the main research topics. It allows us to identify how the Top-40 articles have contributed to developing the INV discipline. Table 3 reports the rotated factor loadings of the four factors extracted.

Table 3 here

In order to enrich the information provided by the factor analysis, we ran a complementary analysis that produced graphs of relationships that help to visualize the intellectual map of the articles inside each factor. We followed Ramos-Rodríguez and Ruiz-Navarro (2008) and Fernández-Alles and Ramos-Rodríguez (2009) to separate articles that have a relevant role in several factors. The graphs of relationships only consider articles with a correlation index higher than a particular value. Ramos-Rodríguez and Ruiz-Navarro (2008) and Casillas and Acedo (2007) have chosen values higher than 0.5, whereas White and McCain (1998) have employed values greater than 0.6. We selected a more demanding threshold of ± 0.7.

Some articles are not included in any factor because the correlation index is below ±0.7. This reflects their importance to the literature. They are cited so many times regarding different topics that they cannot be classified in just one category. Casillas and Acedo (2007) have

defined these articles as the bridges between the various research topics. These bridge articles were written by Andersen (1993), Autio (2005), Autio *et al.* (2000), Johanson and Vahlne (1977, 1990, 2003), McDougall *et al.* (1994), Oviatt and McDougall (1994), and Jones and Coviello (2005).

Figure 3 here

Main topics of INV research

Figure 3 illustrates different research topics in the INV literature. There are six groups, and the content coincides with the four factors explained earlier, therefore confirming the robustness of our results. To identify the pattern that characterizes each factor, we have reviewed all the papers from the Top-40 and have paid attention to the topics that are discussed when citing papers from the Top-100, which we also reviewed. Following this rationale, we determined that the primary foci include definition, characteristics, time dimension regarding the speed of internationalization patterns, comparison of features between domestic and INVs, and factors influencing performance outcomes. The literature has examined the phenomenon at the individual and firm levels, used diverse samples from different countries, and analyzed heterogeneous industry sectors.

Factor/Topic 1: Definitions, conceptualization, and empirical evidence of INVs and characteristics of international entrepreneurs*:* This topic has two subgroups. The first consists of four papers (Knight and Cavusgil, 1996, 2004, Madsen and Servais, 1997, McDougall and Oviatt, 2000) and focuses on the definition, concept development, and empirical evidence of INVs. The other subgroup examines the global niche market opportunities and the characteristics of international entrepreneurs (Bell, 1995, Bloodgood *et al.*, 1996, Coviello and Munro, 1997). Bell (1995) and Bloodgood *et al.* (1996) have studied the entrepreneurial search for niche market opportunities. Bloodgood *et al.* (1996) have examined the existence and characteristics of various types of foreign entrepreneurs. They have focused on human capital

aspects, such as international experience and overseas education (Coviello and Munro, 1997), and features of the top management team (Bloodgood *et al.*, 1996).

Factor/Topic 2: Time dimension in terms of speed of internationalization: This topic is divided into two subgroups. Both share the relevance of the time dimension in the process of internationalization, which is related to the speed of firms' internationalization. The first subgroup highlights the theoretical perspective of the gradual (or not) process of internationalization of INVs (Bell *et al.*, 2003, Coviello and Jones, 2004). Coviello and McAuley (1999) have reviewed different theories, namely (a) the Uppsala model (Johanson and Vahlne, 1977, Johanson and Wiedersheim-Paul, 1975) and (b) the network perspective (Coviello and Munro, 1995, Ellis, 2003, Holm, 1995). Other related topics include psychic distance (Bell *et al.*, 2003, Johanson and Wiedersheim-Paul, 1975).

The second subgroup examines the time dimension of internationalization (Jolly *et al.*, 1992, Jones, 1999). Several studies have questioned whether the international expansion of INVs follows a rapid but still incremental pattern in line with the prediction of the Uppsala model, or whether INVs represent a new type of early internationalization (Burgel and Murray (2000). Some authors have not found evidence of an incremental internationalization pattern (Jolly *et al.*, 1992, McAuley, 1999). Other scholars have argued that the internationalization evolution is sometimes an accelerated gradual process (Coviello and Munro, 1997, Crick and Jones, 2000, Hashai and Almor, 2004) or a cyclic model where international ties are formed by periods of high intensity and other periods of less activity (Jones, 1999).

Factor/Topic 3: International versus domestic new ventures: This topic has minor weight in the literature because it only consists of two articles (McDougall, 1989, McDougall *et al.*, 2003). Both articles have analyzed approximately two hundred new ventures and compared the strategy and the industry structure to identify the characteristics of international and domestic new ventures.

Factor/Topic 4: The relationships between firm-specific advantages, international strategy, and INV performance: This topic focuses on the effects of different factors influencing firm performance. We found that some articles have examined the relationships between (a) firm resources and performance, (b) firm performance and INVs' geographic context, and (c) the effects of different entry points and pathways into global marketplaces and their sustainability and performance implications.

In addition, there are three more papers that provide additional information on this topic. For example, Rialp *et al.* (2005) have highlighted the need of using the case study method, in which Yin (1989) is an essential reference for the use of the case study methodology. Zahra (2005) has emphasized the relevance of this type of case study research when examining firm performance.

We observed that some articles are not directly linked to the INV literature but yet are cited repeatedly. For example, Yin (1989) book explains how to conduct a qualitative analysis. We found that the Top-100 articles mention this work repetitively because the qualitative method is used in a significant number of the primary studies on born global firms. Our finding here is consistent with García-Lillo *et al.* (2017).

POST-HOC READING USING THE CONTENT ANALYSIS METHOD

Theoretical debates in the literature

In the post-hoc interpretation, we used the content analysis method to examine the papers that have been included in the bibliometric analysis, as well as other articles related to the development in the literature. The content analysis allows us to provide an in-depth critical review of a number of theoretical and empirical issues in the INV literature. We focused on some issues related to the four patterns of key topics that have been identified in the bibliometric analysis. In this way, the content analysis complements the bibliometric analysis with some useful insights.

Early internationalization is the research focus of the INV literature as identified in Topics One and Two of the bibliometric analysis (McDougall *et al.*, 1994, Oviatt and McDougall, 1994). Some scholars have argued that the internationalization patterns of these INVs contradict the traditional Uppsala model of incremental internationalization (Johanson and Vahlne, 1977). The Uppsala model suggests that firms must first develop in their home country market and then go abroad to nearby countries at gradual and incremental stages to learn about unfamiliar foreign markets. The firm's knowledge acquired through experiential learning, mainly through limited international involvement and the choice of psychic distance locations, are particularly important. Johanson and Vahlne (1990, 2003, 2009) have extended the traditional Uppsala model with a business network approach. Building on experiential learning, commitment, and trust, they have expanded the model by introducing networks as a mechanism to overcome the liabilities of outsidership.

However, Pedersen *et al.* (2003) have criticized the Uppsala model because of its deterministic nature. Andersen (1993) has identified the weaknesses of Uppsala, arguing that there is a lack of evaluation using scientific criteria. Assumptions like values, scope, and time are taken for granted but should be amplified. The time dimension of the internationalization process should be studied in depth (Andersen, 1993).

Additionally, other scholars in the INV literature have argued that the Uppsala model does not apply to the INV phenomenon (Autio, 2005, Zahra, 2005). Knight and Cavusgil (1996, 2004) have argued against the traditional model of gradual internationalization because INVs can leapfrog stages of the establishment chain (Knight and Cavusgil, 1996, 2004, Oviatt and McDougall, 1994). Many INVs are exporters (Cavusgil and Knight, 2015), and this may be a risk-related strategic decision (Shrader *et al.*, 2000).

Some studies have used the resource-based view, the knowledge-based view, and related perspectives to explain the internationalization of INVs (Autio *et al.*, 2000, Rialp *et al.*, 2005).

According to Autio *et al.* (2000), early initiation of internationalization and greater knowledge intensity are associated with faster internationalization. Eriksson *et al.* (1997) have identified components of experiential knowledge in the internationalization process.

On the other hand, some scholars advocate for the integration of multiple theoretical lenses in explaining early internationalization (Coviello and Jones, 2004, Jones and Coviello, 2005). The potential problem with this approach, however, is that it creates more ambiguity than clarity, especially for empirical research, because it becomes complicated to link the testing results from such a multidisciplinary, integrative approach back the theoretical framework and identify which particular theory is confirmed, extended, or rejected (Kirca *et al.*, 2011).

Furthermore, we found that there are inherent limitations in the underlying assumptions of the early and rapid internationalization of INVs (Rugman *et al.*, 2015, Rugman *et al.*, 2011, Verbeke *et al.*, 2014). These INVs are described as internationalizing, or at least intending to do so, at inception. As a result, they often have no time to learn in their home country before going abroad, and limited time to build up inherent, non-location-bound, firm-specific advantages (FSAs), defined as internationally transferrable strengths and benefits specific to a firm relative to rivals. These FSAs can come from research and development, patented technology, brand names, marketing and distribution capabilities, and management skills, which are critical requisites for international expansion (Almodóvar and Rugman, 2014, Rugman and Almodóvar, 2011, Rugman *et al.*, 2015, Verbeke *et al.*, 2014). These non-location-bound FSAs, which exist in the form of tacit knowledge, need to be internalized within the firm and must outweigh the liabilities of foreignness (i.e., the additional costs and risks of doing business abroad) (Hymer, 1960/1976, Zaheer, 1995). Rugman *et al.* (2015), however, have highlighted the fact that many of the previous INV literature reviews (Coviello and Jones, 2004, Keupp and Gassmann, 2009, Rialp *et al.*, 2005, Terjesen *et al.*, 2016) have largely ignored these critical points.

From the perspective of "new" internalization theory (Cavusgil and Knight, 2015, Rugman and Verbeke, 1992, 2001) which is an extension of "classic" internalization theory (Buckley and Casson, 1976, Rugman, 1981), we argue that INVs possess some specific FSAs. As discussed by Verbeke and Ciravegna (2018) and De Clercq *et al.* (2012), INVs lack an FSA in (firm) international experience, because companies cannot learn from international markets (regarding their product) before going abroad. There are other types of FSAs, however, that might trigger an early internationalization, such as (a) FSAs in the form of network relationships (Johanson and Vahlne, 2009, Leiblein and Reuer, 2004), because they are a source of vicarious learning that plays a significant role in early internationalization (De Clercq *et al.*, 2012); (b) stock of product and/or process knowledge (Kuemmerle, 2002); (c) basic resources and competences accumulated during the inception stage (Moen and Servais, 2002); (d) operational flexibility in the sense of the ability to dedicate resources to learning from foreign markets and the mindset/motivation to do so (De Clercq and Zhou, 2014); and (e) founding entrepreneurs' knowledge and experience (Verbeke *et al.*, 2014, Verbeke and Ciravegna, 2018), also known as congenital learning/knowledge (De Clercq *et al.*, 2012), because it enhances the firm's absorptive capacity when operating overseas (Oviatt and McDougall, 2005) and augments founders' awareness/assessment/pursuit of new international opportunities (De Clercq *et al.*, 2012).

Oviatt and McDougall (1994), however, do not mention the liability of foreignness that INVs may encounter in their internationalization (Hymer, 1960/1976, Zaheer, 1995). Indeed, subsequent studies have demonstrated that INVs suffer even more from the additional liabilities of foreignness in the internationalization process (Autio, 2005, Mudambi and Zahra, 2007, Sasi and Arenius, 2008, Zhou *et al.*, 2010). Lu and Beamish (2001) have found evidence that small firms face the liability of foreignness when they go abroad. Mudambi and Zahra (2007) have

also argued that firms are subject to the double liabilities of smallness and newness that increase the liability of foreignness when they internationalize.

Rugman and Almodóvar (2011) and Almodóvar and Rugman (2014) have noted that, in the specific case of INVs, there is an initial stage before facing the liability of foreignness where these firms might experience the "luck of the beginner" in their international activities. This is called the "born global illusion," and it leads to INVs increasing their commitment abroad. When INVs have a more noticeable presence in international markets, however, competitors react, and the liability of foreignness appears. These disadvantages impose limitations on the international expansion of INVs when there are substantial differences between their home and host markets (Rugman *et al.*, 2015).

Conceptualization issues

A number of concepts in the INV literature identified in the bibliometric analysis have been subject to criticisms due to ambiguity in the use of definitions. These include "early" and "rapid" internationalization, "born global" firms, and "orientations versus capabilities."

First, there are wide variations in definitions for the concepts of "early" and "rapid" internationalization (De Clercq *et al.*, 2012). The literature typically treats early internationalization as the short length of time (if any) between the venture foundation and the first sales in international markets. However, some studies use alternative approaches to define early internationalization in terms of how quickly a venture achieves a percentage of foreign sales in a given period. For example, Zhou (2007) has used the measurement of achievement of 20% foreign sales within 14 years to identify a firm as an early internationalizing firm. De Clercq *et al.* (2012) have noted that this approach combines the speed of the first action with the intensity buildup, focusing on the speed to the first international activity and ignoring subsequent speed. Some studies do not clarify what they mean by "early" or "rapid"

internationalization (i.e., whether the firm internationalizes at a young age, at a fast pace, or both). These concepts need to be clearly defined (Prashantham and Young, 2011).

Second, Verbeke *et al.* (2014) have argued that the concept of "born global" in the INV literature is an intellectual non-starter because of its underlying assumption of the global geographic orientation of these firms. In reality, most so-called "born globals" are actually "born regionals" with a narrow international diversification level and export efforts concentrated within their home region, with empirical evidence reported in numerous studies using datasets from Spanish, British, Italian, South Korean, and Costa Rican firms, among others (Almodóvar and Rugman, 2014, Beleska-Spasova and Glaister, 2010, Cerrato and Piva, 2015, Lee, 2013, Lee and Marvel, 2009, López *et al.*, 2009, Rugman and Almodóvar, 2011, Rugman *et al.*, 2015). Rugman and Almodóvar (2011) have emphasized the regional reality of INVs. Some articles in the Top-100 have also suggested that most of the INVs are regional (Kuivalainen *et al.*, 2007, López *et al.*, 2009). INVs may internationalize quickly to address opportunities without necessarily having a global presence. The "born-global" term only suggests that INVs have a presence in at least one of the world's triad regions (Cavusgil and Knight, 2015, Paliwoda *et al.*, 2009) rather than being truly global.

Third, the concept of "capability" is used in a somewhat scattered fashion in the INV literature (De Clercq *et al.*, 2012). For example, Knight and Cavusgil (2004) have argued that born-global firms have unique capabilities embracing an organizational culture that focuses on international entrepreneurial orientation and market orientation. Similarly, the role of learning orientation is a feature in various studies (Armario *et al.*, 2008, Sapienza *et al.*, 2005). Nevertheless, it remains unclear exactly what mechanisms these firms use to transform "orientations" into "capabilities" and whether or not different mechanisms apply to different firms (for an excellent discussion, see De Clercq *et al.* (2012)). A similar problem exists about the term "dynamic

capabilities," since different studies define the concept in different ways and use different measurements (Jantunen *et al.*, 2008, Zhou *et al.*, 2010).

Measurement issues of the degree of newness and the degree of internationalization

When it comes to empirical works, the INV literature uses a wide variety of metrics to measure the "degree of newness" and "the degree of internationalization" (Coviello and Jones, 2004, Keupp and Gassmann, 2009). This variety creates inconsistencies and mismatches between the theoretical conceptualization/definition of concepts and the operationalization of measurements for empirical tests. Three out of four articles of the first subgroup/topic identified in the bibliometric analysis are included in this classification to measure the inception of an INV. The article by Madsen and Servais (1997) is not included because it describes the results of a case study research without reporting firm age.

More specifically, there is no agreement on a definition for how after its inception a firm is considered to be a "new" venture at the time of internationalization. Measurements of "the degree of newness" vary considerably. These include (a) from zero to 16 months (Mudambi and Zahra, 2007); (b) from zero to two years (Freeman *et al.*, 2006, Martin *et al.*, 2018); (c) from zero to three years (Almodóvar and Rugman, 2014, Andersson and Wictor, 2003, Autio *et al.*, 2000, Choquette *et al.*, 2017, Knight and Cavusgil, 1996, 2004, Kuivalainen *et al.*, 2012, Madsen *et al.*, 2000, McDougall and Oviatt, 2000, Mort and Weerawardena, 2006, Nummela *et al.*, 2014, Øyna *et al.*, 2018, Paliwoda *et al.*, 2009, Rennie, 1993); (d) up to five years (Ripollés and Blesa, 2017); (e) up to six years (Coviello, 2006, Gleason and Wiggenhorn, 2007, McDougall *et al.*, 2003, Zahra *et al.*, 2000); (f) up to eight years (Biggadike, 1979, McDougall and Oviatt, 1996, McDougall and Robinson Jr, 1990, Miller and Camp, 1986); and (g) up to ten years (Burgel and Murray, 2000).

Additionally, some empirical studies have explicitly tested firms that are no longer "new." For example, the firms' average age is 30-45 years in Moen and Servais (2002) study and the firms'

average age is 15.82 years in Sapienza *et al.* (2006) study (see discussion in Rugman *et al.* (2015)). Furthermore, with the exceptions of Zhou *et al.* (2010) and Khavul *et al.* (2010), most studies only report firms' ages as sample selection criteria and do not clearly reveal the ventures' age at the time of internationalization (see Rugman *et al.* (2015)).

We are aware that there are several criticisms of using thresholds to measure the earliness of internationalization. Some authors have stated that measuring "inception" by the year of "legal foundation" is inaccurate because there is a gestational period before an INV becomes international that begins before its legal entity is founded (Hewerdine and Welch, 2013).

We understand that the variety of contexts has led to a wide range of measurements. This diversity has the advantage of allowing for customized analysis where the researcher can choose the most appropriate metric for each circumstance. However, there is also the disadvantage that this procedure inhibits any comparative purposes among papers. Consequently, to reach uniformity and preserve the comparability of future research with previous papers, we suggest that future search follow the most frequently used definition, which is "up to three years" after the date of founding. Such research attempts to enhance the generalizable quantitative analysis.

In the same vein, the measurements of the "degree of internationalization" vary greatly. Most of the previous studies have used export data as a proxy for the international activities of INVs. The literature has used scale measures; that is, the export intensity ratio (Almodóvar and Rugman, 2014, Burgel and Murray, 2000, Coviello, 2006, Coviello and Munro, 1997, Moen and Servais, 2002, Reuber and Fischer, 1997, Rugman *et al.*, 2015, Zhou *et al.*, 2010). Studies have also used a wide variety of cutoffs to measure foreign or export sales. These include more than 0% (Bell *et al.*, 2001), at least 5% (McDougall and Oviatt, 1996, Zahra *et al.*, 2000), at least 10% (McDougall, 1989, Zhou *et al.*, 2007), 20% (Zhou *et al.*, 2010), or 25% (Almodóvar and Rugman, 2014, Choquette *et al.*, 2017, Knight and Cavusgil, 2004, Kuivalainen *et al.*, 2012, Kuivalainen *et al.*, 2007, Moen and Servais, 2002, Mort and Weerawardena, 2006, Nummela

et al., 2014, Øyna *et al.*, 2018, Ripollés and Blesa, 2017). We are aware that using a percentage as a threshold might be criticized because it does not take context into account. Some scholars have argued that 25% is a significant percentage in cases such as the American research context; however, they have not agreed with this percentage when considering smaller countries, such as those in the European context (Knight and Liesch, 2016, Kuivalainen *et al.*, 2007). If authors attempt to use this ratio and the goal of their studies is to obtain generalizable quantitative results, we recommend the most common metrics -at least 25%- to make a larger number of papers comparable.

Furthermore, apart from the broad range of thresholds used to measure "the degree of internationalization" of INVs, some studies have used a broad country scope metric that weighs large markets (e.g., the US) equally with small ones (e.g., Costa Rica) (see Rugman *et al.* (2015)). Some scholars have measured internationalization by the number of countries new ventures enter at their inception (Coviello, 2006, Coviello and Munro, 1997, Gabrielsson *et al.*, 2008, Kuemmerle, 2002, Lu and Beamish, 2001, Moen and Servais, 2002, Mudambi and Zahra, 2007, Zahra *et al.*, 2000). Other studies have used the count-based number of continents/geographic areas where firms generate foreign sales (Fernhaber *et al.*, 2008, Fernhaber *et al.*, 2009, Reuber and Fischer, 1997, Sapienza *et al.*, 2006). Several studies have used a dummy variable to measure internationalization (Carr *et al.*, 2010, Coeurderoy and Murray, 2008, Fan and Phan, 2007, Fernhaber and Li, 2010, Filatotchev *et al.*, 2009).

Rugman *et al.* (2015), Almodóvar and Rugman (2014), and Rugman and Oh (2011a, 2011b) have criticized such scope metrics that merely count a number of countries, or a number of geographic areas, on the grounds that they provide simplistic and misleading information about international activities because they fail to measure the real scale of internationalization that INVs have achieved (Rugman *et al.*, 2015, Rugman and Oh, 2011a, 2011b). Scale measures

such as foreign sales over total sales are better because they capture the degree of international activities (Rugman *et al.*, 2015, Rugman and Oh, 2011a, 2011b).

Leiblein and Reuer (2004) have employed total foreign sales outside of North America. López *et al.* (2009) and Fernhaber *et al.* (2009) have used foreign sales over total sales and other scale ratios related to regional sales and costs. Bruneel *et al.* (2010) have adopted a measure that captures both scale and scope metrics using foreign sales weighted by the psychic and geographic distance (for a comprehensive discussion, see Rugman *et al.* (2015)). Overall, an inconsistency in the conceptualization and measurement of "the degree of internationalization" results in mixed empirical results.

Firm-specific advantage and performance

In Topic Four, the bibliometric analysis identified the relationships between FSAs, international strategy, and INV performance. Our in-depth content analysis found that the literature has used four different types of FSAs. These include (a) firm size as a proxy for economy of scale and scope (Reuber and Fischer, 1997, Zahra and George, 2002), (b) innovation/technological knowledge (Oviatt and McDougall, 1995, Zahra and George, 2002), (c) opportunity recognition/exploitation (Oviatt and McDougall, 2005, Shane and Venkataraman, 2000), and (d) experience measured by firm age (Moen and Servais, 2002, Oviatt and McDougall, 1997, Reuber and Fischer, 1997, Sapienza *et al.*, 2006, Zahra and George, 2002). In much of the empirical literature, there is a tendency to conflate age and experience, or at least to use age as a proxy for expertise where data on the latter is unavailable. Love *et al.* (2016) have pointed out some weaknesses of this approach, however. They have argued that while the effect of experience may generally be considered positive, there is much less certainty about age effects. In fact, the two effects may run in opposite directions. While age may be an (indirect) indicator of experience, it may also be an indicator of sclerotic thinking or inertia on the part of the management team or the firm as a whole (Love *et al.*, 2016). Competency traps and routines

may develop which, although useful in some settings, are difficult to unlearn (D'Angelo *et al.*, 2013).

Additionally, the literature has examined the international strategy of INVs including international mode of entry and international diversity (Shrader *et al.*, 2000, Zahra and George, 2002, Zahra *et al.*, 2000).

Sapienza *et al.* (2006) have drawn upon the capability perspective to explain the impacts of early internationalization on firm survival and growth. Lu and Beamish (2001) have examined the effects of the internationalization of small and medium enterprises (SMEs) on firm performance. They have found that alliances with partners with local knowledge can be an effective strategy to overcome SMEs' deficiencies in resources and capabilities.

The literature has used both financial and non-financial indicators to measure performance. The non-financial performance indicators are international intensity (Moen and Servais, 2002, Preece *et al.*, 1999, Reuber and Fischer, 1997), international diversity (Preece *et al.*, 1999), survival (Sapienza *et al.*, 2006), and perceptions of goal attainment. The primary metrics for financial performance are return on equity (Zahra *et al.* (2000) and sales growth (Zahra *et al.* (2000). Closer scrutiny reveals that previous studies may be interested in similar performance outcomes, but actual measurements are varied. For example, "sales" of internationalization include measurements of "sales growth" in general (Zahra *et al.*, 2000), "international sales growth" (Autio *et al.*, 2000), and "satisfaction of international sales" (Jantunen *et al.*, 2008). It has, therefore, become challenging to compare performance outcomes of early and rapid internationalization across studies.

SUGGESTIONS FOR FUTURE RESEARCH

We suggest several promising directions for future research that could address some of the inconsistencies that we have identified in our study via the bibliometric analysis and the complementary method of qualitative content analysis. We focus on theory-driven and

empirically testable suggestions because we believe that such a practical and solution-oriented approach will be useful for future research.

First, rigorous theory development should be the focus of INV research, as identified in Topics One and Two in the bibliometric analysis. The INV literature could be built upon theories from the field of international business. Verbeke *et al.* (2014) and Verbeke and Ciravegna (2018) have argued that the international expansion patterns described by both INV thinking and the Uppsala model can be explained entirely by "new" internalization theory (Rugman and Verbeke, 1992, 2001), which is an extension of "classic" internalization theory (Buckley and Casson, 1976, Rugman, 1981). Verbeke *et al.* (2014) have maintained that any internationalization choice regarding scale, entry mode, location, or timing will be conditioned by FSAs, as previously discussed (Rugman *et al.*, 2011, Verbeke, 2013, Verbeke *et al.*, 2014). Verbeke *et al.* (2014) have emphasized that INVs are special cases of how particular configurations of FSAs are created and subsequently deployed and recombined with other complementary resources (if required) abroad. The resource bundles and entrepreneurial capabilities of firm founders and top management teams (a type of FSA for INVs) allows for early and rapid internationalization (Verbeke *et al.*, 2014). Founding entrepreneurs can be viewed as experts in judgmental decision making, and experience of both success and failure allows for fine-tuning of this resource recombination capability (Casson, 1982, 1995).

Similarly, Almodóvar and Rugman (2015) have argued that the extended Uppsala model (Johanson and Vahlne, 2009) includes the traditional FSAs as determining factors of firm internationalization. When the market is not efficient, firms traditionally choose to internalize to assure the appropriability of these FSAs. However, networks improve the strategic position of firms by providing complementary and critical resources in foreign markets through partnerships (Eisenhardt and Schoonhoven, 1996), because host country-specific advantages, such as distribution networks in overseas markets, are not freely available (Hennart, 2009,

Rugman *et al.*, 2016). Belonging to a business network (Johanson and Vahlne, 2009) therefore allows INVs to gain access to valuable complementary resources, which strengthens their traditional FSAs (Almodóvar and Rugman, 2015).

Second, we recommend that the INV literature revisit the born-global orientation of the INV strategy given that our analysis has identified some weaknesses of the underlying assumptions of this line of thinking. Specifically, Oviatt and McDougall (1994) have argued that "the homogenization of many markets in distant countries" (pp. 33) triggers the INV phenomenon. This assumption of "homogenization of many markets in distant countries" is similar to the view of globalization of markets as advocated by Friedman (2005) with the argument that "the world is flat." However, (Rugman, 2000, 2005) has criticized this way of thinking and has provided convincing evidence of the regional nature of country-level international trade, foreign direct investment, and firm-level sales and assets (see Oh and Li (2015)). While Oviatt and McDougall (1994) have suggested that foreign markets in distant countries are homogeneous, Hymer (1960/1976) has argued that there are additional costs, risks, and uncertainties of doing international business abroad, which Zaheer (1995) subsequently referred to as the liability of foreignness. Firms must, therefore, make a substantial investment in learning to overcome the liability of foreignness because cultural, administrative, geographical, and economic differences between home and host countries and distance still matter (Ghemawat, 2007).

Rugman and Verbeke (2004) have found that even the world's largest multinational enterprises expand within their home region of the broad triad rather than globally because there is a liability of interregional foreignness. This implies that INVs, which are typically SMEs, are probably less equipped than larger firms in dealing with the problems of the liability of foreignness, smallness, and newness (Rugman *et al.*, 2015). Consequently, it would be more realistic for INVs to expand into neighboring countries within their home region. The born-

regional strategy helps reduce the transaction costs of international business exchanges and enhances international financing opportunities (Rugman, 2005).

We recommend rethinking the concept and context of INV research. Most INVs are likely "born regional," not "born global" (Almodóvar, 2011, 2012, Almodóvar and Rugman, 2014, Lee, 2010, 2013, Lee and Marvel, 2009, López *et al.*, 2009, Rugman and Almodóvar, 2011, Rugman *et al.*, 2015). Love *et al.* (2016) have found that early-exporting SMEs tend to be "born regional" rather than "born global." In the home region environment, the intraregional liability of foreignness is lower and more easily overcome than the interregional liability of foreignness encountered in non-home region countries (Rugman and Verbeke, 2007: p. 201).

The evidence that firms are "born regional" will, in turn, require the INV literature to revisit its theoretical rationale for INVs' internationalization process. The process of internationalization within a home region (Rugman *et al.*, 2015) can begin with one important neighboring market and subsequently expand to other countries in the home region due to proximity benefits in terms of geography, culture, language, and institutional convergence. This argument is consistent with the Uppsala model (Eriksson *et al.*, 1997, Johanson and Vahlne, 1990). Therefore, unless authors confirm this global dimension in accordance with Rugman (2000) definition, we suggest using the broader terminology of "INV" instead of "born global."

Third, further research is required concerning the relationship between the internationalization strategies and performance of INVs (Topic Four from our bibliometric analysis). Additional studies could enhance our understanding of this critical phenomenon in terms of the extent to which the geographic orientation strategy, such as born-global versus born-regional strategies, helps INV performance. Studies focused on different geographic contexts would enrich this research stream that already accounts with studies of Spanish INVs (Almodóvar, 2012, Almodóvar and Rugman, 2014, Rugman and Almodóvar, 2011) Korean SMEs (Lee, 2010, 2013, Lee and Marvel, 2009), British SMEs (Beleska-Spasova and Glaister, 2010), Costa Rican

software INVs (López *et al.*, 2009), and Italian INVs (Cerrato and Piva, 2015). Our recommendation is in line with Jones *et al.* (2011), who have suggested that the analysis of performance antecedents could be linked to the geographic orientation of INVs.

Finally, we recommend that the literature adopt a more robust empirical approach by developing generally accepted thresholds of the "degree of newness" and the "degree of internationalization" to ensure consistency between theoretical concepts and measurements for empirics following the strictest requirements (this is related to Topics One and Two in our analysis). While some scholars have called for the INV literature to move beyond categorization (Reuber *et al.*, 2017), we have argued that such generally accepted thresholds will enhance the generalizability and comparability of empirical research findings. If authors wish to develop quantitative analysis, we suggest that they follow the most common thresholds used in the literature. More specifically, INVs should reach at least 25% foreign sales (over total sales) within three years of their inception (Almodóvar and Rugman, 2014, Choquette *et al.*, 2017, Knight and Cavusgil, 2004, Kuivalainen *et al.*, 2012, Nummela *et al.*, 2014, Øyna *et al.*, 2018). In line with Topic Three, we also believe that it is essential to conduct a comparative analysis of performance regarding domestic sales versus export sales in order to assess the sustainability and performance viability of the internationalization strategy of INVs.

CONCLUSIONS AND LIMITATIONS

We presented a systematic analysis of the intellectual structure of the INV literature using bibliometric techniques with a sample of 428 papers and 10,297 citations. We focused our analysis on the 100 papers that are the most cited in this field in order to identify the most influential articles and authors, meaningful progress in research topics, theoretical debates, and inconsistencies between concepts and measurements in empirics. We also used the qualitative content analysis in the post-hoc reading to supplement our primary method of bibliometric techniques. We found that there is a growing body of empirical evidence concerning the scope,

drivers, processes, characteristics, and impacts of cross-border activities of INVs. Nevertheless, our analysis also reveals that the INV literature is fragmented. The factors that hinder the field include the use of a wide variety of theoretical perspectives and multiple theories in conceptual models and the inconsistencies between theoretical concepts and measurements in empirical research. We provided theory-driven and empirically testable suggestions for the advancement of the INV literature and meaningful contributions to scholarship, practice, and policy.

Our study has several limitations. First, the citation is not equivalent to the importance/relevance of the author's citation; rather, it is the result of many factors that influence scholars when writing a research paper (Hicks, 1987, 1988). Examples of these factors include mentioning one of the articles or directly criticizing them. In the case of co-citation analysis, the underlying assumption of the conceptual proximity cannot be corroborated in all cases. Additionally, co-citation analysis does not permit the classification of all the articles cited because there is a need to choose articles for review. In light of this, the interpretation of the resulting maps is restricted to the selected articles; however, the topics obtained in the mapping reveal authors who cite the same references and share the same interests (Callon *et al.*, 1993). Due to the continual growth of citations, future research is required to extend our work.

Second, we used WoS-SSCI, and there are inevitably other articles that are not stored in this database. We suggest that future research consider other databases such as Scopus and Google Scholar.

Third, the earliest papers have been exposed to the scientific community for a longer time, so they have had more opportunities to be cited. A paper's age affects the results, but only temporarily, because influence is a construct that depends on the passing of time (Ramos-Rodríguez and Ruiz-Navarro, 2004). We suggest that future research consider the threshold of a number of citations conditioned by time since the paper was published. In citation counts, there is an acknowledged citation curve. We recommend using a snowball process similar to

Acedo *et al.* (2006) to address any potential selection bias. Overall, we acknowledge the inherent limitations of bibliometric techniques, which is why we supplemented ours with the content analysis method in the post-hoc reading. As such, we were able to provide a systematic review and shed light on some issues in the INV literature.

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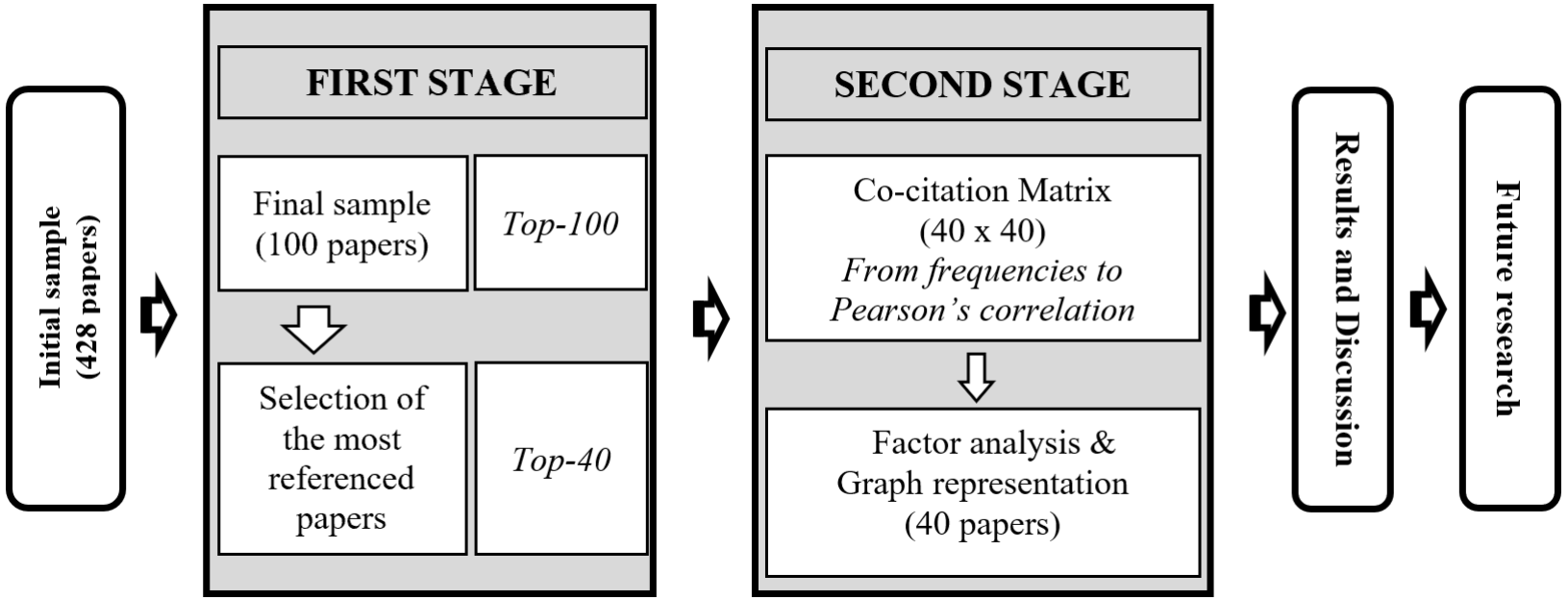
Figure 1. Steps of the research process



Source: Adapted from Ramos-Rodríguez and Ruíz-Navarro (2004)

Figure 2. Number of citations per year of papers focused on INVs

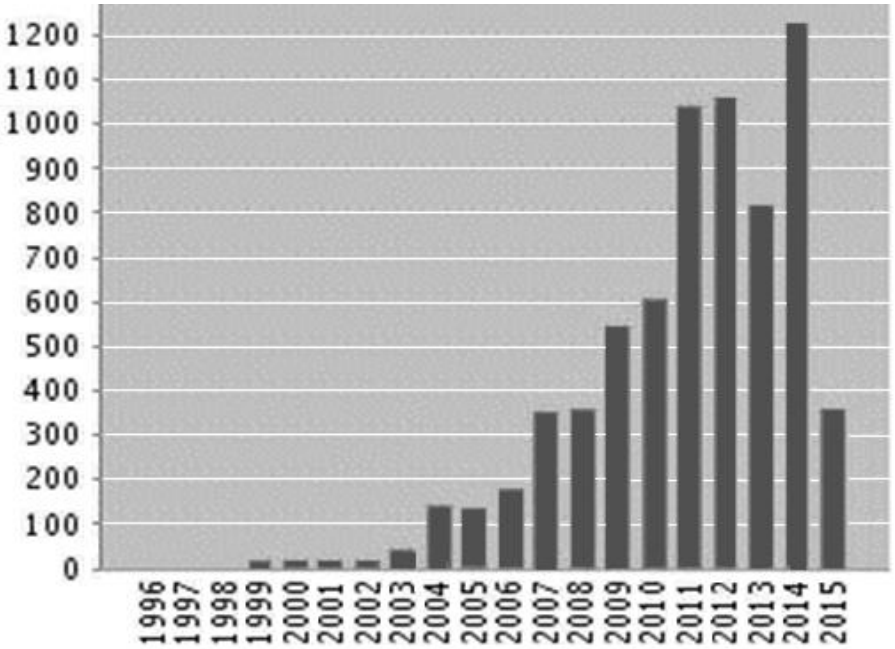


Figure 3. Intellectual structure of INVs area of study

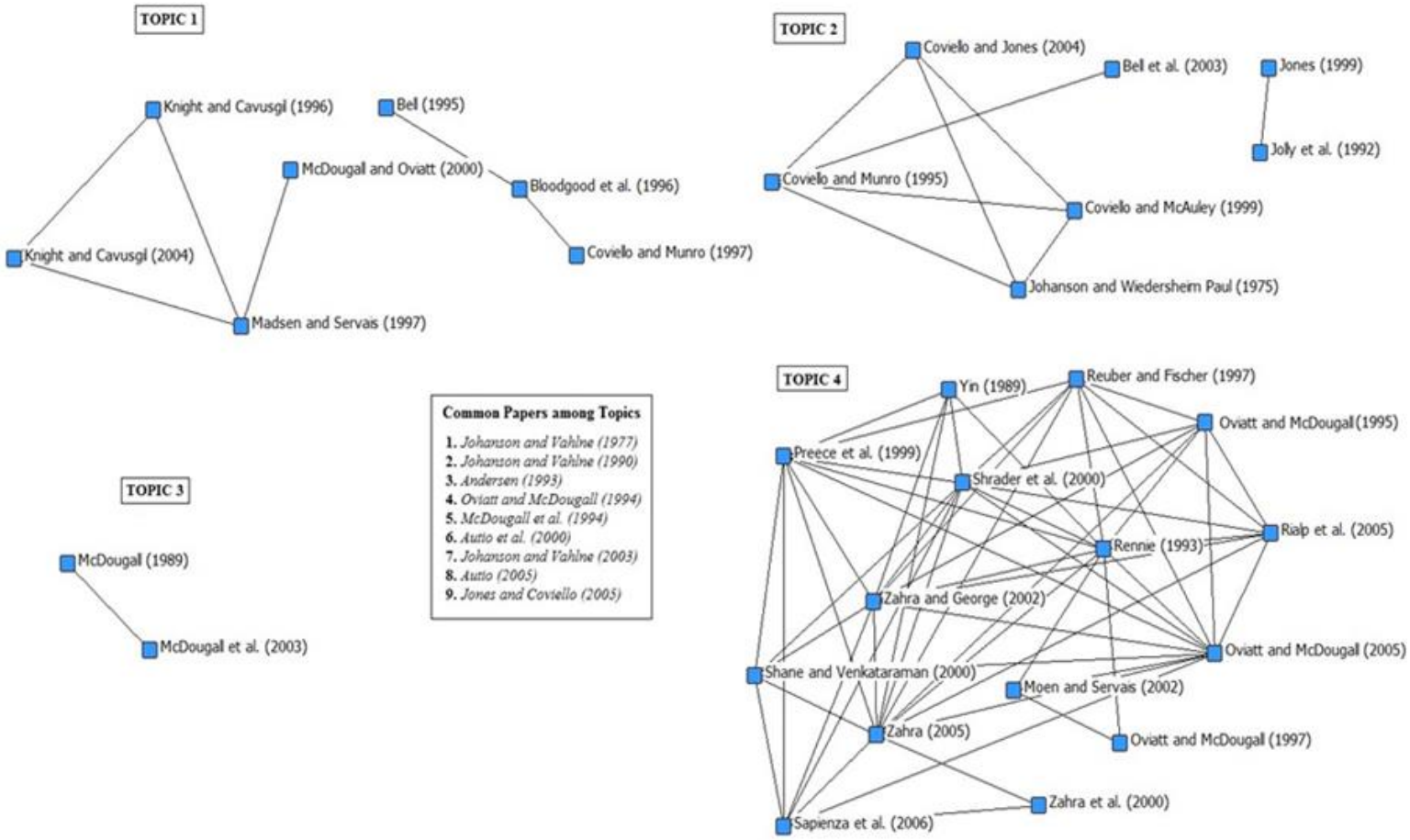


Table 1. Authors with more than three papers in the Top-100

Nº of papers	Authors
8	McDougall
7	Oviatt
6	Jones
4	Coviello
4	Saarenketo
4	Wright
4	Zahra
4	Zhou
3	Cavusgil
3	Freeman
3	Gabrielsson
3	Knight
3	Moen
3	Puumalainen
3	Styles

Table 2. Total variance explained (principal component analysis and varimax rotation)

	Eigenvalues (unrotated factors)			Eigenvalues (rotated factors)		
FACTOR	**VALUE**	**%**	**CUM %**	**VALUE**	**%**	**CUM %**
1	12.106	44.65	44.65	11.224	41.40	41.40
2	6.928	25.55	70.20	5.133	18.93	60.33
3	4.221	15.57	85.77	4.161	15.35	75.68
4	1.534	5.66	91.43	2.660	9.81	85.49
5	0.914	3.37	94.80	1.221	4.50	89.99
6	0.717	2.64	97.45	1.857	6.85	96.84
7	0.462	1.70	99.15	0.486	1.79	98.64
8	0.221	0.81	99.96	0.358	1.32	99.96
9	0.010	0.04	100	0.012	0.04	100
	27.113	100		27.113	100	

Table 3. Rotated Factor Loadings (Principal Component Analysis with Varimax Rotation)

		FACTORS				
	PAPERS	**1**	**2**	**3**	**4**	**Cum.**
1	Zahra (2005)	0.902				0.817
2	Rennie (1993)	0.900				0.840
3	Shrader *et al*. (2000)	0.900				0.824
4	Oviatt and McDougall (2005)	0.892				0.809
5	Zahra and George (2002)	0.891				0.806
6	Rialp *et al*. (2005)	0.865				0.776
7	Reuber and Fischer (1997)	0.862				0.760
8	Oviatt and McDougall (1995)	0.856				0.764
9	Preece *et al*. (1999)	0.822				0.747
10	Yin (1989)	0.805				0.660
11	Sapienza *et al*. (2006)	0.796				0.678
12	Shane and Venkataraman (2000)	0.775				0.647
13	Zahra *et al*. (2000)	0.730				0.734
14	Moen and Servais (2002)	0.696				0.681
15	Oviatt and McDougall (1997)	0.686				0.688
16	Andersen (1993)	-0.517				0.467
17	Johanson and Wiedersheim Paul (1975)		0.796			0.647
18	Coviello and McAuley (1999)		0.776			0.613
19	Coviello and Jones (2004)		0.762			0.597
20	Coviello and Munro (1995)		0.728			0.548
21	Johanson and Vahlne (1977)		-0.694			0.586
22	Autio (2005)		0.681			0.544
23	Bell *et al*. (2003)		0.649			0.444
24	Johanson and Vahlne (2003)		0.625			0.461
25	Jones (1999)		0.624			0.632
26	Jolly *et al*. (1992)		0.458			0.498
27	Oviatt and McDougall (1994)		-0.454			0.476
28	Autio *et al*. (2000)		-0.389			0.315
29	Knight and Cavusgil (2004)			0.804		0.699
30	Knight and Cavusgil (1996)			0.767		0.666
31	Jones and Coviello (2005)			0.673		0.592
32	Madsen and Servais (1997)			0.669		0.568
33	Johanson and Vahlne (1990)			0.623		0.396
34	McDougall and Oviatt (2000)			0.601		0.611
35	Bloodgood *et al*. (1996)			0.546		0.475
36	McDougall *et al*. (1994)			0.536		0.579
37	Coviello and Munro (1997)			0.499		0.416
38	Bell (1995)			0.411		0.455
39	McDougall *et al*. (2003)				-0.575	0.647
40	McDougall (1989)				-0.540	0.627

Appendix A:

The 100 most cited papers in the INVs literature

Ranking	Paper
1	Oviatt and McDougall (1994)
2	Knight and Cavusgil (2004)
3	McDougall et al. (1994a)
4	McDougall and Oviatt (2000)
5	Oviatt and McDougall (2005a)
6	Rialp et al. (2005)
7	Jones and Coviello (2005)
8	Coviello (2006)
9	Zhou et al. (2007)
10	Shrader et al. (2000)
11	Coviello and Jones (2004)
12	Moen and Servais (2002)
13	Yamakawa et al. (2008)
14	Burgel and Murray (2000)
15	Chetty and Campbell-Hunt (2004)
16	Carpenter et al. (2003)
17	Preece et al. (1999)
18	Weerawardena et al. (2007)
19	Autio (2005)
20	Keupp and Gassmann (2009)
21	Moen (2002)
22	Mathews and Zander (2007)
23	Kuemmerle (2002)
24	Oviatt and McDougall (2005b)
25	Shrader (2001)
26	Zahra et al. (2005)
27	Kuivalainena et al. (2007)
28	Gabrielsson et al. (2008)
29	Jones et al. (2011)
30	Freeman et al. (2006)
31	Mort and Weerawardena (2006)

32	Loane and Bell (2006)
33	Fan and Phan (2007)
34	Gassmann and Keupp (2007)
35	Mudambi and Zahra (2007)
36	Kundu and Katz (2003)
37	McAuley (1999)
38	Wright et al. (2007)
39	López et al. (2009)
40	Zhou (2007)
41	Drori et al. (2009)
42	Acedo and Jones (2007)
43	Freeman and Cavusgil (2007)
44	Kropp et al. (2006)
45	Dimitratos and Jones (2005)
46	Zahra (2005)
47	Fernhaber et al. (2008)
48	Aspelund et al. (2007)
49	Liu et al. (2008)
50	Freeman et al. (2010)
51	Yeoh (2000)
52	Zahra et al. (2008)
53	Zhou et al. (2010)
54	Presutti et al. (2007)
55	Laanti et al. (2007)
56	Nordman and Melen (2008)
57	Jantunen et al. (2008)
58	Casillas et al. (2009)
59	Chandra et al. (2009)
60	Schwens and Kabst (2009)
61	Khavul et al. (2010)
62	Andersson (2004)
63	Styles and Seymour (2006)
64	Musteen et al. (2010)
65	Kiss et al. (2012)
66	Bruneel et al. (2010)

67	Fernhaber et al. (2007)
68	Belso-Martínez (2006)
69	Coeurderoy and Murray (2008)
70	Prashantham and Young (2011)
71	Mason and Harrison (2000)
72	Li (2010)
73	Sommer and Haug (2011)
74	Manolova et al. (2010)
75	Ripolles Melia et al. (2010)
76	Tuppura et al. (2008)
77	Fletcher (2004)
78	Karra et al. (2008)
79	Paliwoda et al. (2009)
80	Blomqvist et al. (2008)
81	Autio et al. (2011)
82	Loane et al. (2007)
83	Hashai (2011)
84	De Clercq et al. (2012)
85	Morgan-Thomas and Jones (2009)
86	Astebro and Elhedhli (2006)
87	Kocak and Abimbola (2009)
88	Kuivalainen et al. (2012)
89	Hughes et al. (2010)
90	Bingham (2009)
91	Melen and Nordman (2009)
92	Chandra et al. (2012)
93	Prashantham and Floyd (2012)
94	Di Gregorio et al. (2008)
95	Lockett et al. (2008)
96	Cumming et al. (2009)
97	Terjesen et al. (2008)
98	Kuivalainen et al. (2012)
99	Gabrielsson et al. (2012)
100	Rialp-Criado et al. (2010)

APPENDIX B:

The 40 most cited articles by the "top 100 papers"

Ranking	Most cited papers
1	Oviatt and McDougall (1994)
2	Johanson and Vahlne (1977)
3	McDougall et al. (1994b)
4	Autio et al. (2000)
5	Zahra et al. (2000)
6	Knight and Cavusgil (2004)
7	Knight and Cavusgil (1996)
8	Johanson and Vahlne (1990)
9	McDougall and Oviatt (2000)
10	Madsen and Servais (1997)
11	Bloodgood et al. (1996)
12	Rialp et al. (2005)
13	Zahra (2005)
14	Coviello and Munro (1997)
15	Oviatt et al. (1995)
16	Jones and Coviello (2005)
17	Bell (1995)
18	Reuber and Fischer (1997)
19	Rennie (1993)
20	Zahra and George (2002)
21	Shrader et al. (2000)
22	Jolly et al. (1992)
23	Oviatt and McDougall (1997)
24	Andersen (1993)
25	Oviatt and McDougall (2005a)
26	Moen and Servais (2002)
27	Autio (2005)
28	Jones (1999)
29	Coviello and McAuley (1999)
30	Coviello and Jones (2004)
31	Yin (1989)

32	Johanson and Wiedersheim-Paul (1975)
33	McDougall et al. (2003)
34	Coviello and Munro (1995)
35	Preece et al. (1999)
36	Sapienza et al. (2006)
37	Bell et al. (2003)
38	McDougall (1989)
39	Shane and Venkataraman (2000)
40	Johanson and Vahlne (2003)