

MAPPING THE (IN)VISIBLE COLLEGE(S) IN THE FIELD OF ENTREPRENEURSHIP

AURORA A.C. TEIXEIRA

CEF.UP, FACULDADE DE ECONOMIA, UNIVERSIDADE DO PORTO,
INESC PORTO OBEGEF

Mapping the (In)visible College(s) in the Field of Entrepreneurship

Aurora A. C. Teixeira

ateixeira@fep.up.pt

CEF.UP, Faculdade de Economia, Universidade do Porto; INESC Porto; OBEGEF

Abstract

Despite the vitality and dynamism that the field of entrepreneurship has experienced in the last decade, the issue of whether it comprises an effective network of (in)formal communication linkages among the most influential scholars within the area has yet to be examined in depth.

This study follows a formal selection procedure to delimit the ‘relational environment’ of the field of entrepreneurship and to analyze the existence and characterization of (in)visible college(s) based on a theoretically well-grounded framework, thus offering a comprehensive and up-to-date empirical analysis of entrepreneurship research.

Based on more than a thousand papers published between 2005 and 2010 in seven core entrepreneurship journals and the corresponding (85 thousand) citations, we found that entrepreneurship is an (increasingly) autonomous, legitimate and cohesive (in)visible college, fine tuned through the increasing visibility of certain subject specialties (e.g., family business, innovation, technology and policy). Moreover, the rather dense formal links that characterize the entrepreneurship (in)visible college are accompanied by a reasonably solid network of informal relations maintained and sustained by the mobility of ‘stars’ and highly influential scholars. The limited internationalization of the entrepreneurship community, reflected in the almost total absence of non-English-speaking authors/studies/outlets, stands as a major quest for the field.

Keywords: Invisible College; Entrepreneurship; Bibliometrics

JEL-Codes: Z10; L26; C89

If we are interested in explaining what Haavelmo has described as the “really big dissimilarities in economic life”, we must be prepared to concern ourselves with entrepreneurship. (Baumol 1968: 65)

1. Introduction

Entrepreneurship is “an important and relevant field of study” (Shane and Venkataraman 2000: 224) and has emerged as one of the most vital, dynamic, and relevant fields in management, economics, regional science, and other social sciences.¹ Although it has struggled since the 1970s to be defined as a field and gain legitimacy as a valid academic area of research (Cooper 2003), in the 2000s, a number of scholars devoted their attention to entrepreneurship as a core research field (Alvarez et al. 2010), and it has become increasingly more theory-driven and coalesced around a central core of themes, issues, methodologies, and debates (Wiklund et al., 2011).

The boom in entrepreneurship scholarship led to the need to measure scientific production in entrepreneurship and to understand the scientific structure of the field, such that several studies have dedicated significant attention to the matter (Cornelius et al. 2006, Grégoire et al. 2006, Schildt et al. 2006). Underlying the scientific structure of a field is a network of informal communication linkages among the most influential scholars within that area. These groups of mutually interacting and prolific scientists, who exchange knowledge through communication channels, were named “invisible colleges” (Crane 1972). In spite of the academic interest in entrepreneurship, invisible colleges, per se, have yet to be examined in depth based on a theoretically well-grounded framework.

Many studies have reviewed, analyzed, and summarized the literature on entrepreneurship over the last few decades from a subjective perspective (Low and MacMillan 1988; Davidsson et al. 2001; Hoang and Antoncic 2003; Zahra 2007; Davidsson 2008; Steyaert et al. 2011). As a complement to this approach, the present study follows an objective procedure to identify the structure of the field of entrepreneurship based on bibliometric techniques. As Watkins and Reader (2004) put it, the usual way to identify the ‘leading edge’ or ‘research

¹ The Entrepreneurship Division of the Academy of Management increased its membership by 230% -more than any other established division - and with over 2.700 members, it now ranks among the largest in the Academy of Management. At the same time, the number of dedicated entrepreneurship journals listed by the Social Science Citation Index increased from one to more than half a dozen, among which the one in the lead has achieved impact factors in the same range as highly respected management and social science journals (Katz 2003; Wiklund et al. 2011).

front' of a research field, other than by immersion and inspection, is to undertake some kind of bibliometric analysis.

Although the use of bibliometric tools applied to entrepreneurship research is not new - several high-quality studies have been published, most notably in the *Entrepreneurship Theory and Practice*'s 2006 special issue devoted to understanding the scientific structure of entrepreneurship research -, ² this work stands apart from existing studies in four main aspects: 1) the procedure to select the journals that constitute the 'relational environment' of entrepreneurship research; 2) the study of 'Invisible Colleges' based on a theoretically well-grounded framework; 3) the representativeness and comprehensiveness of the empirical analysis; and 4) a more up-to-date (2005-2010) empirical analysis of the intellectual structure of entrepreneurship field.

The extant literature generally selects their reference journals directly, based on the argument that they are the main outlets for entrepreneurship research (e.g., Romano and Ratnatunga 1996; Ratnatunga and Romano 1997; Casillas and Acedo 2007; Gamboa et al. 2008) or, indirectly, by selecting the journals which have published articles containing the term 'entrep*' (Cornelius et al. 2006; Schildt et al. 2006) or 'entrepreneur*' (Reader and Watkins 2006) from the Social Science Citation Index (SSCI). Such procedures have, in general, resulted in the selection of a few (often isolated) core entrepreneurship journals, such as *Entrepreneurship Theory and Practice* (ETP), *International Small Business Journal* (ISBJ), *Journal of Business Venturing* (JBV), *Journal of Small Business Management* (JSBM) or *Small Business Economics* (SBE). Hence, other important journals in the area have inevitably been left out. This study makes use of aggregated journal-journal citation relations to delineate the relevant domain (entrepreneurship), following van den Besselaar and Leydesdorff's (1996) procedure. A set of 7 journals were identified following this procedure, representative of the 'relational environment' within the field of entrepreneurship research, and enable an in-depth analysis of the issue of invisible colleges: *Entrepreneurship and Regional Development* (ERD), ETP, *Family Business Review* (FBR), ISBJ, JBV, JSBM, and SBE.

The analysis of the invisible college is based on the theoretical model proposed by Zuccala (2006) and further refined in Zuccala and van den Besselaar (2008). Zuccala's (2006) model focuses on three critical components: subject specialty, scientists as social authors, and the information use environment. Her later work with van den Besselaar proceeded with the

² *Entrepreneurship Theory and Practice*, vol. 30, Issue 3, 2006.

stratification of the invisible colleges, from which it was possible to distinguish the various researchers' roles (e.g., 'stars' and influential). The vast majority of the studies within entrepreneurship based on bibliometric or scientometric approaches have not explicitly analyzed the issue of 'invisible colleges'. Although Reader and Watkins (2006) point out that strong social and collaborative ties are associated with intellectual ties within entrepreneurship research, their analysis left out important dimensions of the invisible colleges, beside the 'influential authors', most notably subject specialty, the information use environment, and the researchers' role within the invisible college. We empirically apply Zuccala's (2006) model to the entrepreneurship field by explicitly focusing on the three components mentioned above and by identifying the role of researchers (Zuccala and van den Besselaar 2008).

The few existing studies on entrepreneurship that have analyzed the scientific structure of the field rely on rather sophisticated bibliometric techniques, namely Author Co-Citation Analysis (ACA). However, in the vast majority of the cases (e.g., Cornelius et al. 2006; Reader and Watkins 2006; Schildt et al. 2006), the underlying bibliographic database was the Social Science Citation Index (SSCI). A real and problematic feature of SSCI is that (co)citation data can only be collated for first authors. As such, researchers who collaborate with others but who do not obtain first authorship are not represented. This is likely to undermine or severely weaken any analysis of 'influential authors' (and their roles), a key component of an invisible college. The present paper overcomes this limitation by using SciVerse Scopus as the bibliographic database.³ This database also offers author profiles which cover affiliations, number of publications and their bibliographic data, references and details on the number of citations each published document has received, enabling a more comprehensive and thorough analysis of influential authors within a field.

Finally, we argue that the (bibliometric) analysis of the intellectual structure of entrepreneurship research in a more recent period (2005-2010) may prove a useful endeavour. Indeed, citation involves an intrinsic delay. This problem is even more severe in the case of the more sophisticated techniques for mapping disciplinary development in intellectual space, such as ACA (Watkins and Reader, 2004). Existing works in this domain analyzed periods earlier than 2004, with the bulk of these studies (e.g., Cornelius et al. 2006; Grégoire et al.

³ Scopus, officially named SciVerse Scopus, is a bibliographic database containing abstracts and citations for scholarly journal articles. It is owned by Elsevier and is provided on the Web for subscribers. Searches in Scopus incorporate searches of scientific web pages through Scirus, another Elsevier product, as well as patent databases.

2006; Reader and Watkins 2006; Schildt et al. 2006) resorting to ACA. This means that they may refer to the intellectual structure at best some six to eight years previously (Watkins and Reader 2004), that is, in the late 1990s. Given the convergence-divergence cycles in terms of disciplinary anchors experienced by the field from the early 1980s to early 2000s (Grégoire et al. 2006), and the fact that some debate still persist regarding the collaboration density of the entrepreneurship community (Reader and Watkin 2006; Campbell 2011), a more up-to-date analysis seems to be required.⁴

The paper is structured as follows. Section 2 briefly details the concept of invisible college, and describes Zuccala's (2006) model. Section 3 focuses on the description of the data and methodological considerations, and the following section (Section 4) empirically analyzes the three main components of an invisible college – scientists as social authors (“influential authors”), subject specialty, and the information use environment – in the field of entrepreneurship research. Finally, the main conclusions of the study are drawn and discussed.

Scholars are fascinated with the invisible college ... but they do not seem to agree precisely on what an invisible college is. (Zuccala 2006: 152)

2. Modelling the invisible colleges. A brief theoretical review

The term “invisible colleges” was introduced in 1645 by Robert Boyle (Wallace 2007), when the Royal Society of London was founded, as a way to describe the fact that its members, although lacking a formal institution or college, were geographically close and shared common scientific interests (Lievrouw 1989; Zuccala 2006). Price (1963) recovered the terminology and applied it to the existence of informal communication networks among scholars from several institutions, often geographically separated from one another. An invisible college was defined as a hierarchical and elitist group of scholars, supported by an expectable inequality and a high level of connection (Price 1971). Crane (1972), influenced by Price's work, proceeded with a comprehensive examination of the invisible college phenomenon. Focusing on communication among scientists, the author expanded the scope of the concept of informal communication, to include informal discussions, relationships between teachers and students during thesis preparation, and the influence of a scientist's work on another. The study consisted in an analysis of the growth of communication relations

⁴ Campbell (2011: 44) argues that “[t]he academic community is geographically very dispersed and therefore has, at best, superficial social/spatial cohesion; collaboration tends to focus exclusively on task”, whereas Reader and Watkin (2006: 417) state that the entrepreneurship community encompasses “real and robust social and collaborative networks underlying the generation of the work which is cited jointly by third parties”.

between sociologists and mathematicians, sustained by survey data collected on co-authorship patterns and exchange of preprints (Zuccala 2006).

Despite Crane's major scientific contribution, Lievrouw (1989) pointed out some limitations to the work, particularly with respect to the definition of invisible college and the lack of real information about informal communication. For Lievrouw (1989: 622), it was a paradox that "the term invisible college describes an informal communication process, yet researchers look for it in formal social structures and documents" and defined an invisible college as "a set of informal communication relations among scientists or other scholars who share a specific common interest or goal".

Combining both approaches, Zuccala (2006: 155) emphasized the need to understand the multifaceted nature of the invisible college, proposing the following definition:

An invisible college is a set of interacting scholars or scientists who share similar research interests concerning a subject specialty, who often produce publications relevant to this subject and who communicate both formally and informally with one another to work towards important goals in the subject, even though they may belong to geographically distant research affiliates.

The novelty in this latter definition is its openness to the possibility of combining different types of analysis – bibliometric, sociometric and qualitative – in the study of invisible colleges, benefiting from their unique contributions. An invisible college is thus a consequence of an interrelationship (through formal and informal communication) between three key elements: subject specialty, the social actors and Information Use Environment. The first informs the invisible college of its disciplinary rules and research problems, the second refers to the scientific scholars who understand and agree to the rules and interact with one another to solve problems, and the third and last element, represents the scientific workspace, i.e., the "set of elements that affect the flow and use of information messages into, within, and out of any definable entity" (Taylor 1986: 3).

The social actors, i.e., the most influential authors, make use of the invisible college to support their search for information and sharing patterns (informal communication) and reinforce the invisible college through bibliometric artefacts (formal communication). Therefore, Zuccala (2006: 8) concludes that the invisible college is an organizational structure produced by "the space that intersects the Information Use Environment, the subject specialty and the social actors".

Past bibliometric or scientometric studies related with invisible colleges (for a survey, see Zuccala, 2006) show that scientists involved in these networks typically carry out research within a subject specialty made up of subtopic areas with authors clustered together, i.e., they

are highly (co)cited, according to shared research interests. The subject specialty, rooted in published documents, is a structural component of the invisible college.

According to Price (1986), an invisible college is a set of ‘elite’ researchers/scholars from different research affiliates who belong to an ‘in-group’ of approximately 100 individuals. These elite scholars contribute ‘materially’, through the production of published documents, to the subject specialty both at national and international levels (Price, 1986). It is important to note that an invisible college can exist within a subject specialty, but a subject specialty is not necessarily an invisible college (Price 1963, 1986; Hagstrom 1970).

The formal and informal networks associated to an invisible college often arise and increase in density when there is a need for researchers to share human, financial and technical resources, that is, share the same information use environment - a school or a working space (in other words, the same professional affiliation). As Tuire and Erno (2001) document, co-authorships or collaboration networks among researchers from an invisible college have been found within university departments. We further argue that these are likely to be common among researchers that were part of the same working environment sometime in the past (former affiliations) and/or for some period of time shared the same working space (i.e., visiting or PhD links). Thus, as Zuccala (2006: 156) underlines, “it is important ... to recognize ... that [an invisible college] is not a one-dimensional construct, but rather a multifaceted phenomenon”.

3. Methodological considerations

3.1. Delineating the field of entrepreneurship - the choice of the relevant set of journals

In order to select the set of relevant journals that constitute the field of entrepreneurship research, and thus provide a more systematic method for the choice of journals which are the basis of forthcoming analyses, we follow closely the methodology proposed and implemented by van den Besselaar and Leydesdorff (1996) in their mapping of the field of Artificial Intelligence research. These authors, in line with previous studies (e.g., Doreian and Fararo 1985; Borgman and Rice 1992), consider that aggregated journal-journal citation relations is an appropriate indicator for the disciplinary organization of the sciences. Accordingly, one would expect strong citation relations within and among journals belonging to a given discipline, and less so with regard to other journals. Moreover, journals belonging to the same ‘subject specialty’ relate (through citation patterns) to existing knowledge in a different way than other journals (van den Besselaar and Leydesdorff, 1996).

Thus, we use citation relations among journals to delimit the relevant domains, using the structural approach to analyze the development patterns. However, whereas van den Besselaar and Leydesdorff (1996) use a single journal (*Artificial Intelligence*) to define the relevant journal set, we use three entrance journals on entrepreneurship: *Entrepreneurship Theory and Practice* (ETP); *Journal of Business Venturing* (JBV) and *Small Business Economics* (SBE).⁵ Note that, differently from van den Besselaar and Leydesdorff (1996), who intended to map and study the evolution of a given area, our aim is to achieve a set of journals which permit an encompassing and rigorous analysis of entrepreneurship research. In this vein, the consideration of three entrance journals instead of one seeks to avoid a potential bias and/or omission in the final set of the selected journals which will constitute the basis of our bibliometric analysis.

In a first stage, and for each entrance journal considered, all journals that were related to the given journal (ETP, JBV or SBE) are drawn into the analysis. Then, in a second stage, the citation matrix for the set of journals obtained is constructed using *Journal of Citation Report* (JCR) data.⁶ To accommodate any potential change in the relational mapping of journals we opted to collect and analyze the citation matrixes of the last 5 years for which information was available (2005-2009).

For each entrance journal (ETP; JBV; SBE) and year (2005; 2006; 2007; 2008; 2009), the corresponding ‘cited journal data’⁷ and ‘citing journal data’⁸ were gathered manually from the Journal of Citation Report (JCR). Combining the ‘cited’ and ‘citing’ dimensions and taken the list of journals that account for at least 0.5% of all citations in each year for each seed journal, it was possible to obtain the citation environment of the selected seed journal. Departing from the set of journals that constitutes the citation environment of a given seed journal the citing matrix⁹ was then constructed (for each of the 5 years), which represents “the active

⁵ These three journals stand as the top three (Level I journals) in the John Carroll University Classification (Katz and Boal 2006). Fried (2003) also documents that these three journals were the most highly-ranked journals by a set of leading scholars in the field of entrepreneurship.

⁶ JCR is a database of ISI Web of Knowledge.

⁷ Number of times the articles published in a given year (e.g., 2009) in a set of journals were cited articles published in the entrance or ‘seed’ journal (e.g., ETP, JBV or SBE).

⁸ Number of times the articles published in a set of journals were cited in the entrance or ‘seed’ journal (e.g., ETP, JBV or SBE) in a given year (e.g., 2009).

⁹ In order to obtain the citation matrix of the seed journal X (ETP, JBV or SBE) in the year T (2005; ...; 2009), we had to gather the citing data of each journal belonging to the citation environment of that seed journal – in the case of ETP, the average number of journals included in the citation environment was 24 (minimum of 21 in 2008 and a maximum of 27 in 2006), whereas the corresponding average was 29 for JBV (minimum of 25 in 2006 and a maximum of 36 in 2008), and 32 for SBE (minimum of 29 in 2009 and a maximum of 35 in 2006). Given that this procedure was done manually, it was rather demanding and time-consuming task.

reproduction of the structure of the specialty ... [that is,] the aggregation of communications among the scientists involved” (van den Besselaar and Leydesdorff 1996: 418-9).

After transforming the citation matrices into correlation matrices, we factor analyzed these correlation matrices and, finally, based on the output of the factor analyses, were able to obtain the set of relevant journals that are included in the specialty of ‘entrepreneurship’ – Figure 1 summarizes the algorithm followed.

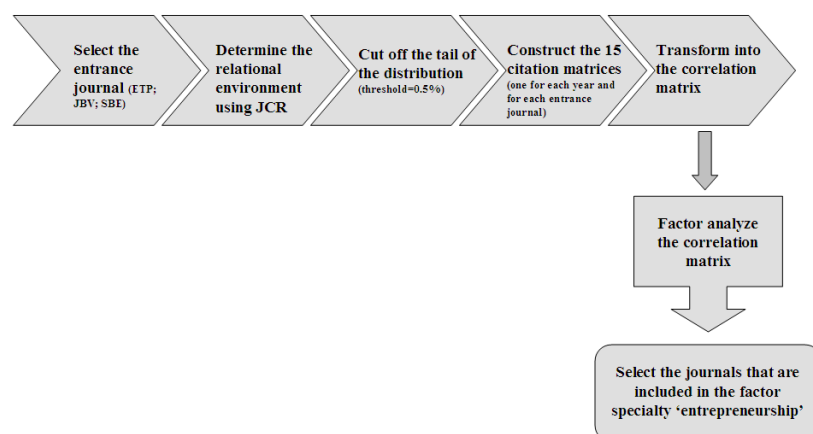


Figure 1: Algorithm employed to find the relevant journal set for the field of entrepreneurship

Legend: ETP - Entrepreneurship Theory and Practice; JBV - Journal of Business Venturing; SBE - Small Business Economics

Source: Adapted from van den Besselaar and Leydesdorff (1996: 418)

The Appendix provides an example of the citing matrix (Table A1) for the seed journal ETP, in 2009, and the output of the factor analysis (Table A2) for the three entrance journals (ETP, JBV and SBE) and for all the years covered (2005-2009).

In line with van den Besselaar and Leydesdorff (1996), we consider that the factor on which the entrance journal (e.g., ETP/JBV/SBE) has the highest factor loading represents the subject specialty which we are attempting to delineate (i.e., ‘entrepreneurship’). The other factors resulting from the analysis can be interpreted as the specialties that are relevant to, or related to, the focal specialty.

Although the output of the factor analysis for the seed journal *Small Business Economics* (SBE) differs from that of *Entrepreneurship Theory and Practice* (ETP) and *Journal of Business Venturing* (JBV), the set of relevant journals associated with ‘entrepreneurship’, both in Business/Management and Economics factor loadings (cf. Figure 2 – for details see Table A2 in the Appendix), are relatively stable for the whole period analyzed and encompasses 7 journals: ERD, ETP, FBR, ISBJ, JBV, JSBM, and SBE. Thus, we argue that these 7 journals comprise the ‘relational environment’ of the subject specialty ‘entrepreneurship’, constituting the set of relevant journals to analyze the corresponding invisible college.

	Factor analysis component	2005	2006	2007	2008	2009
ETP	ENT	ETP; ISBJ; JBV; JSBM; SBE	ERD; ETP; ISBJ; JBV; JSBM; SBE	ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE	ETP; FBR; ISBJ; JBV; JSBM	ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE
	ENT (B)					
	ENT (ECO)				ERD; SBE	
	ENT (PSY)	ERD				
JBV	ENT	ERD; ETP; ISBJ; JBV; JSBM; SBE	ERD; ETP; ISBJ; JBV; JSBM; SBE	ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE	ETP; FBR; ISBJ; JBV; JSBM	ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE
	ENT (B)					
	ENT (ECO)				ERD; SBE	
	ENT (PSY)					
SBE	ENT	ERD; ETP; ISBJ; JBV; JSBM; SBE				
	ENT (B)		ERD; ETP; ISBJ; JBV; JSBM	ERD; ETP; IFBR; SBJ; JBV; JSBM	ERD; ETP; IFBR; SBJ; JBV; JSBM	ERD; ETP; IFBR; SBJ; JBV; JSBM
	ENT (ECO)		SBE	SBE	SBE	SBE
	ENT (PSY)					

Figure 2: Delineating the field of entrepreneurship - summary of the factor analysis

Note: The figure was drawn up based on the results detailed in Table A2 in the Appendix.

Legend: ENT – Entrepreneurship; B – Business; ECO – Economics; PSY – Psychology; ERD - Entrepreneurship and Regional Development; ETP - Entrepreneurship Theory and Practice; FBR -Family Business Review; ISBJ - International Small Business Journal; JBV - Journal of Business Venturing; JSBM - Journal of Small Business Management; SBE - Small Business Economics.

3.2. Citation data-gathering procedure

Five of the 7 relevant journals which map the field of entrepreneurship started publishing in the 1980s (ERD; FBR; ISBJ; JBV; SBE). The JSBM and ETP are older, having started publication back in the early 1960s and mid-1970s, respectively (cf. Table 1).

A citation analysis was performed for the six year period, 2005 – 2010 as “... this time frame appears to be large enough window to balance out any single year anomalies, but not so large that the time frame’s relevance can be questioned” (Werner and Brouthers, 2002: 584). Give that the number of issues per year varies among the selected journals (4 in the case of ERD; FBR and JSBM; 6 in the case of ETP, JBV and ISBJ; and 8 in the case of SBE), the number of articles published in the period considered also differs, reaching a maximum of 326 in the case of SBE and a minimum of 118 for FBR.

In total, we gathered about 85 thousand references (cited in the 1414 articles published in the set of journals from 2005 to 2010) from the Scopus database,¹⁰ where almost sixty per cent belong to ETP (22%), JBV (18%), and SBE (18%)., Based on the corresponding citations, three distinct yet complementary rankings were constructed for each journal: 1) the top-50 most-cited authors; 2) the top-50 most-cited source titles (e.g., journals, books, reports), and 3) Top-25 most-cited studies.

¹⁰ Preference was given to Scopus, a more recent bibliographic database from Elsevier, instead of the more widely-used database, the ISI Web of Knowledge, because although both are similar in coverage for the period analyzed (2005-2010), the former (Scopus) provides the name of all (co)authors of the cited studies, whereas ISI only supplies the name of the first author, limiting substantially a comprehensive analysis of top-cited authors in a given field.

Table 1: Description of the set of relevant journals included in the delineation of entrepreneurship field

	Year of creation	Impact Factor 2009	ISI areas			2005-2010		
			(B – Business; ECO – Economics; M – Management; P&D – Planning & Development)			Number of articles published	Number of references cited	Average citation per article
Entrepreneurship and Regional Development (ERD)	1989	1.020	B		P&D	139	10325	74.3
Entrepreneurship Theory and Practice (ETP)*	1976	3.230	B			282	18557	65.8
Family Business Review (FBR)	1988	1.881	B			118	6156	52.2
International Small Business Journal (ISBJ)	1982	1.661	B		M	151	9570	63.4
Journal of Business Venturing (JBV)	1985	2.260	B			227	15507	68.3
Journal of Small Business Management (JSBM)	1961	1.088			M	171	9761	57.1
Small Business Economics (SBE)	1989	1.380	B	ECO	M	326	15548	47.7
All						1414	85424	60.4

Note: * Before 2002 this journal was called ‘American Journal of Small Business’.

Sources: Author’s computation based on data gathered from Scopus database (number of articles and citations) and ISI Web of Science (Impact factor).

Once the key authors had been identified, it was then possible to explore whether there were similarities among the journals with regard to the leading or ‘influential’ authors. Gathering additional data on influential authors - co-authors, educational background, research topic and professional affiliation - enables a better mapping of the intellectual groundings and information use environment of the field of entrepreneurship based on the formal and informal relationships among the most-cited authors. Moreover, the top-50 most cited sources and top-25 most cited studies serve to analyze the intellectual roots and scientific structure of the selected journals in terms of subject specialties. Such a procedure provides the fundamental tools to perform an in-depth analysis of the invisible college(s) of entrepreneurship, having as a basis an operationalized version of Zuccala’s (2006) proposed theoretical framework for invisible colleges (cf. Figure 3).

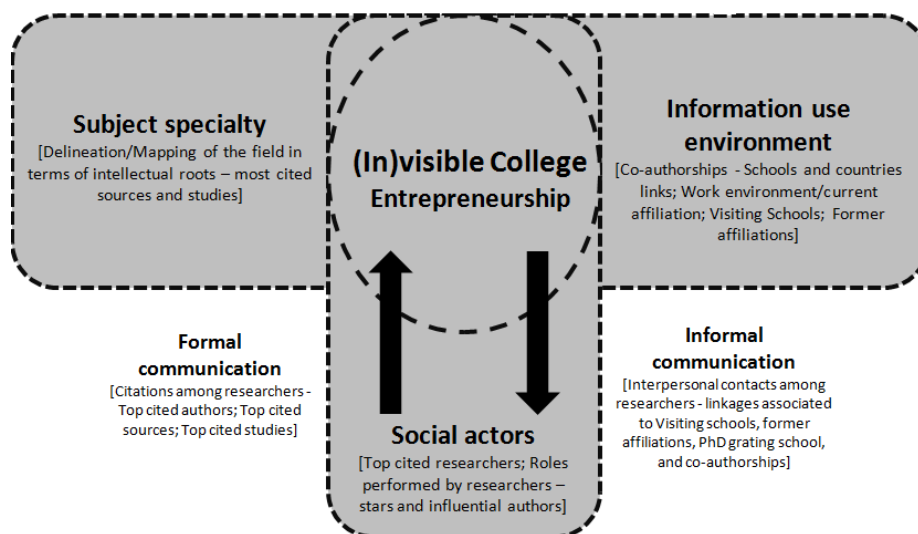


Figure 3: Operationalization of the main components of an Invisible College

Source: Adapted from Zuccala (2006)

What if we have been thinking about entrepreneurship the wrong way? What if we temporarily suspend our thinking of it as a sub-discipline of economics or management...? (Sarasvathy and Venkataraman (2011: 114)

4. The (in)visible college(s) within the field of entrepreneurship: empirical results

4.1. Influential authors

Citations are in general taken as an observable indicator for the latent concept of “scholarly influence” or “scientific impact” (Ravallion and Wagstaff 2011).¹¹ In a rather innovative study on the distinct roles that a researcher might perform within an specialty, Zuccala and van den Besselaar (2009) recall that, although the (co)publication, (co)citation and citation profile is a key determinant of a researcher’s influence within a given specialty, other less ‘formal’, more ‘voluntary’ activities (e.g., paper refereeing, organization of conferences, chairing committees, reviewing papers and books) are also relevant to support a scientific communication system and thus reflect the ‘influence’ that scientists potentially have in their specialties. Recognizing the pertinence of the arguments put forward by Zuccala and van den Besselaar (2009), the present study considers some elements of informality associated with authors, namely qualitative information regarding their CVs (e.g., prizes awarded, editorial roles). Notwithstanding, and in line with Ravallion and Wagstaff (2011), citations are the main indicator of a researcher’s scientific influence within his/her specialty in this study. Thus, our analysis is focused on, using Zuccala and van den Besselaar’s (2009) terminology, ‘stars’ (individuals who are highly co-cited and cited frequently by other specialty members, have an established reputation within the area, are often the recipients of awards) and ‘influential’ researchers (well-published and highly-cited individuals whose works are influential to the specialty’s development).¹²

The (1414) articles published from 2005 to 2010 in each selected entrepreneurship journal include the reference (citations) to a huge amount of distinct authors. For instance, the 282 articles published in ETP include 18187 references that encompass 11526 distinct (co)authors, who on the whole receive 34552 citations (cf. Table 2). It should be noted that that our analysis, in contrast with most of the extant literature in the area of entrepreneurship based on Author Co-citation Analyses (ACA) (e.g., Cornelius et al. 2006; Reader and Watkins 2006;

¹¹ In their paper, Ravallion and Wagstaff (2011) propose and discuss a new approach that is grounded on a theoretical “influence function” representing explicit prior beliefs about how citations reflect influence.

¹² This does not, however, solve an important problem which consists in identifying the citation threshold above which the researcher is included in the category of ‘influential’ author. Acknowledging this important limitation, we decided to consider a rather conservative approach by computing top-50 most cited authors instead, as most common, top-10 (Frey 2006) or top-25 (Silva and Teixeira 2008) rankings.

Schildt et al. 2006), includes all the authors of the studies (and not only the first author) and all types of sources, not being limited to journal articles.

Table 2: Brief account on the number of distinct authors and corresponding citations in the selected journals for the period 2005-2010

	Number of distinct cited authors**	Cited authors' total citations	Number (%) top-50 cited authors [number of citation equal or above X]***	Number of citations corresponding to top-50 cited authors	% top authors' citation in total citations
Entrepreneurship and Regional Development (ERD)	8123	18140	50 (0.62) [28]	2257	12.4
Entrepreneurship Theory and Practice (ETP)*	11543	34552	50 (0.43) [61]	5353	15.5
Family Business Review (FBR)	4492	16150	50 (1.11) [36]	4273	26.5
International Small Business Journal (ISBJ)	8398	17367	53 (0.63) [22]	1927	11.1
Journal of Business Venturing (JBV)	10454	28503	52 (0.48) [46]	4213	14.8
Journal of Small Business Management (JSBM)	8831	17943	50 (0.57) [25]	1839	10.2
Small Business Economics (SBE)	10135	27947	51 (0.50) [47]	3967	14.2
All	37060	160247	50 (0.13) [218]	19065	11.9

Note: * Before 2002 this journal was called 'American Journal of Small Business'; ** given the existence of authors with the same surname but with initials that are not possible to standardize (as at times authors appear with one initial and at others with two or more initials), it is likely that some error exists in the count of distinct authors and the corresponding citations, by overcounting the number of distinct authors and undercounting each author's citations; *** In some journals instead of 50 (top) authors we have a few more as the 50th item has several authors with an equal number of citations.

Source: Author's computation based on data gathered from the Scopus database.

Based on the references taken from published papers in the period 2005-2010 in the 7 journals that frame the field of entrepreneurship (cf. Section 2), we gathered the (top 50) most cited authors in the entire area (Table 3) and in each entrepreneurship outlet (Table A3), having obtained a rather comprehensive picture of the set of influential authors in the field.

Note that the top-50 most cited authors represent a negligible percentage in the overall set of authors for each journal (well below 1% for the majority of the journals in analysis) but the corresponding citations represent, on average and for the 7 journals, 13% of the total citations, which reflects the highly skewed distribution of citations (Albarrán and Ruiz-Castillo 2011).

Considering the full set of top-50 most cited authors in each journal, a total of 197 different scholars was obtained (cf. Table 3). The bulk of these authors (67%) are among the top-50 most cited only in one single journal. One author stands at the other extreme, Shaker A. Zahra (University of Minnesota, US), who is in all the top-50 most cited rankings of the (7) journals which map the field of entrepreneurship research. Moreover, there is a restricted set of (8) authors who are among the top-cited in six journals – Danny Miller (University of Alberta and HEC Montréal, Canada), Howard E. Aldrich (University of North Carolina at Chapel Hill, US); Per Davidsson (Queensland University of Technology, Australia); Mike Wright (Nottingham University, UK); Paul Westhead (Durham Business School, UK); S. Venkataraman (University of Virginia, US); Scott A. Shane (Case Western Reserve University, US); and William B. Gartner (Clemson University, US).

Table 3: Top cited authors in entrepreneurship field

Rank	Author	#	Award**	Rank	Author	#	Award	Rank	Author	#	Award	Rank	Author	#	Award
1	Shane, S.	726	2009	42	Birley, S.	241		83	Honig, B.	151		124	Hoskisson, R.E.	123	
2	Chrisman, J.J.	675		43	Kirzner, I.M.	240	2006	84	Minniti, M.	151		125	Smallbone, D.	123	
3	Zahra, S.A.	623		44	Slevin, D.P.	239		85	Anderson, A.R.	149		126	Curran, J.	121	
4	Wright, M.	621		45	Woo, C.Y.	239		86	Hisrich, R.D.	149		127	Jack, S.L.	121	
5	Chua, J.H.	606		46	Hambrick, D.C.	237		87	Mitchell, R.K.	149		128	Jovanovic, B.	120	
6	Audretsch, D.B.	603	2001	47	Baron, R.A.	233		88	Danes, S.M.	148		129	Stevenson, H.H.	120	
7	Gartner, W.B.	594	2005	48	Ireland, R.D.	230		89	Reeb, D.M.	148		130	Uzzi, B.	120	
8	Aldrich, H.E.	543	2000	49	Jensen, M.C.	228		90	Mason, C.M.	147		131	Hart, M.M.	119	2007
9	Sharma, P.	506		50	Kuratko, D.F.	224		91	Amit, R.	146		132	Manigart, S.	119	
10	Reynolds, P.D.	493	2004	51	Astrachan, J.H.	223		92	Cohen, W.M.	146		133	Huse, M.	118	
11	Davidsson, P.	477		52	March, J.G.	218		93	Shaver, K.G.	145		134	Udell, G.F.	118	
12	Shepherd, D.A.	463		53	Steier, L.P.	217		94	Lopez-de-Silanes, F.	144		135	Carter, S.	117	
13	Westhead, P.	444		54	Granovetter, M.S.	211		95	Pfeffer, J.	144		136	Bandura, A.	116	
14	Miller, D.	442		55	Greene, P.G.	206	2007	96	Sarasvathy, S.D.	143		137	Hofstede, G.	116	
15	Thurik, A.R.	410		56	Delmar, F.	203		97	Klein, S.B.	139		138	Sirmon, D.G.	115	
16	Covin, J.G.	407		57	Smyrnios, K.X.	201		98	Litz, R.A.	139		139	Davis, J.A.	114	
17	Hitt, M.A.	401		58	Daily, C.M.	200		99	Peng, M.W.	139		140	Heck, R.K.Z.	113	
18	Venkataraman, S.	398		59	Chandler, G.N.	197		100	Rajan, R.G.	139		141	Morck, R.	113	
19	Barney, J.B.	393		60	Gompers, P.A.	186		101	Bird, B.	138		142	Bates, T.	112	
20	Eisenhardt, K.M.	376		61	Lockett, A.	183		102	Dalton, D.R.	138		143	Dyer, W.G.	112	
21	Sapienza, H.J.	374		62	Katz, J.A.	182		103	Habbershon, T.G.	138		144	George, G.	112	
22	Storey, D.J.	373	1998	63	Schulze, W.S.	182		104	Deeds, D.L.	137		145	Harrison, R.T.	112	
23	Macmillan, I.C.	362	1999	64	Burt, R.S.	181		105	Kogut, B.	137		146	Donaldson, L.	111	
24	Lubatkin, M.H.	351		65	Powell, W.W.	181		106	Lansberg, I.	133		147	Penrose, E.T.	110	
25	Busenitz, L.W.	346		66	Ward, J.L.	180		107	Teece, D.J.	133		148	Portes, A.	110	
26	Cooper, A.C.	343	1997	67	Vishny, R.W.	175		108	Berger, A.N.	132		149	Chell, E.	108	
27	Autio, E.	332		68	McGrath, R.G.	173		109	Baumol, W.J.	131	2003	150	Wennekers, S.	107	
28	Shleifer, A.	327		69	Ram, M.	173		110	Weick, K.E.	131		151	Anderson, R.C.	106	
29	McDougall, P.P.	325		70	Levinthal, D.A.	171		111	Gatewood, E.J.	130	2007	152	Locke, E.A.	106	
30	Brush, C.G.	312	2007	71	Williams, M.L.	171		112	Fritsch, M.	129		153	Morris, M.H.	106	
31	Lumpkin, G.T.	309		72	Evans, D.S.	169		113	Ghoshal, S.	129		154	Hoang, H.	105	
32	Porter, M.E.	309		73	Zacharakis, A.	169		114	Hay, M.	129		155	Nelson, R.R.	104	
33	Bygrave, W.D.	303		74	Williamson, O.E.	165		115	Folta, T.B.	128		156	Handler, W.C.	103	
34	Dess, G.G.	300		75	Hannan, M.T.	162		116	Sexton, D.L.	128		157	Kolvereid, L.	103	
35	Carter, N.M.	286	2007	76	Oviatt, B.M.	162		117	Bruton, G.D.	127		158	Stafford, K.	103	
36	Wiklund, J.	285		77	Gulati, R.	158		118	Podsakoff, P.M.	127		159	Johanson, J.	102	
37	Acs, Z.J.	277	2001	78	Stuart, T.E.	157		119	Fama, E.F.	125		160	Mintzberg, H.	102	
38	Schumpeter, J.A.	274		79	Gimeno-Gascon, F.J.	155		120	Kellermanns, F.W.	124		161	Salvato, C.	102	
39	Lerner, J.	252	2010	80	Le Breton-Miller, I.	155		121	Krueger, N.F.	124		162	Smith, K.G.	101	
40	Dino, R.N.	245		81	van Stel, A.J.	155		122	La Porta, R.	124		163	Robbie, K.	100	
41	Johannisson, B.	245	2008	82	Ucbasaran, D.	153		123	Simon, H.A.	124					

Note: * Citations obtained by summing all the author's citations in the 7 journals [in total we have 37060 distinct authors who received 160247 citations – about 60% of the authors received only 1 citation whereas 163 authors, who represent 0.44% of the total authors, were cited 100 or more times, covering 21.6% of the total citations]; **Global Award for Entrepreneurship Research (in <http://www.e-award.org/web/Hem.aspx>, accessed in April 2011); Dark grey area represents the top-50 most cited authors in entrepreneurship (excludes retired/deceased, identified by dark cells); Light grey area represents all the authors that form the (in)visible college of entrepreneurship.

Source: Author's computation based on data gathered from the Scopus database.

Interestingly, five of these top-cited authors do not show up among the top 50 of FBR – Davidsson, Wright, Westhead, Venkataraman, and Gartner. Miller and Aldrich do not appear in the top 50 of SBE and Shane in ISBJ's top-50 ranking, which may indicate a certain degree of specificity (within the entrepreneurship field) of the topics focused on in these outlets.

Taking into account the overall citation figures and the definition (following that of Price's (1986)) proposed in Zuccala and van den Besselaar (2009: 112) for an invisible college as a "communication system compris[ing] of approximately 80 to 100 scientists who are part of the social 'in-group' of a subject specialty", we could, at first glance, speculate that the 'global' invisible college of the entrepreneurship specialty may encompass from 50 ('stars' and 'influential') up to 99 (reasonably influential, including some 'stars') researchers (cf. dark and light grey cells of Table 3).¹³

Among these 99 authors, 17 were awarded the *Global Award for Entrepreneurship Research*: Josh Lerner (2010), Scott Shane (2009), Bengt Johannisson (2008), Candida G. Brush, Nancy M. Carter, Elizabeth J. Gatewood, Patricia G. Greene (Diana Project, 2007), Israel M. Kirzner (2006), William Gartner (2005), Paul D. Reynolds (2004), William J. Baumol (2003), Zoltan J. Acs and David B. Audretsch (2001), Howard E. Aldrich (2000), Ian C. MacMillan (1999), David J. Storey (1998), and Arnold C. Cooper (1997).¹⁴

Apart from theses, the top-10 most cited authors who achieved about 500 or more citations for the full set of journals framing entrepreneurship in the period under analysis (2005-2010), can be classified as 'stars', in the wording of Zuccala and van den Besselaar (2009). Scott Shane and Shaker Zahra have contributed decisively to the conceptualization of the entrepreneurial process (Theory building) (Cornelius et al. 2006), the former as editor of the R&D, Innovation, and Entrepreneurship Division of Management Science and member of the Editorial Board of SBE, and the latter serving on the Editorial Board of FBR and Board of Review of JBV and JSBM.¹⁵ James Chrisman (Mississippi State University, US), Jess H.

¹³ We excluded from this figure the authors in Table 3 who have died or retired/are not active in the field (e.g., Schumpeter, Cooper, Birley, Kirzner) and those who are highly-cited but are not from the area, i.e., 'outsiders' (e.g., Porter, Lerner, March, Granovetter, Williamson, Teece).

¹⁴ Since its inception, in 1996, the *Global Award for Entrepreneurship Research* (before 2009, *International Award for Entrepreneurship and Small Business Research*) has become firmly established as the foremost global award for research on entrepreneurship (Henrekson and Lundström 2009). According to Henrekson and Lundström (2009: 11), "a prize-worthy contribution needs to be original and influential ... a contribution is influential, notably through its impact on subsequent scientific work ..., by furthering entrepreneurship as a field ..., by furthering entrepreneurship education and training at the academic level, and by influencing policy-making and society more broadly."

¹⁵ Shaker Zahra has received several awards for his excellent service and teaching, including the Best teacher in the MBA and the Mentor Award from the Entrepreneurship Division, the Academy of Management.

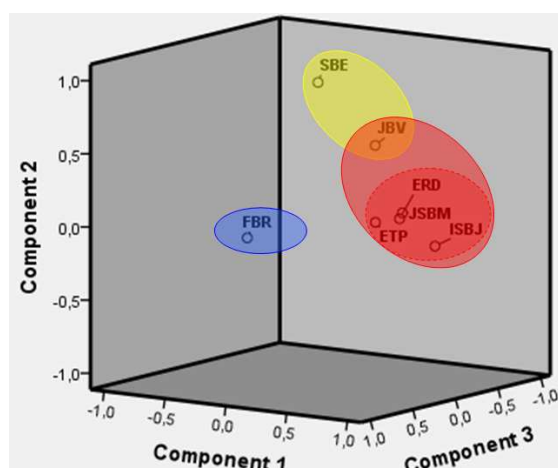
Chua (University of Calgary, Canada), and Pramodita Sharma (Concordia University, Canada) form a closely-knit group of researchers on corporate entrepreneurship and venturing associated more specifically to family businesses whose influence within the field of entrepreneurship is paramount - Chrisman is senior editor of ETP (was editor between 2003 and 2011) and field editor of JBV, Chua is the editor of ETP and Sharma the editor of FBR. Mike Wright, former editor of ETP and joint editor of *Journal of Management Studies*, also conducts research in corporate entrepreneurship and venturing. An analysis of the entrepreneurial networks and resource accumulation and the characteristics of entrepreneurs link another three 'stars': Aldrich, Paul Reynolds (George Mason University, US) and Gartner. The latter two were co-founders of the Entrepreneurship Research Consortium, which initiated, developed and managed the Panel Study of Entrepreneurial Dynamics (PSED), with Reynolds as the founding coordinator of the Global Entrepreneurship Monitor research program.¹⁶ Aldrich is the editor-in-chief of Entrepreneurship Research Journal. Finally, David B. Audretsch (Indiana University, US), more focused on the societal consequences of entrepreneurship, namely issues related with innovation and regional policy, is co-editor and founder of SBE.¹⁷

Assuming that the similarity of ranks among the top-cited authors for each journal may reveal some (hidden) common characteristics in terms of their scientific intellectual structures, factor analysis was applied to the ranks of the 197 top-cited authors by journal to examine whether the selected journals are linearly related to a smaller number of unobservable factors.

The output of the factor analysis reveals that the selected journals form 3 distinct groups (cf. Figure 4): the largest one, including the journals EDR, ETP, JSBM and ISBJ, a second one with SBE and JBV (this journal also loads fairly in the first component, which may reflect its wider/more diversified focus), and a third comprising only FBR. Such evidence suggests that although the field of entrepreneurship seems to constitute a cohesive (in)visible college, as a reasonable number of scholars achieve high citation rates in the majority of the journals mapping entrepreneurship, there are some signs of fragmentation and specialization which could mean that such a college encompasses a few emergent subject specialties, namely those related with family businesses (FBR) and innovation, technology and policy (SBE and JBV).

¹⁶ William Gartner also serves on the Board of Review of JBV and JSBM.

¹⁷ He is also Associate Editor of The Annals of Regional Science, Journal of Policy Analysis and Management, International Journal of Technology Transfer and Commercialisation, International Journal of Biotechnology, and International Journal of Industrial Organization.



Factor analysis output - Rotated Component Matrix

	Component 1	Component 2	Component 3
ISBJ	0.769	-0.137	-0.247
JSBM	0.750	0.139	0.109
ETP	0.730	0.115	0.396
ERD	0.701	0.089	0.072
JBV	0.564	0.590	0.162
SBE	-0.031	0.934	-0.017
FBR	0.061	0.020	0.945
% variance explained	35.7	18.3	16.5

N=197 authors; Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization.

Figure 4: Similarities among the selected set of entrepreneurship journals with regard to influential authors

Note: The rankings of all (197) top-50 most cited authors of each selected journal were gathered and then a factor analysis on these journals' author rankings was computed.

Legend: ERD - Entrepreneurship and Regional Development; ETP - Entrepreneurship Theory and Practice; FBR - Family Business Review; ISBJ - International Small Business Journal; JBV - Journal of Business Venturing; JSBM - Journal of Small Business Management; SBE - Small Business Economics.

Source: Author's computation.

4.2. Subject specialty

Citing patterns are produced by a collective of authors publishing in a certain source (e.g., journals, books, reports) in a given year (Vieira and Teixeira 2010). These patterns reveal how this community perceives its relevant environments at the time (Borgman and Furner 2002). Bibliometric or scientometric studies show that researchers involved in invisible college networks typically carry out research within a subject specialty or field (Zuccala 2006). 'Fields' may be defined at various levels, from small research fronts to broad academic disciplines (Zitt 2006). The delimitations of scholarly fields are a fairly popular subject within scientometrics (Vieira and Teixeira 2010), and a vast amount of high-quality literature has been dedicated to it (e.g., Leydesdorff 2002, 2004, 2008; Leydesdorff and Cozzens 1993; Leydesdorff and Zhou 2007).

The present study seeks to delimit the field of 'entrepreneurship' based on van den Besselaar and Leydesdorff's (1996) aggregate journal-journal citation method. However, conducting citation studies at the disciplinary level overlooks a considerable degree of heterogeneity underlying every subject (Rigney and Barnes 1980; Clements and Wang 2003; Waller 2006). Most specialties are made up of subtopic areas with authors clustered together according to shared research interests (e.g., Raeder and Watkins 2006; Shildt et al. 2006; Zuccala 2006).

Thus, after having delimited entrepreneurship to a set of seven journals (cf. Section 3.1), the first step consisted in analyzing the journals' intellectual basis, in other words, which are the most important sources that they have relied upon (i.e., the most highly-cited sources). Then,

in a second step, we assessed the extent to which each of these journals share commonalities in terms of their intellectual basis by classifying for each journal its top-50 cited sources in terms of ISI-based scientific areas,¹⁸ and statistically determining (through factor analysis) how similar the distribution of the sources' rankings are among the journals.

Although for the global set of journals in analysis the bulk of sources cited (around $\frac{3}{4}$, if we exclude FBR) are books, reports and other non-published material, the weight of citations associated to journal articles amounts to more than 70% of the corresponding total (cf. Table 4). There is a slight variation among the journals as to the weight that journal articles possess in terms of citations, with EDR and ISBJ presenting a smaller weight (61% and 68%, respectively) and FBR the highest (85%).

The top-50 cited sources represent overall about 50% of the total citations (varying from a minimum of 40% in ERD to a maximum of 70% in FBR). Similarly to the top-50 most cited authors, but in a significantly more pronounced way, this reveals a rather skewed distribution of sources citations with less than 2% of the sources being responsible for about 50% of total citations.

Table 4: Brief account on the number of distinct sources and corresponding citations in the selected journals for the period 2005-2010

	Number of distinct cited sources [% journals]	Cited sources' total citations [% journals]	Number (%) top-50 cited sources [number of citations equal or above X]**	Number of citations corresponding to top-50 cited sources	% top sources' citation in total citations
Entrepreneurship and Regional Development (ERD)	3904 [24.1]	9961 [61.3]	52 (1.3) [19]	3978	39.9
Entrepreneurship Theory and Practice (ETP)*	4793 [22.7]	18187 [70.6]	50 (1.0) [33]	9907	54.5
Family Business Review (FBR)	511 [43.1]	1642 [84.7]	56 (10.0) [4]	1149	70.0
International Small Business Journal (ISBJ)	3300 [30.4]	9361 [67.6]	50 (1.5) [23]	3988	42.6
Journal of Business Venturing (JBV)	4010 [26.0]	15266 [73.2]	50 (1.2) [31]	8478	55.5
Journal of Small Business Management (JSBM)	2114 [25.6]	7607 [71.4]	51 (2.5) [18]	4087	53.7
Small Business Economics (SBE)	1350 [29.4]	4150 [70.7]	50 (3.7) [13]	2051	49.4

Note: * Before 2002 this journal was called 'American Journal of Small Business'; ** In some journals instead of 50 (top) sources we have a few more as the 50th item has several sources with an equal number of citations.

Source: Author's computation based on data gathered from Scopus database.

The consideration of all top-50 most cited sources in entrepreneurship yields a total of 130 distinct sources (cf. Table 5). The most-widely cited source is JBV with over 4 thousand citations in the period considered (2005-2010). ETP follows with about 3 thousand citations.

¹⁸ Using the ISI classification of scientific areas, demarking from the Business and Management (B&M) the specialty of Entrepreneurship (ENT), we considered 8 distinct 'specialties' or research subjects: Entrepreneurship (ENT), Business and Management (B&M), Economics (ECO), Sociology (SOC), Psychology (PSY), Finance (FIN), Planning and Development (P&D), and Labour and Education (L&E). It is important to note that Business and Management (B&M) includes Innovation, Marketing and Organization fields of research, whereas Accounting is included in Finance (FIN).

Few non-journal sources appear on the list, most notably the ‘Frontiers of Entrepreneurship Research’ series (Rank 24 with 364 citations), and the proceedings from the Babson College Entrepreneurship Research Conference, one of the most prestigious and competitive conferences in the field (Grégoire et al. 2006). Table A4 (in the Appendix) lists all the top-50 most cited sources for each journal ordered by number of citations. There are 17 journals that are common to the 7 journals which map the intellectual boundaries of the entrepreneurship field: 5 belong to the subject specialty of entrepreneurship (ERD, ETP, JBV, JSBM, SBE),¹⁹ 9 to management/business and organization (in decreasing order of citations: *Strategic Management Journal*, *Academy of Management Review*, *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Management*, *Organization Science*, *Management Science*, *Journal of Management Studies*, and *Harvard Business Review*), 2 from Sociology (*American Journal of Sociology* and *American Sociological Review*), and 1 from Economics (*American Economic Review*).

Table 5: Top cited sources in entrepreneurship field

Global Rank	Source	No. of citations	No. of journals	Global Rank	Source	No. of citations	No. of journals
1	Journal of Business Venturing	4104	7	66	World Development	50	1
2	Entrepreneurship Theory and Practice	2913	7	67	Journal of Industrial Economics	49	1
3	Strategic Management Journal	2579	7	68	Organizational Behavior and Human Decision Processes	48	1
4	Academy of Management Review	2080	7	69	Financial Management	47	2
5	Academy of Management Journal	1852	7	70	Urban Studies	44	1
6	Administrative Science Quarterly	1325	7	71	British Journal of Management	41	1
7	Journal of Small Business Management	1118	7	72	Cambridge Journal of Economics	39	1
8	Small Business Economics	1066	7	73	Global Entrepreneurship Monitor	39	1
9	Family Business Review	960	6	74	Journal of Economic Geography	39	1
10	Entrepreneurship and Regional Development	917	7	75	Journal of Accounting and Economics	35	1
11	Journal of Management	907	7	76	Economic Geography	34	1
12	International Small Business Journal	877	6	77	Education & Training	34	1
13	Organization Science	789	7	78	The New Institutionalism in Organisational Analysis	33	1
14	Journal of Finance	635	6	79	The Theory of Economic Development	33	1
15	Management Science	635	7	80	Industrial Marketing Management	32	1
16	Journal of Management Studies	516	7	81	Technology Analysis & Strategic Management	30	1
17	Harvard Business Review	504	7	82	Long Range Planning	29	1
18	Research Policy	495	6	83	Review of Economics and Statistics	29	1
19	Journal of Financial Economics	491	6	84	Environment and Planning C: Government and Policy	28	1
20	Journal of International Business Studies	489	6	85	International Journal of Industrial Organization	28	1

¹⁹ The other two core entrepreneurship journals, FBR and ISBJ, appear in all but one (SBE) of the seven journals.

(...)

Global Rank	Source	No. of citations	No. of journals	Global Rank	Source	No. of citations	No. of journals
21	American Journal of Sociology	464	7	86	Environment and Planning A	27	1
22	American Economic Review	438	7	87	Journal of Accounting Research	27	1
23	American Sociological Review	378	7	88	Accounting Review	26	1
24	Frontiers of Entrepreneurship Research	364	5	89	Journal of Evolutionary Economics	26	1
25	Journal of Marketing	347	5	90	Work, Employment and Society	26	1
26	Journal of Applied Psychology	346	5	91	Review of Economic Studies	25	1
27	Journal of Political Economy	279	5	92	Understanding the Small Business Sector	25	1
28	Regional Studies	279	4	93	Journal of World Business	24	1
29	Organization Studies	229	6	94	R&D Management	24	1
30	California Management Review	228	6	95	European Urban and Regional Studies	23	1
31	Quarterly Journal of Economics	211	5	96	International Studies of Management and Organization	23	1
32	Journal of Marketing Research	208	4	97	Journal of Retailing	23	1
33	Academy of Management Executive	189	4	98	Management Learning	23	1
34	Journal of Personality and Social Psychology	168	2	99	Personnel Psychology	23	1
35	Venture Capital: An International Journal of Entrepreneurial Finance	158	3	100	European Economic Review	22	1
36	Journal of Business Research	147	5	101	Journal of Labor Economics	22	1
37	Technovation	135	3	102	Journal of Financial Intermediation	21	2
38	Journal of Law and Economics	134	5	103	Economic Development Quarterly	19	1
39	Psychological Bulletin	128	4	104	International Journal of Urban and Regional Research	19	1
40	Journal of Small Business and Enterprise Development	125	4	105	Progress in Human Geography	19	1
41	Journal of Banking and Finance	119	4	106	Journal of Business	18	1
42	Advances in Entrepreneurship, Firm Emergence and Growth	107	2	107	Journal of Corporate Finance	18	1
43	Journal of Business Ethics	103	3	108	Journal of Human Resources	18	1
44	Econometrica	94	3	109	Journal of Marketing Theory and Practice	18	1
45	Industrial and Corporate Change	90	3	110	Journal of Money	18	1
46	Journal of International Marketing	89	3	111	Management International Review	18	1
47	Annual Review of Sociology	86	3	112	Economics of Innovation and New Technology	17	1
48	Economic Journal	86	2	113	International Entrepreneurship and Management Journal	17	1
49	International Journal of Entrepreneurial Behavior and Research	83	2	114	Journal of Development Economics	17	1
50	International Marketing Review	81	3	115	Review of Industrial Organization	17	1
51	Journal of Developmental Entrepreneurship	78	2	116	Applied Economics	14	1
52	European Planning Studies	76	1	117	Journal of Econometrics	14	1
53	Human Relations	75	2	118	Corporate Governance: An International Review	13	1
54	Journal of Product Innovation Management	75	3	119	Journal of Economic Behavior and Organization	13	1
55	Research in Organization Behavior	74	2	120	The Sage Handbook of Organizational Institutionalism	8	1
56	Handbook of Organization	68	2	121	Contemporary Accounting Research	7	1
57	Sloan Management Review	67	2	122	International Journal of the Economics of Business	6	1

(...)

Global Rank	Source	No. of citations	No. of journals	Global Rank	Source	No. of citations	No. of journals
58	Journal of Organizational Behavior	65	2	123	Industrial Relations	5	1
59	Asia Pacific Journal of Management	64	1	124	Journal of Financial and Quantitative Analysis	5	1
60	Journal of Economic Literature	63	2	125	Organizational Research Methods	5	1
61	Journal of the Academy of Marketing Science	63	2	126	Accounting Horizons	4	1
62	International Business Review	62	2	127	Accounting, Organizations and Society	4	1
63	Organizational Dynamics	60	3	128	Auditing: A Journal of Practice & Theory	4	1
64	European Journal of Marketing	59	2	129	Industrial and Labor Relations Review	4	1
65	Rand Journal of Economics	50	2	130	Journal of Business Finance and Accounting	4	1

Note: From the papers published in each selected journal, in the period 2005-2010, the corresponding references/citations (approximately 85 thousand citations) were gathered from the Scopus database. These references were treated separately for each of the 7 journals, – in a first stage these references were harmonized, namely regarding sources' titles; then, in a second stage, we calculated the number of times each source title appeared and thus obtained the respective citations. Journals represent around ¼ of all sources with a corresponding citation share of 72%. The present table was computed from the summing up of the top-50 source titles in each of the 7 journals – it resulted in 130 distinct source titles encompassing 5381 citations (approximately 6% of the total citations).

Source: Author's computation based on data gathered from the Scopus database.

Looking separately at the 7 journals under analysis, it is apparent that the understanding of issues related to entrepreneurship requires insights from several disciplines, beside Entrepreneurship in itself, namely, Business and Management, Economics, Finance, Sociology, Psychology, Planning and Development, and Labour and Education. This evidence reinforces the factor analysis conducted in Section 2 to delimit the field of entrepreneurship where hidden factors related to Management, Business, Economics, Technology, Policy, Sociology and Psychology emerged (see Summary Table A2 in the Appendix).

The dependence on a diversity of specialties is a common feature among all the journals dedicated to entrepreneurship (cf. Figure 5), a feature that been substantially highlighted in past studies on entrepreneurship (e.g., Grégoire et al. 2006; Braunerhjelm and Henrekson 2009; Meyer 2011). Although the intellectual roots and structure of entrepreneurship research continues to reveal a large 'dependence' on well-established fields of research, namely Business and Management, and (to a lesser extent) on Economics (in the case of SBE), the strong reliance of recently published papers on sources coming from entrepreneurship is undeniable. This seems to reflect a growing tendency for this research area to become more than a mere sub-discipline of management or economics (Sarasvathy and Venkataraman 2011), broadening its legitimacy as a valid academic research area (Cooper 2003; Venkataraman 1997) with a growing number of researchers dedicated to entrepreneurship as a core research field (Alvarez et al. 2010).

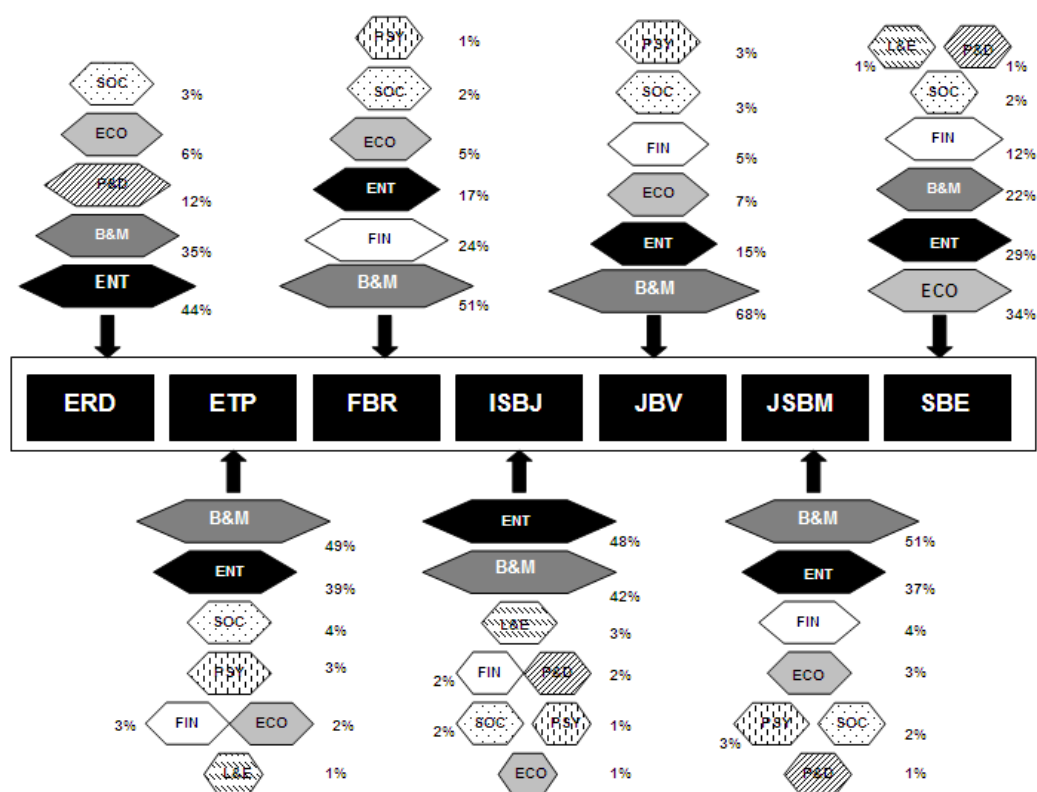
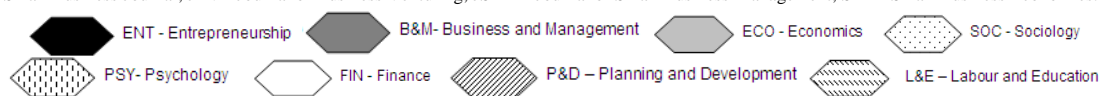


Figure 5: Figure 5: Intellectual roots of entrepreneurship journals with regard to sources

Note: For each selected journal the top-50 most cited sources were computed and then classified into 'specialties' using the ISI scientific areas.
 Legend: ERD - Entrepreneurship and Regional Development; ETP - Entrepreneurship Theory and Practice; FBR - Family Business Review; ISBJ - International Small Business Journal; JBV - Journal of Business Venturing; JSBM - Journal of Small Business Management; SBE - Small Business Economics.



Source: Author's computation based on data from Table A5 in the Appendix.

Indeed, comparing this evidence on the intellectual roots of entrepreneurship with similar, earlier studies (e.g., Cornelius et al. 2006, Grégoire et al. 2006, Schildt et al. 2006), we could argue that entrepreneurship researchers are becoming increasingly better interconnected as they are “actively engage[d] in the creation of a systematic body of information” (Gartner 2001: 35). Thus, as Venkataraman (1997: 120, emphasis added) states, even though entrepreneurship scholars approach the subject from different (multidisciplinary) perspectives, “what unites [them] as a *distinct, although invisible, college* is a concern with central issues [understanding how, in the absence of current markets for future goods and services, these have managed to come into existence]”.

Notwithstanding the common feature highlighted above, the different journals framing the field of entrepreneurship differ somewhat with regard to the relative weights of the Entrepreneurship, Business and Management, and Economics subject specialties. For instance, ERD and ISBJ's 'core' subject specialty relies on 'Entrepreneurship' (with almost half of the references cited in the published papers from this area), followed closely by 'Business and Management'. However, ERD is relatively less multidisciplinary than ISBJ, presenting a

higher incidence of the Planning and Development and Economics subject specialties. Economics is also important in SBE, although in this case, the weight among Economics (34%), Entrepreneurship (29%), and Business and Management (22%) is not markedly dissimilar. In contrast, scholars publishing in JBV, FBR, JSBM and ETP have relied heavily on the Business and Management field (which includes innovation, marketing and organizational specialties). This reliance is particularly strong in the case of JBV and FBR. The latter journal presents a markedly distinct intellectual pattern from the others, considering its Finance and Accounting roots emerge as clearly predominant (24% of the references cited in the papers published in FBR between 2005 and 2010 are from Finance and Accounting, which stand in sheer contrast with the corresponding weight in the other journals – 4%, on average).²⁰

Such an apparent fragmentation among the journals covering entrepreneurship research suggests a certain degree of specialization that is emerging naturally in a (increasingly) mature field (Gartner et al. 2006).

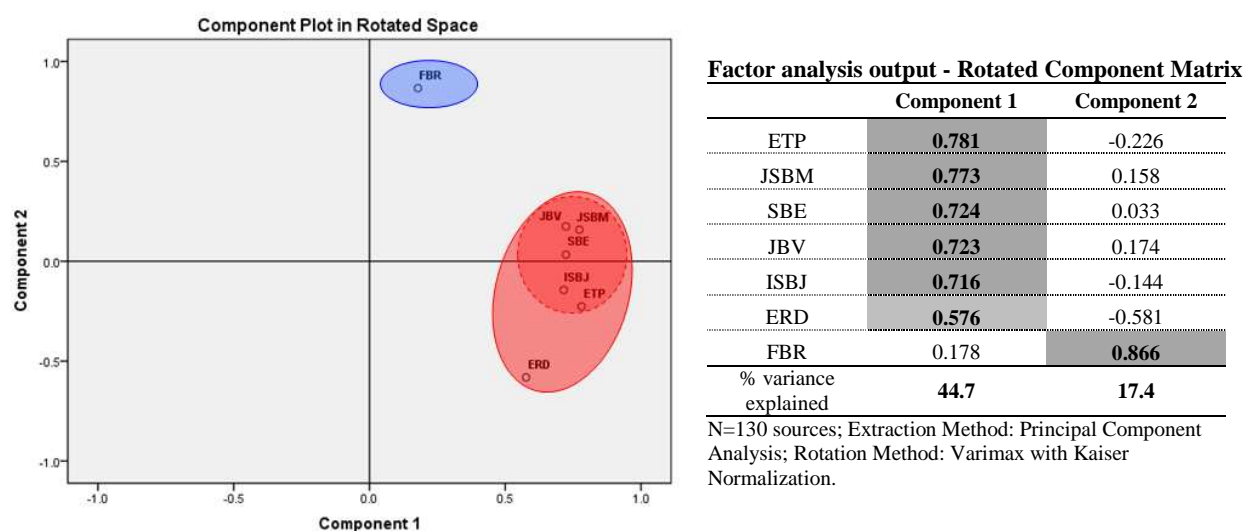


Figure 6: Similarities among the selected set of entrepreneurship journals with regard to sources

Note: The rankings of all (130) top-50 most cited sources of each selected journal were gathered and a factor analysis on the journals' sources rankings was computed.

Legend: ERD - Entrepreneurship and Regional Development; ETP - Entrepreneurship Theory and Practice; FBR - Family Business Review; ISBJ - International Small Business Journal; JBV - Journal of Business Venturing; JSBM - Journal of Small Business Management; SBE - Small Business Economics.

Source: Author's computation.

Again, assuming that the similarity among the ranks of top-cited sources for each journal can reveal some (hidden) common characteristics in terms of their scientific intellectual structures, factor analysis was applied to the ranks of the 130 top-cited sources by journal. The output of the factor analysis (cf. Figure 6) reveals that the selected journals form 2

²⁰ In order to maintain the number of topic categories low, we included the Accounting-related sources that appear in FBR under the label 'Finance'.

distinct groups: the largest one, covering the journals ETP, JBV, ISBJ, JSBM, SBE, and ERD (this journal with a quite smaller loading), and a second comprising only FBR. Factor analysis also demonstrates that FBR and ERD stand in rather contrasting positions in terms of intellectual roots, with the former relying more on Business & Management and Finance and the latter on Entrepreneurship and Planning & Development.

The analysis of top-cited studies sheds further light on the subject specialty of the (in)visible college, which enables a better understanding of the consolidation of a scientific area (Casillas and Acedo 2007).

The 85 thousand references included in the database correspond to a total of approximately 60 thousand different studies, of which a very small fraction (around 17%) is cited more than once, ranging from the lowest (14.1%) in ERD and JSBM to the highest (23.3%) in ETP (cf. Table 6). The top-25 most cited studies in each of the 7 journals considered involve a rather low citation threshold (the last study in the top-25 of ERD was cited only 9 times), reflecting huge dispersion within the literature and, based on the articles published in those journals, a low level of consensus emerges regarding what comprises seminal contributions in a certain domain (Casillas and Acedo 2007). This lack of consensus is more pronounced in ERD, ISBJ, JSBM and less so in ETP.

Table 6: Brief account on the number of distinct studies and corresponding citations in the selected journals for the period 2005-2010

	Number of distinct studies	Number of total citations	Top-25 most cited studies			Studies that received more than 1 citation		
			Number (% total studies)	% total citations	Citation threshold **	Number	% total studies	% total citations
Entrepreneurship and Regional Development (ERD)	8086	10325	25 (0.31)	3.2	9	1143	14.1	32.6
Entrepreneurship Theory and Practice (ETP)*	11400	18577	27 (0.24)	3.7	20	2652	23.3	52.9
Family Business Review (FBR)	3893	6165	30 (0.77)	9.4	14	780	20.0	49.4
International Small Business Journal (ISBJ)	7531	9570	28 (0.37)	3.4	8	1129	15.0	33.1
Journal of Business Venturing (JBV)	10400	15507	30 (0.29)	4.1	13	2106	20.3	46.5
Journal of Small Business Management (JSBM)	7755	9761	35 (0.45)	3.9	8	1091	14.1	31.7
Small Business Economics (SBE)	11481	15548	25 (0.22)	3.1	14	1666	14.5	36.9

Note: * Before 2002 this journal was called 'American Journal of Small Business'; ** number of citation equal or above X (In some journals instead of 25 (top) studies we have a few more, as the 25th item has several studies with an equal number of citations).

Sources: Author's computation based on data gathered from Scopus database.

Despite the low rate of recurrence of cited studies in each of the journals (see Table A5 in the Appendix), when we rank the studies for the whole set of journals (cf. Table 7), some works show an extremely high level of influence on more recent entrepreneurship-oriented research. Three studies achieve here the status of 'citation classics', i.e., have gathered over 100

citations (Gartner et al. 2006): Shane and Venkataraman's seminal article, published in *Academy of Management Review* in 2000 ("The promise of entrepreneurship as a field of research"); Schumpeter's classical *The Theory of Economic Development*, and Barney's (1991) article "Firm resources and sustained competitive advantage" published in *Journal of Management*. Shane and Venkataraman's study is an agenda-setting article (Wiklund et al. 2011), and is, at present, by far the most highly-cited article of the decade in *Academy of Management Review*.

The corpus of key references from which entrepreneurship scholars have drawn inspiration seems to be increasing in size. As Grégoire et al. (2006) documented throughout much of the 1980s and 1990s, the most-cited theoretical anchors tended to lie outside of entrepreneurship research, positioned primarily in social psychology or strategic management publications. It is apparent in Table 7 that for the most recent period (2005-2010), approximately half of the most-cited studies were authored by scholars specifically associated with the field of entrepreneurship (e.g., Baron, Chrisman, Chua, Cooper, Covin, Davidsson, Eisenhardt, Lumpkin, Kirzner, Miller, Shane, Storey, Venkataraman). Additionally, although management outlets continue to constitute a core anchor in the field of entrepreneurship, a significant proportion (33%) of these frequently-cited conceptual anchors were published in entrepreneurship-specific journals, most notably ETP and JBV, as opposed to disciplinary-based publications in economics, psychology, or sociology. Such evidence suggests that the entrepreneurship (in)visible college is a reality with a core of entrepreneurship authors actively engaged in the creation of a systematic body of information (Gartner 2001).

Table 7: Top cited studies in the entrepreneurship field

Rank	Study	Type	N° of distinct journals	Total citations
1	Shane, S., Venkataraman, S. 2000. The promise of entrepreneurship as a field of research. <i>Academy of Management Review</i> , 25 (1), pp. 217-226	J	6	171
2	Schumpeter, J. 1934. <i>The Theory of Economic Development</i> . Boston, MA: Harvard University Press	B	6	124
3	Barney, J.B. 1991. Firm resources and sustained competitive advantage. <i>Journal of Management</i> , 11, pp. 791-800	J	6	123
4	Jensen, M.C., Meckling, M.C. 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure. <i>Journal of Financial Economics</i> , 3, pp. 305-360	J	5	98
5	Penrose, E. 1959. <i>The Theory of Growth of the Firm</i> . New York: Wiley	B	7	98
6	Granovetter, M. 1985. Economic action and social culture: The problem of embeddedness. <i>American Journal of Sociology</i> , 91 (3), pp. 481-510	J	5	89
7	Cohen, W.M., Levinthal, D.A. 1990. Absorptive capacity: A new perspective on learning and innovation. <i>Administrative Science Quarterly</i> , 35 (1), pp. 128-152	J	6	88
8	Storey, D. 1994. <i>Understanding the Small Business Sector</i> . London: Routledge	B	5	85
9	Davidsson, P., Honig, B. 2003. The role of human and social capital among nascent entrepreneurs. <i>Journal of Business Venturing</i> , 18 (3), pp. 301-331	J	5	81
10	Shane, S. 2000. Prior knowledge and discovery of entrepreneurial opportunities. <i>Organization Science</i> , 11, pp. 448-469	J	5	77

(...)

Rank	Study	Type	N° of distinct journals	Total citations
11	Lumpkin, G.T., Dess, G. 1996. Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance. <i>Academy of Management Review</i> , 21 (1), pp. 135-172	J	4	67
12	Venkataraman, N. 1997. The distinctive domain of entrepreneurship research. <i>Advances in entrepreneurship, organization emergence, and growth</i> , pp. 119-138. , Katz J. Ed., Greenwich, CT, JAI Press	B	5	67
13	Schulze, W., Lubatkin, M.H., Dino, R.N., Buchholtz, A.K. 2001. Agency relationships in family firms: Theory and evidence. <i>Organization Science</i> , 12 (2), pp. 99-116	J	3	65
14	Burt, R. 1992. <i>Structural Holes, The Social Structure of Competition</i> . Cambridge: Harvard University Press	B	4	59
15	Eisenhardt, K. 1989. Building theories from case study research. <i>Academy of Management Review</i> , 14 (4), pp. 488-511	J	4	59
16	Gersick, K., Davis, J., Hampton, M., Lansberg, I. 1997. <i>Generation to Generation</i> . Boston, MA: Harvard Business School Press	B	3	59
17	Chua, J.H., Chrisman, J.J., Sharma, P. 1999. Defining family business by behavior. <i>Entrepreneurship Theory and Practice</i> , 23 (4), pp. 19-40	J	3	53
18	Pfeffer, J., Salancik, C.R. 1978. <i>The External Control Of Organizations: A Resource Dependence Perspective</i> . Harper and Row, New York	B	3	53
19	Gimeno, J., Folta, T., Cooper, A., Woo, C. 1997. Survival of the fittest: Entrepreneurial human capital and the persistence of underperforming firms. <i>Administrative Science Quarterly</i> , 42, pp. 750-783	J	3	52
20	Granovetter, M. 1973. The strength of weak ties. <i>American Journal of Sociology</i> , 6, pp. 1360-1380	J	3	48
21	Miller, D. 1983. The correlates of entrepreneurship in three types of firms. <i>Management Science</i> , 29 (7), pp. 770-791	J	4	46
22	Schumpeter, J. 1942. <i>Capitalism, Socialism and Democracy</i> . New York: Harper	B	4	46
23	Sirmon, D., Hitt, M. 2003. Managing resources: Linking unique resource management and wealth creation in family firms. <i>Entrepreneurship Theory and Practice</i> , 27 (4), pp. 339-358	J	2	46
24	Nahapiet, J., Goshal, S. 1998. Social Capital, Intellectual Capital, and the Organisational Advantage. <i>Academy of Management Review</i> , 23 (2), pp. 242-266	J	3	45
25	Kirzner, I. 1973. <i>Competition and Entrepreneurship</i> . Chicago, IL: Chicago University Press	B	3	44
26	Stinchcombe, A. 1965. Organizations and social structure. <i>Handbook of Organizations</i> , pp. 142-193. , Ed. J. G. March. Chicago, IL: Rand McNally	B	2	44
27	Birley, S. 1985. The role of networks in the entrepreneurial process (1985) <i>Journal of Business Venturing</i> , 1 (1), pp. 107-117	J	4	43
28	Habbershon, T., Williams, M., A resource-based framework for assessing the strategic advantages of family firms (1999) <i>Family Business Review</i> , 12, pp. 1-25	J	2	42
29	Porter, M., (1980) <i>Competitive Advantage</i> , , New York, Free Press	B	3	40
30	Anderson, R., Reeb, D., Founding family ownership and firm performance evidence from the S&P 500 (2003) <i>Journal of Finance</i> , 58 (3), pp. 1301-1328	J	1	39
31	Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y., Initial human and financial capital as predictors of new firm performance (1994) <i>Journal of Business Venturing</i> , 9 (5), pp. 371-395	J	3	38
32	Evans, D., Jovanovic, B., An estimated model of entrepreneurial choice under liquidity constraint (1989) <i>Journal of Political Economy</i> , 97 (4), pp. 808-827	J	2	38
33	Jovanovic, B., Selection and evolution of industry (1982) <i>Econometrica</i> , 50 (3), pp. 649-670	J	1	38
34	Coleman, J., Social capital in the creation of human capital (1988) <i>American Journal of Sociology</i> , 94 (SUPPL.), pp. S95-120	J	3	37
35	Habbershon, T., Williams, M., MacMillan, I., A unified systems perspective of family firm performance (2003) <i>Journal of Business Venturing</i> , 18, pp. 451-465	J	2	37
36	Uzzi, B. 1997. Social structure and competition in interfirm networks: The paradox of embeddedness. <i>Administrative Science Quarterly</i> , 42 (1), pp. 35-67	J	3	37
37	Sarasvathy, S.D. 2001. Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency, <i>Academy of Management Review</i> , 26 (2), pp. 243-263	J	2	35
38	Yin, R. 1994. <i>Case Study Research</i> . London: Sage	B	2	34
39	Cyert, R., March, J. 1963. <i>A behavioral theory of the firm</i> . Englewood Cliffs, NJ, Prentice-Hall	B	2	33
40	Hair Jr., J.F., Andersen, R.E., Tatham, R.L., Black, W.C. 1995. <i>Multivariate Data Analysis with Readings</i> , Englewood Cliffs, NJ: Prentice Hall International	B	3	33
41	Suchman, M. 1995. Managing legitimacy: strategic and institutional approaches. <i>Academy of Management Review</i> , 20 (3), pp. 571-610	J	2	33

(...)

Rank	Study	Type	N° of distinct journals	Total citations
42	Hoang, H., Antoncic, B. 2003. Network based research in entrepreneurship: a critical review. <i>Journal of Business Venturing</i> , 18 (2), pp. 165-187	J	3	32
43	Low, M.B., MacMillan, I. 1988. Entrepreneurship: past research and future challenges. <i>Journal of Management</i> , 14 (2), pp. 139-161	J	2	32
44	Stinchcombe, A. 1965. Social structure and organizations, <i>Handbook of Organization</i> , pp. 142-193. In J. March (Ed.) Chicago: Rand McNally	B	1	32
45	Carney, M. 2005. Corporate governance and competitive advantage in family controlled firms. <i>Entrepreneurship Theory and Practice</i> , 29 (4), pp. 249-265	J	2	31
46	Covin, J., Slevin, D. 1991. A conceptual model of entrepreneurship as firm behavior. <i>Entrepreneurship Theory and Practice</i> , 16 (1), pp. 7-25	J	3	31
47	Podsakoff, P., Organ, D. 1986. Self-reports in organizational research: Problems and prospects. <i>Journal of Management</i> , 12, pp. 531-544	J	2	31
48	Nelson, R., Winter, S. 1982. <i>An Evolutionary Theory of Economic Change</i> . Cambridge, MA: Harvard University Press	B	3	30
49	Baron, R. 1998. Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people. <i>Journal of Business Venturing</i> , 13 (4), pp. 275-294	J	2	28
50	Stiglitz, J.E., Weiss, A. 1981. Credit rationing in markets with imperfect information. <i>American Economic Review</i> , 71 (3), pp. 393-410	J	1	28

Note: From the papers published in each selected journal, in the period 2005-2010, the corresponding references/citations (approximately 85 thousand) were gathered from the Scopus database. In a first stage the references were harmonized (and the spelling of authors, titles and sources was checked); then, in a second stage, the number of times each study appeared was calculated and the respective citations were thus obtained. These top-50 most cited studies represent approximately 0.08% of total studies and the corresponding citations 3.2% of the total.

4.3. Scientific workspace or Information use environment

According to Zuccala (2006), the Information Use Environment is a key element to identify invisible colleges, representing the scientific workspace where information-related behaviours occur. Trying to implement this concept, we gathered all co-authorship relations among the top-cited authors (Figure 7 and Figure A1 in the Appendix) and additional information regarding the academic experience of the same authors: current and past affiliations, editorial positions, visiting positions, PhD granting school, and research topic within entrepreneurship. This procedure enabled a better portrayal of both the visible (formal) and invisible (informal) links among the key scholars.

From the map depicting all the co-authorship (formal) links between ‘stars’ and influential authors in entrepreneurship (Figure 7), it is clear that in the most recent period (2005-2010) entrepreneurship researchers have paid heed to Gartner’s (2001: 35) quest for “the creation of an identifiable community of scholars who pursue similar research... being actively engage[d] in the creation of a systematic body of information”.

At least through the lens of the top-50 most cited authors in entrepreneurship, the formal (and informal that result from the formal) links between scholars emerge as reasonably dense both within and among the country blocks represented. US hegemony in entrepreneurship research is notorious, covering 78% (75%) of the top-50 authors (citations), and the relatively small number of countries represented in Figure 7 supports Campbell’s (2011: 44) contention that

the entrepreneurship scholarly community has as yet to become truly international and is paved with “language barriers and differing educational endowments” – the linkages are established mainly (and almost exclusively) within and among English-speaking spaces (US, Canada, UK, Australia), where the absence of co-authorship linkages among these spaces/authors and Sweden/Bengt Johansson (until very recently editor of ERD) is quite revealing.

Some clusters of closely-linked scholars sharing topic commonalities also emerge:²¹ theory building/conceptualization of the entrepreneurship field (Gartner, Shane, Venkataraman, Zahra); Family business (Astrachan, Chua, Chrisman, Miller, Sharma, Steier); Ethnic/women entrepreneurship (Aldrich, Brush, Carter, Greene); Innovation, regional and policy (Acs, Audretsch, Reynolds, Storey, Thurik); Corporate entrepreneurship -venture capital (Autio, Davidsson, Sapienza, Westhead, Wiklund, Wright); and the ‘mega’ cluster Corporate entrepreneurship – performance/value creation (Autio, Busenitz, Covin, McDougall, Dess, Hitt, Ireland, Kuratko, Sapienza, Shepherd, Slevin, Westhead, Wright, Zahra).

Further evidence on the existence of distinct ‘communities’ within the entrepreneurship field, namely the emergence of more specific/specialized subject specialties, is apparent when we depict the top-50 most cited authors’ formal linkages by journal (cf. Figure A1 in Appendix). FBR and SBE show the most contrasting picture when compared to that representing the entire entrepreneurship field (Figure 7). Indeed, the figure from FBR is drastically reduced to the ‘family business’ cluster, geographically concentrated in Canada, with all non-North American spaces disappearing from the network. Regarding SBE, the map includes mainly the relations established between US and UK associated to the ‘Innovation, regional, policy’ cluster with a relatively higher reliance on the Finance (Lerner and the ‘outsider’ Shleifer) and Competitive Strategy (the ‘outsider’ Porter) clusters.

One final and interesting remark regarding formal authors’ linkages: a number of top-cited authors - Zahra, Gartner, Reynolds, Covin, Busenitz, Hitt, and Westhead - perform a truly critical gatekeeper and bridging role within the entrepreneurship field by helping “informal communities of entrepreneurship... [become] visible” (Gartner, 2001: 35) and cohesive.

²¹ This rather *ad hoc* ‘clustering’ by topics was based on the co-authorship linkages and information conveyed by the literature in the area, namely the papers by Cornelius et al. (2006) and Schildt et al. (2006).

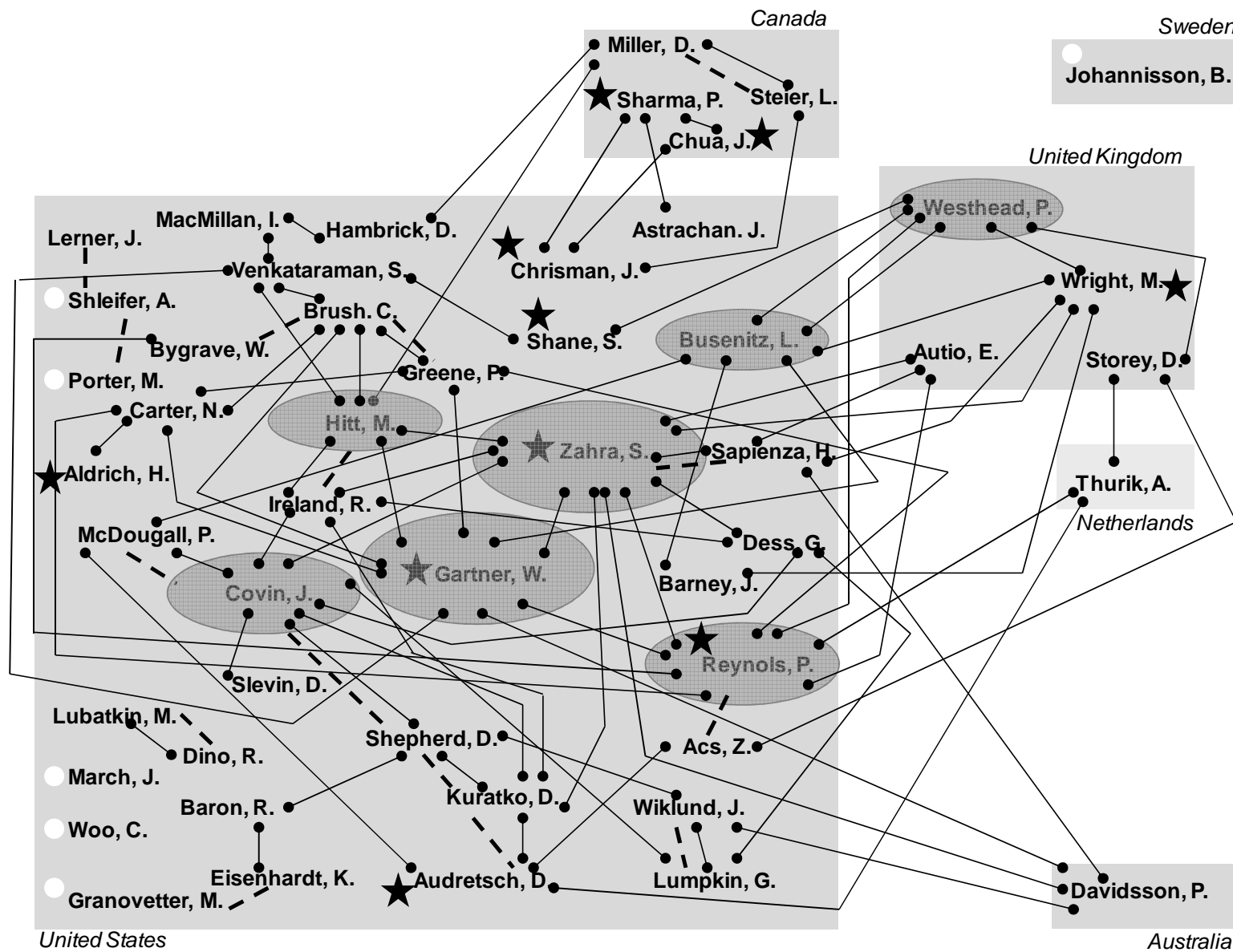


Figure 7: Mapping the spaces and international scientific (co-authorship) links among the most influential authors in entrepreneurship research

Note: Authors were allocated to countries according to their most recent (March 2011) affiliation.

Legend:

- Isolated author (no co-authorships)
- Co-authorships links
- ★ Top-10 most cited author
- Authors working in the same school/University
- Highly connected authors (the size of the object is related to the number of co-authorships)

Source: Author.

Some the abovementioned clusters of topics may have benefited from the fact that their participants share/had shared the same (physical) space: University of Alberta, Canada (Miller and Steier); University of Calgary, Canada (Chua and Sharma, the latter as a PhD student); Babson College, US (Brush and Greene); Indiana University, US (Astrachan and Chrisman; Covin, McDougall and Shepherd); University of Minnesota, US (Zahra and Sapienza). These less visible links are depicted in Figure 8, which presents additional information on the ‘stars’ and most influential authors of entrepreneurship research: current affiliation/employer institution, former affiliations, visiting positions, and PhD granting school.²²

The top-50 most cited authors in the field of entrepreneurship are linked, professionally and through their PhD education, to 197 different institutions. The bulk of these institutions (72%) are associated with only one top-cited author, whereas 10% (the 20 institutions presented in Figure 9) of these encompass 4 or more top-cited authors. Around half of these institutions are US-based, 10% from the UK and 6% located in Canada.²³ The representativeness of the US (75% of the total) and Europe (20%) is enhanced when we restrict the set of institutions to those that have 4 or more top-cited authors associated with them. Each link in Figure 9, represented by straight lines, denotes that at least one top-cited author visited, worked or studied (at PhD level) in the two linked institutions.

Note: Authors are identified with the number corresponding to their global ranking (cf. Table 3); the size of the circles associated to the institutions relate with the number of top-50 cited authors who are connected with that institution. The top-50 cited authors are linked (professionally and through their PhD education) to 197 different institutions. The figure presents those (20, i.e., 10% of the total) institutions which appeared 4 or more times when we counted current affiliation, former affiliation, visiting posts, and PhD granting institution of the top-50 most cited authors (see Table A6 in Appendix). US schools are depicted in an approximate manner according to the corresponding states’ geographical location.

In terms of the number of top-cited authors’ affiliations, Indiana University (US), Babson College (US), Stanford University (US) and Jönköping University (Sweden) stand at the forefront. Their situation however differs with regard to the type of links top authors maintain with them.

²² Detailed information is presented in Table A6 in the Appendix. Data was gathered from the Scopus bibliographic database (using the search machine ‘Authors’ Affiliations’) and authors’/organizations’ webpages; the authors’ current affiliation reports to May 2011.

²³ 24 different countries are represented: 1 (0.5%) located in Africa; 10 (5%) in Asia; 65 (34%) in Europe; 3 (1.6%) in Oceania; and 113 (59%) in North America (it was not possible to identify the location of 5 institutions).

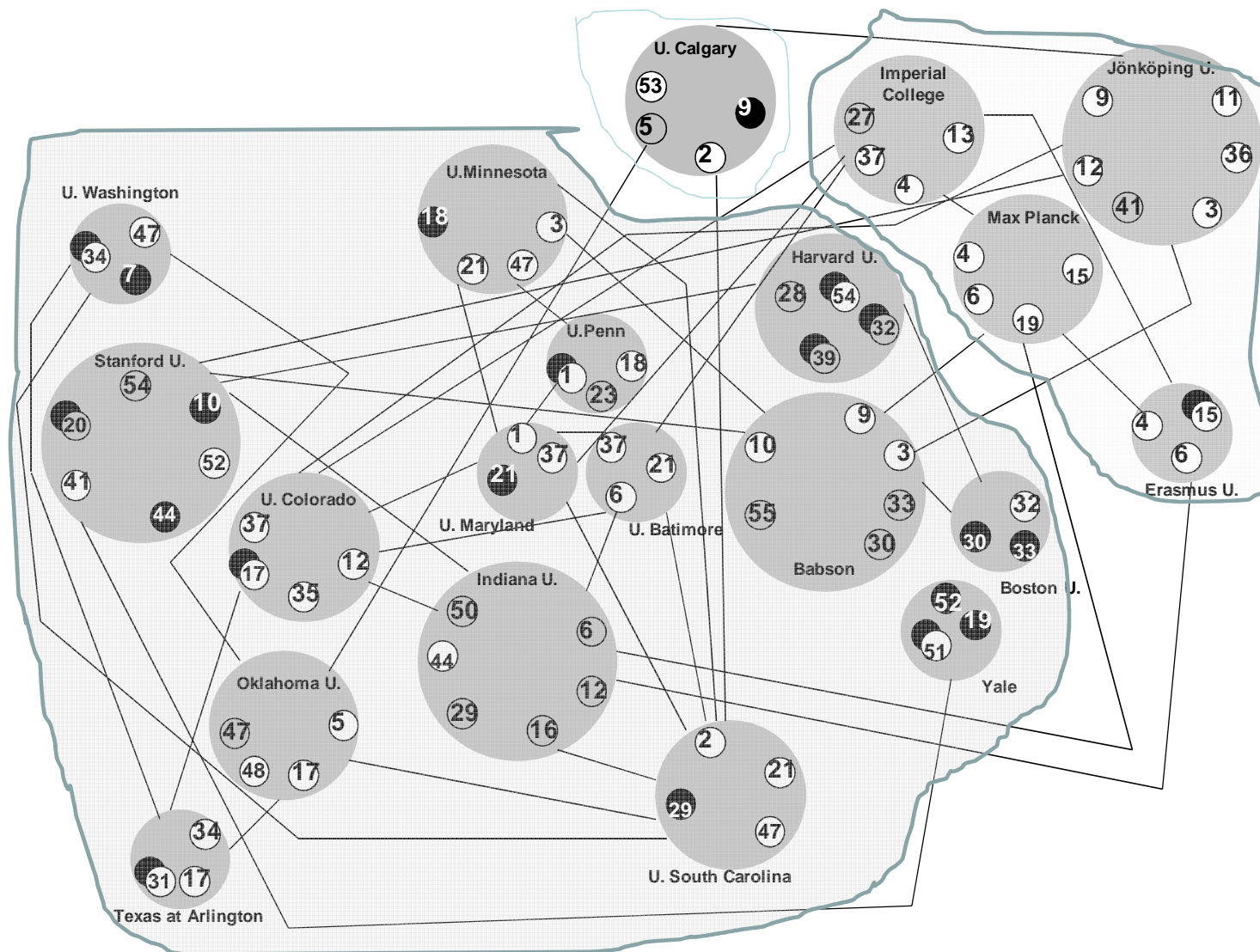


Figure 8: Mapping the formal (affiliation) and informal (visiting, former affiliations, PhD granting institutions) links among top-cited authors in the field of entrepreneurship

Note: Authors are identified with the number corresponding to their global ranking (cf. Table 3); the size of the circles associated to the institutions relate with the number of top-50 cited authors who are connected with that institution. The top-50 cited authors are linked (professionally and through their PhD education) to 197 different institutions. The figure presents those (20, i.e., 10% of the total) institutions which appeared 4 or more times when we counted current affiliation, former affiliation, visiting posts, and PhD granting institution of the top-50 most cited authors (see Table A6 in Appendix). US schools are depicted in an approximate manner according to the corresponding states' geographical location.

Legend: ○ Visiting or former affiliation ● Current affiliation ● PhD granting institution

Almost all the top-cited authors associated with Indiana work there at present – Audretsch (6); Shepherd (12); Covin (16); McDougall (29); and Kuratko (50). This contrasts with Jönköping University (Sweden) where most of the cases refer to Visiting/former affiliation positions – Zahra (3), Sharma (9), Davidsson (11), Shepherd (12), Wiklund (36) –, with only Johannisson (41) lists it as current affiliation.²⁴ Babson College (US) presents a mixed picture having 3 top-cited authors affiliated – Brush (30), Bygrave (33) and Greene (55) – and 3 having reported to have/have had Visiting/former affiliation positions – Zahra (3), Sharma (9) and Reynolds (10). Stanford presents three top-cited authors - Reynolds (10), Eisenhart (20) and Slevin (44) - who obtained their PhD there; two authors - Eisenhart (20) and Granovetter (54) - are current affiliates and the remaining two - Johannisson (41) and March (52) – have/have had visiting posts or were former affiliates.

Some schools, most notably, University of South Carolina (US), University of Colorado (US) and the Imperial College (UK), although not presenting currently affiliated top-cited authors (exception made to Autio (27)), are quite strongly linked to the remaining schools through Visiting and former affiliations.

Two main points result from the evidence depicted in Figure 8: 1) there is a reasonably dense network of informal links among the key players/schools that are actively engaged in the production of a systematic body of information in the field of entrepreneurship; and 2) the mobility of top-cited authors, through Visiting, former affiliations and PhD studies, is a fundamental piece in maintaining, stimulating and enlarge that network.

5. Conclusion

Given the increasing scientific, scholarly and public policy relevance of entrepreneurship, in-depth research, based on a theoretically well-grounded framework, on the (in)visible college(s) within this field of research seemed to be of critical relevance. Indeed, the analysis and understanding of the intellectual structure underlying the entrepreneurship (in)visible college(s) can be useful for a wide set of individuals, namely students and academics (Borkhovich et al. 1994; Locke and Perera 2001). In fact, having a map of the conceptual structure of a discipline can be of great interest in order to develop an overview of a field of study, understand the relationships among paradigms, identify the essential works on each one of them, determine which are the most analyzed topics, and which are their conceptual basis (Casillas and Acedo 2007). Moreover, the possibility of summarizing the most relevant

²⁴ By May 2011 this author was also affiliated to Växjö University (Sweden).

literature and the relationships among key works in the area enables researchers to position their research within the field of study (Etemad and Lee 2003) and to identify insightful, influential, and creative research niches in the field of entrepreneurship (Gartner et al. 2006).

Based on the theoretically well-grounded framework underlying Zuccala's (2006) model for the study of invisible colleges, which is anchored in three main pillars – influential authors, subject specialty, and scientific workspace (information use environment) -, the present paper empirically assessed the existence of (in)visible college(s) in the field of entrepreneurship.

The evidence gathered based on more than a thousand articles published, between 2005 and 2010, in a set of journals that delineates the field (*Entrepreneurship and Regional Development, Entrepreneurship Theory and Practice, Family Business Review; International Small Business Journal; Journal of Business Venturing; Journal of Small Business Management; Small Business Economics*) and the corresponding (over) 85 thousand references, suggests that there is indeed an (in)visible college in the field of entrepreneurship comprised by approximately 100 individuals, half of whom are classified as 'stars' or 'highly influential' (Zuccala and van den Besselaar 2008), and are actively engaged in the creation of systematic body of information (Gartner 2001).

More specifically, five main results are worth highlighting.

First, the entrepreneurship field stands as a cohesive (in)visible college. However, its increased path towards maturity, as a scientific field, has been (naturally) accompanied by some signs of fragmentation and specialization, reflected in the emergency of a number of subject specialties, namely those related with family businesses and innovation, technology and policy.

Secondly, a growing tendency within the field to cease to be a mere sub-discipline of management or economics was observed, revealing its greater legitimacy as a valid academic research area with an increasing number of highly-cited researchers devoted to entrepreneurship as a core research field – the intellectual roots and structure of entrepreneurship reveal a higher degree of scientific autonomy with stronger (than in the past) reliance on sources coming from the 'entrepreneurship' field itself in more recently published papers.

Thirdly, a few top-cited authors - Zahra, Gartner, Reynolds, Covin, Busenitz, Hitt, and Westhead - perform a truly critical gatekeeper and bridging role within the field by helping this community to become more visible and cohesive.

Fourthly, a reasonably dense network of informal relations is evident among highly-cited authors and key schools with the mobility of these scholars through visiting, PhD studies and former professional links, helping to sustain the vigour of the network.

Finally, the as yet rather limited internationalization of the entrepreneurship community is apparent. Highly-cited entrepreneurship research is concentrated in very few countries (US, UK, Canada, Netherlands, Sweden and Australia), with indisputable US hegemony. The almost total absence of non-English-speaking authors/studies/outlets is quite revealing of what Campbell (2011: 44) termed as marked “language barriers and differing educational endowments”. Thus, internationalization, an essential attribute for a truly networked community, is a challenge (and an opportunity) that should not be overlooked or disguised by the entrepreneurship research area.

Acknowledgements

The help of João Ramos (my husband), Marlene Grande and Paulo Pires in the uniformization of the bibliometric data is gratefully acknowledged.

References

- Albarrán, P., & Ruiz-Castillo, J. (2011). References made and citations received by scientific articles. *Journal of the American Society for Information Science and Technology*, 62(1), 40–49.
- Alvarez, S.A., Barney, J.B., & Young, S.L. (2010). Debates in Entrepreneurship: Opportunity Formation and Implications for the Field of Entrepreneurship. *International Handbook Series on Entrepreneurship*, 5, Part 1: 23-45
- Baumol, W.J. (1968). Entrepreneurship in Economic Theory. *American Economic Review*. 58 (2): 64-71.
- Borgman, C., & Furner, J. (2002). Scholarly communication and bibliometrics. *Annual Review of Information Science and Technology*, 36, 3–72.
- Borgman, C.L., & Rice, R.E. (1992). The convergence of information science and communication: a bibliometric analysis. *Journal of the American Society for Information Science*, 43, 397-411.
- Borokhovich, K. A., Bricker, R. J., & Simkins, B. J. (1994). The streams of financial research and their interrelationships: Evidence from the Social Sciences Citation Index. *Financial Practice and Education*, 4(2), 110–123

- Braunerhjelm, P., & Henrekson, M. (2009). Awarding Entrepreneurship Research: A Presentation of the Global Award. *Entrepreneurship Theory and Practice*, 33(3), 809-814.
- Campbell, K. (2011), Caring and daring entrepreneurship research. *Entrepreneurship & Regional Development*, 23: 1, 37 – 47
- Casillas, J., & Acedo, F. (2007). Evolution of the Intellectual Structure of Family Business Literature: A Bibliometric Study of FBR. *Family Business Review*. 20 (2): 141-162
- Clements, K. W., & Wang, P. (2003). Who cites what? *Economic Record*, 79(245), 229–244.
- Cooper, A. (2003), Entrepreneurship: The past, the present, the future. In: Z. J. Acs and D. B. E. Audretsch (eds.): *Handbook of Entrepreneurship Research*, Vol. 1, Boston, MA: Kluwer Academic Publishers.
- Cornelius, B., Landström, H., & Persson, O. (2006). Entrepreneurial Studies: The Dynamic Research Front of a Developing Social Science. *Entrepreneurship Theory and Practice*, 30(3): 375-398.
- Crane, D. (1972). *Invisible colleges: Diffusion of knowledge in scientific communities*. Chicago: University of Chicago Press.
- Davidsson, P. (2008). *The entrepreneurship research challenge*. Cheltenham, UK: Edward Elgar.
- Davidsson, P., Low, M.B., & Wright, M. (2001). Editor's introduction: Low and MacMillan ten years on - Achievements and future directions for entrepreneurship research. *Entrepreneurship Theory and Practice*, 25(4), 5–15.
- Doreian, P., & Fararo, T.J. (1985). Structural equivalence in a journal network. *Journal of the American Society for Information Science*, 36, 28-37.
- Etemad, H., & Lee, Y. (2003). The Knowledge Network of International Entrepreneurship: Theory and Evidence. *Small Business Economics*, 20: 5-23
- Frey, B. (2006). How influential is Economics? *De Economist*, 154 (2), 295-311.
- Gamboa, E.C., & Brouters, L.E. (2008). How International is Entrepreneurship?. *Entrepreneurship Theory and Practice*, 32(3): 551-558.
- Gartner, W.B. (2001). Is there an elephant in entrepreneurship? Blind Assumptions in Theory Development. *Entrepreneurship Theory and Practice*, 25(4), 27–39.

- Gartner, W.B., Davidsson, P. & Zahra, S.A. (2006). Are You Talking to Me? The Nature of Community in Entrepreneurship Scholarship. *Entrepreneurship Theory and Practice*, 30(3): 321-331
- Grégoire, D.A., Noël, M.X., Déry, R., & Béchar, J-P. (2006), Is There Conceptual Convergence in Entrepreneurship Research? A Co-Citation Analysis of Frontiers of Entrepreneurship Research, 1981–2004. *Entrepreneurship Theory and Practice*, 30(3): 333-373.
- Hagstrom, W.O. (1970). Factors related to the use of different modes of publishing research in four scientific fields. In C.E. Nelson & D.K. Pollock (Eds.), *Communication among scientists and engineers*. Lexington, MA: Lexington Books.
- Henrekson, M., & Lundström, A. (2009), The Global Award for Entrepreneurship Research. *Small Business Economics* 32: 1–14.
- Henrekson, M., & Lundström, A. (2009). The Global Award for Entrepreneurship Research. *Small Business Economics* 32, 1–14.
- Hoang, H. & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing*, 18, 165–187.
- Katz, J. & Boal, K. (2006). Entrepreneurship journal rankings. Accessed on 19 April 2011 at <http://www.marketingtechie.com/articles/mtart20020307.pdf>.
- Leydesdorff, L. (2002). Indicators of structural change in the dynamics of science: Entropy statistics of the sc journal citation reports. *Scientometrics*, 53(1), 131–159.
- Leydesdorff, L. (2004). Top-down decomposition of the journal citation report of the social science citation index: Graph- and factor-analytical approaches. *Scientometrics*, 60(2), 159–180.
- Leydesdorff, L. (2008). The delineation of nanoscience and nanotechnology in terms of journals and patents: A most recent update. *Scientometrics*, 76(1), 159–167.
- Leydesdorff, L., & Cozzens, S. E. (1993). The delineation of specialties in terms of journals using the dynamic journal set of the science citation index. *Scientometrics*, 26, 133–154.
- Leydesdorff, L., & Zhou, P. (2007). Nanotechnology as a field of science: Its delineation in terms of journals and patents. *Scientometrics*, 70(3), 693–713.

- Lievrouw, L.A. (1989). The invisible college reconsidered: Bibliometrics and the development of scientific communication theory. *Communication Research*, 16, 615–628.
- Locke, J., & Perera, H. (2001). The intellectual structure of international accounting in the early 1990s. *International Journal of Accounting*, 36(2), 223–249.
- Low, M.B. & MacMillan, I.C. (1988). Entrepreneurship: Past research and future challenges. *Journal of Management*, 14(2), 139–161.
- Meyer, G.D. (2011). The Reinvention of Academic Entrepreneurship. *Journal of Small Business Management*, 49(1): 1–8
- Price, D.J. de Solla. (1963). Little science, big science. New York: Columbia University Press.
- Price, D.J. de Solla. (1971). Some remarks on elitism in information and the invisible college phenomenon in science. *Journal of the American Society for Information Science*, 22, 74–75.
- Price, D.J. de Solla. (1986). *Little science, big science and beyond*. New York: Columbia University Press.
- Ratnatunga, J. & Romano, C., (1997), A Citation Classics' Analysis of Articles in Contemporary Small Enterprise Research. *Journal of Business Venturing*, 12(3): 197-212
- Ravallion, M., & Wagstaff, A. (2011). On measuring scholarly influence by citations. *Scientometrics*, online first, DOI 10.1007/s11192-011-0375-0.
- Reader, D., & Watkins, D. (2006), The Social and Collaborative Nature of Entrepreneurship Scholarship: A Co-Citation and Perceptual Analysis. *Entrepreneurship Theory and Practice*, 30(3): 417-441
- Rigney, D., & Barnes, D. (1980). Patterns of interdisciplinary citation in the social sciences. *Social Science Quarterly*, 61(1), 114–127.
- Romano, C., & Ratnatunga, J. (1996), A Citation Analysis of the Impact of Journals on Contemporary Small Enterprise Research. *Entrepreneurship: Theory and Practice*, 20 (3): 7-21

- Sarasvathy, S.D., & Venkataraman, S. (2011), Entrepreneurship as Method: Open Questions for an Entrepreneurial Future. *Entrepreneurship Theory and Practice*, 35(1): 113-135.
- Schildt, H.A., Zahra, S.A., & Sillanpää, A. (2006). Scholarly Communities in Entrepreneurship Research: A Co-Citation Analysis. *Entrepreneurship Theory and Practice*, 30(3): 399-415.
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25, 217-226.
- Silva, E.G., & Teixeira, A.A.C. (2008). Surveying structural change: Seminal contributions and a bibliometric account. *Structural Change and Economic Dynamics*, 19 (4), 273-362
- Steyaert, C. , Hjorth, D., & Gartner, W.B.(2011) Six memos for a curious and imaginative future scholarship in entrepreneurship studies', *Entrepreneurship & Regional Development*, 23: 1, 1 -7
- Taylor, R.S. (1986). *Value-added processes in information systems*. Norwood, NJ: Ablex.
- Tuire, P., & Erno, P. (2001). Exploring invisible scientific communities: Studying networking relations within an educational research community: A Finnish case. *Higher Education*, 42, 493–513.
- van den Besselaar, P., & Leydesdorff, L. (1996). Mapping change in scientific specialties: a scientometric reconstruction of the development of Artificial Intelligence. *Journal of the American Society for Information Science*, 47(6), 415-436.
- Venkataraman, S. (1997). The distinctive domain of entrepreneurship research. In J.A. Katz (Ed.), *Advances in entrepreneurship, firm emergence and growth* (Vol. 3, pp. 119–138). Oxford, UK: Elsevier / JAI Press.
- Vieira. P.C., & Teixeira, A.A.C. (2010). Are finance, management, and marketing autonomous fields of scientific research? An analysis based on journal citations. *Scientometrics*, 85(3), 627–646.
- Wallace, D.P. (2007). *Knowledge Management: Historical and Cross-Disciplinary Themes*, Westport, CT: Libraries Unlimited.
- Waller, J. H. (2006). Evaluating scholarly communication at the subdisciplinary level. *Collection Management*, 30(2), 45–57.

- Watkins, D., & Reader, D. (2004), Identifying Current Trends in Entrepreneurship Research: A New Approach. in [http://www.kmu.unisg.ch/rencontres/RENC2004/ Topics/ Watkins_Renc_2004_Topic_A.pdf](http://www.kmu.unisg.ch/rencontres/RENC2004/Topics/Watkins_Renc_2004_Topic_A.pdf), accessed on April 2011.
- Werner, S., & Brouthers, L.E. (2002). How international is management? *Journal of International Business Studies*, 33(3), 583-591.
- Wiklund, J., Davidsson, P., Audretsch, D. & Karlsson, C. (2011). The future of entrepreneurship research. *Entrepreneurship Theory and Practice*, 35(1): 1-9
- Zahra, S., (2007). Contextualizing Theory Building in Entrepreneurship Research. *Journal of Business Venturing*, 22(3), 443-452.
- Zitt, M. (2006). Scientometric indicators: A few challenges. Data mine-clearing, knowledge flows measurements, diversity issues, invited plenary talk. In Proceedings international workshop on webometrics, informetrics and scientometrics & seventh COLLNET meeting, Nancy (France). <http://eprints.rclis.org/archive/00006306/>.
- Zuccala, A. (2006). Modeling the Invisible College. *Journal of the American Society for information Science and Technology*, 57(2), 152–168.
- Zuccala, A., & van den Besselaar, P. (2009). Mapping review networks: Exploring research community roles and contributions. *Scientometrics*, 81(1), 111-122.

Appendix

Table A1: Citing matrix of *Entrepreneurship Theory and Practice* (ETP), 2009

No.	journal	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	ACAD MANAGE J ACAD	497	115	85	17	10	21	132	71	0	35	426	119	4	4	219	374	52	289	57	50	320	107	33	358
2	MANAGE REV	241	195	60	13	9	34	173	40	0	38	232	157	0	0	176	191	63	261	70	29	254	107	29	234
3	ADMIN SCI QUART	315	149	216	29	30	11	98	16	0	30	151	84	0	8	92	161	34	194	40	55	359	148	24	294
4	AM J SOCIOLOG	101	45	150	197	177	4	36	8	0	8	19	32	0	5	33	22	4	43	7	13	85	48	15	65
5	AM SOCIOLOG REV	98	43	64	215	226	7	39	11	0	5	30	15	2	6	35	20	7	33	4	5	56	40	19	42
6	ENTREP REGION DEV	0	4	0	0	0	60	24	6	0	39	0	8	0	0	0	0	5	0	0	0	0	6	17	0
7	ENTREP THEORY PRACT	11	29	0	0	0	25	291	120	0	66	2	104	0	0	17	46	38	12	53	0	5	13	64	7
8	FAM BUS REV	0	0	0	0	0	0	41	309	0	5	0	5	0	0	5	0	70	0	12	0	2	0	18	0
9	HARVARD BUS REV	19	10	10	5	0	6	39	14	2	9	15	24	4	5	61	27	15	34	24	28	52	44	19	40
10	INT SMALL BUS J	0	2	0	0	0	8	5	3	0	125	0	6	0	0	2	0	4	0	9	0	0	0	13	0
11	J APPL PSYCHOL	199	57	12	0	0	2	51	23	0	7	1309	34	2	0	28	378	48	61	5	13	56	10	4	21
12	J BUS VENTURING	25	27	5	0	0	46	274	68	0	77	2	296	0	0	35	86	29	30	85	4	16	62	83	35
13	J FINANC	14	0	18	0	0	0	47	18	0	4	0	9	690	800	89	63	9	5	10	178	23	9	52	59
14	J FINANC ECON	17	3	3	0	0	2	31	20	0	0	0	6	492	565	62	77	9	17	11	104	21	10	27	63
15	J INT BUS STUD	48	5	7	0	3	20	43	17	0	31	5	15	0	0	692	89	13	57	13	7	26	32	4	96
16	J MANAGE	88	30	14	0	0	10	90	29	0	16	191	48	0	0	56	304	25	109	33	12	61	35	15	92
17	J MANAGE ORGAN	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	33	0	0	0	0	0	0	0
18	J MANAGE STUD	19	5	4	0	0	10	41	13	0	21	13	25	0	0	60	46	24	338	11	2	46	30	11	56
19	J SMALL BUS MANAGE	4	0	0	0	0	19	49	40	0	58	0	23	0	0	0	48	10	0	64	0	2	0	30	0
20	MANAGE SCI	56	63	25	0	0	8	62	11	0	13	20	36	6	4	100	43	12	60	23	490	130	190	19	127
21	ORGAN SCI	147	107	68	5	4	9	64	20	0	22	53	59	0	0	124	80	20	194	25	50	435	123	16	223
22	RES POLICY	35	23	18	0	0	9	22	2	0	6	0	10	0	0	27	4	10	41	20	36	47	890	59	63
23	SMALL BUS ECON	5	5	0	0	0	39	40	11	0	57	0	22	0	0	9	41	0	8	29	0	0	24	182	7
24	STRATEGIC MANAGE J	233	134	56	0	0	26	203	47	0	43	13	165	3	3	404	303	45	422	126	140	422	293	48	943

Table A2: Output factor-analysis, *Entrepreneurship Theory and Practice (ETP)*, *Journal of Business Venturing (JBV)* and *Small Business Economics (SBE)*, 2005-2009, citing dimension, threshold=0.5%

ETP

JBV

SBE

2005

	Management & Organization	Entrepreneurship	Business & Sociology	Entrepreneurship & Psychology
J MANAGE	0.968	-0.101	-0.043	0.167
J MANAGE STUD	0.963	-0.019	0.094	0.010
ACAD MANAGE J	0.962	-0.102	0.127	0.150
STRATEGIC MANAGE J	0.945	0.194	-0.035	-0.074
ACAD MANAGE REV	0.943	-0.080	0.247	0.118
ACAD MANAGE EXEC	0.939	0.071	0.041	0.049
ORGAN SCI	0.889	-0.115	0.402	-0.008
J INT BUS STUD	0.874	0.139	-0.176	-0.031
ORGAN STUD	0.856	-0.121	0.445	0.028
ADMIN SCI QUART	0.824	-0.139	0.521	0.004
ENTREP THEORY PRACT	0.071	0.924	-0.128	0.158
J BUS VENTURING	0.106	0.923	-0.065	0.118
J SMALL BUS MANAGE	0.269	0.818	-0.393	0.115
INT SMALL BUS J	-0.448	0.812	-0.058	0.258
SMALL BUS ECON	-0.536	0.639	-0.184	0.233
HARVARD BUS REV	0.392	-0.123	0.693	-0.067
AM J SOCIOL	-0.027	-0.433	0.616	-0.019
MANAGE SCI	0.053	-0.223	0.130	-0.661
ENTREP REGION DEV	-0.692	0.211	-0.091	0.437
J APPL PSYCHOL	0.443	-0.552	-0.274	0.414
J FINANC ECON	-0.315	-0.289	-0.307	-0.582
% variance explained	45.9	22.3	9.6	8.6

	Management & Organization	Entrepreneurship	Technology & Management	Business
J MANAGE	0.964	0.087	0.162	0.093
J BUS RES	0.954	0.038	0.227	-0.047
ACAD MANAGE J	0.941	0.079	0.175	0.216
ACAD MANAGE REV	0.920	0.036	0.146	0.282
STRATEGIC MANAGE J	0.913	0.066	0.361	-0.039
J INT BUS STUD	0.895	0.127	0.171	-0.212
ACAD MANAGE EXEC	0.879	0.032	0.326	0.187
ORGAN SCI	0.869	-0.057	0.201	0.381
ADMIN SCI QUART	0.852	-0.052	0.100	0.437
INT SMALL BUS J	-0.345	0.914	-0.056	0.047
ENTREP THEORY PRACT	0.234	0.912	-0.133	0.015
J BUS VENTURING	0.229	0.870	-0.082	0.049
J SMALL BUS MANAGE	0.436	0.821	0.008	-0.228
SMALL BUS ECON	-0.403	0.742	-0.288	-0.107
ENTREP REGION DEV	-0.544	0.538	0.270	-0.049
RES POLICY	-0.055	-0.167	0.898	-0.019
R&D MANAGE	0.464	-0.017	0.856	0.061
INT J TECHNOL MANAGE	0.549	-0.098	0.817	0.048
CALIF MANAGE REV	0.504	-0.189	0.682	0.260
HARVARD BUS REV	0.312	-0.255	0.212	0.822
MANAGE SCI	0.024	-0.525	-0.057	0.160
J FINANC	-0.298	-0.560	-0.620	-0.346
J FINANC ECON	-0.294	-0.558	-0.622	-0.346
% variance explained	49.3	21.9	11.4	5.0

	Economics	Management	Technology & Policy	Entrepreneurship
J IND ECON	0.955	-0.265	0.020	-0.006
REV ECON STAT	0.944	-0.289	-0.105	-0.089
INT J IND ORGAN	0.937	-0.296	0.102	-0.025
J ECON LIT	0.924	-0.292	-0.158	-0.170
J POLIT ECON	0.924	-0.296	-0.161	-0.142
AM ECON REV	0.921	-0.305	-0.136	-0.152
ECON J	0.914	-0.348	-0.102	-0.119
Q J ECON	0.913	-0.306	-0.146	-0.163
APPL ECON	0.912	-0.279	-0.144	-0.206
ECONOMETRICA	0.887	-0.217	-0.173	-0.122
ACAD MANAGE REV	-0.433	0.841	0.161	0.120
ACAD MANAGE J	-0.458	0.838	0.160	0.160
ADMIN SCI QUART	-0.424	0.836	0.217	0.082
STRATEGIC MANAGE J	-0.432	0.824	0.237	0.163
J MANAGE STUD	-0.480	0.821	0.175	0.145
RES POLICY	-0.092	-0.006	0.933	0.136
REV IND ORGAN	-0.092	-0.006	0.933	0.136
IND CORP CHANGE	-0.108	0.518	0.795	0.136
REG STUD	0.151	-0.683	0.376	0.117
SMALL BUS ECON	-0.185	-0.401	-0.516	0.518
INT SMALL BUS J	-0.760	0.064	-0.207	0.514
ENTREP REGION DEV	-0.708	-0.438	0.097	0.386
ENTREP THEORY PRACT	-0.746	0.424	-0.245	0.377
J SMALL BUS MANAGE	-0.740	0.491	-0.173	0.358
J BUS VENTURING	-0.750	0.433	-0.188	0.350
J FINANC	0.344	-0.224	-0.319	-0.824
J FINANC ECON	0.165	-0.175	-0.328	-0.888
% variance explained	62.2	13.8	10.7	5.9

2006

	Management & Organization	Entrepreneurship	Sociology	Finance	Business	Psychology
ORGAN SCI	0.962	0.106	-0.146	0.123	0.066	-0.001
ACAD MANAGE J	0.952	0.066	0.029	0.153	0.125	0.202
ACAD MANAGE REV	0.928	0.247	-0.024	0.183	0.143	0.068
J MANAGE STUD	0.878	0.227	0.150	0.159	0.268	0.060
STRATEGIC MANAGE J	0.874	0.306	0.146	0.057	0.245	-0.051
ADMIN SCI QUART	0.856	-0.052	-0.415	0.153	-0.066	0.134
J MANAGE	0.840	0.075	0.270	0.205	0.236	0.311
MANAGE SCI	0.640	-0.036	0.035	-0.428	-0.146	-0.388
ENTREP THEORY PRACT	0.121	0.890	0.220	0.135	0.005	0.148
TECHNOL ANAL STRATEG	0.029	0.837	0.186	0.267	0.008	-0.160
J BUS VENTURING	0.472	0.807	0.214	0.105	0.141	0.058
SMALL BUS ECON	-0.157	0.798	0.000	-0.318	0.015	0.077
J SMALL BUS MANAGE	0.292	0.769	0.364	0.023	0.104	0.140
ENTREP REGION DEV	0.017	0.761	-0.086	0.325	0.035	-0.044
INT SMALL BUS J	0.272	0.737	0.312	0.327	0.005	0.030
AM SOCIOL REV	-0.017	-0.271	-0.926	0.105	-0.151	0.040
AM J SOCIOL	0.017	-0.246	-0.937	0.113	-0.144	0.029
J FINANC ECON	-0.292	-0.218	0.126	-0.889	-0.069	0.044
J FINANC	-0.305	-0.219	0.119	-0.887	-0.075	0.044
INT MARKET REV	0.120	0.118	0.233	0.176	0.918	-0.056
J INT BUS STUD	0.539	-0.047	0.161	0.010	0.906	0.106
J APPL PSYCHOL	0.499	-0.357	0.255	0.228	-0.016	0.586
HARVARD BUS REV	-0.185	-0.319	0.212	0.255	0.013	-0.671
J AM SOC INF SCI TEC	-0.203	-0.461	0.174	0.225	-0.368	0.005
% variance explained	39.9	19.6	10.8	8.1	5.2	4.4

	Management & Organization	Entrepreneurship	Technology	Business
ORGAN SCI	0.970	0.074	0.108	0.070
ACAD MANAGE J	0.965	0.143	0.021	0.150
ACAD MANAGE REV	0.942	0.236	0.135	0.154
J MANAGE STUD	0.933	0.187	0.064	0.239
ADMIN SCI QUART	0.922	0.091	-0.016	0.011
J MANAGE	0.910	0.247	0.036	0.288
STRATEGIC MANAGE J	0.903	0.121	0.287	0.147
MANAGE SCI	0.547	-0.406	0.121	-0.402
ENTREP THEORY PRACT	0.118	0.940	-0.093	-0.034
J SMALL BUS MANAGE	0.309	0.831	-0.180	-0.037
INT SMALL BUS J	0.262	0.801	0.152	0.036
J BUS VENTURING	0.511	0.769	0.212	0.038
ENTREP REGION DEV	-0.096	0.637	0.328	0.125
SMALL BUS ECON	-0.372	0.521	-0.017	-0.361
RES POLICY	-0.055	-0.264	0.918	-0.206
TECHNOVATION	0.327	0.037	0.915	-0.093
TECHNOL ANAL STRATEG	-0.222	0.209	0.906	-0.157
INT J TECHNOL MANAGE	0.587	0.096	0.763	-0.029
J FINANC ECON	-0.328	-0.496	-0.604	-0.406
J FINANC	-0.334	-0.491	-0.606	-0.409
INT MARKET REV	0.151	0.022	-0.129	0.917
J INT BUS STUD	0.550	-0.133	-0.220	0.756
% variance explained	44.5	18.9	15.7	7.9

	Economics	Management	Entrepreneurship (Business)	Technology & Policy	Entrepreneurship (Economics)
J LABOR ECON	0.955	-0.186	-0.088	-0.103	0.116
ECON J	0.953	-0.206	-0.098	-0.096	0.148
J ECON LIT	0.950	-0.196	-0.126	-0.082	0.155
J POLIT ECON	0.950	-0.190	-0.126	-0.117	0.145
AM ECON REV	0.947	-0.198	-0.129	-0.097	0.158
REV ECON STAT	0.946	-0.194	-0.140	-0.097	0.158
INT J IND ORGAN	0.941	-0.210	-0.142	0.012	0.163
REV ECON STUD	0.939	-0.174	-0.197	0.037	0.139
J IND ECON	0.934	-0.177	-0.194	-0.078	0.148
Q J ECON	0.926	-0.192	-0.217	-0.114	0.162
ECONOMETRICA	0.903	-0.133	-0.122	-0.151	0.088
APPL ECON	0.795	-0.248	-0.263	-0.172	0.042
REG STUD	0.389	-0.728	0.171	0.058	0.011
ACAD MANAGE J	-0.573	0.640	0.366	0.130	-0.263
J MANAGE	-0.624	0.632	0.355	0.095	-0.164
J INT BUS STUD	-0.517	0.628	0.186	0.003	-0.224
STRATEGIC MANAGE J	-0.578	0.625	0.324	0.298	-0.143
ACAD MANAGE REV	-0.596	0.607	0.415	0.160	-0.232
MANAGE SCI	-0.017	0.598	-0.144	0.463	-0.055
ADMIN SCI QUART	-0.515	0.553	0.383	0.122	-0.426
ENTREP REGION DEV	-0.745	0.047	0.517	0.011	0.141
INT SMALL BUS J	-0.748	0.467	0.386	0.023	0.119
J BUS VENTURING	-0.718	0.553	0.360	0.052	0.137
ENTREP THEORY PRACT	-0.748	0.496	0.292	-0.141	0.204
J SMALL BUS MANAGE	-0.742	0.553	0.241	-0.084	0.175
J FINANC ECON	0.238	-0.013	-0.923	-0.189	0.110
J FINANC	0.216	-0.014	-0.927	-0.192	0.110
J BANK FINANC	0.302	-0.037	-0.906	-0.196	0.114
IND CORP CHANGE	-0.021	0.216	0.392	0.849	-0.131
RES POLICY	-0.208	-0.054	0.192	0.936	0.059
TECHNOVATION	-0.618	0.331	0.347	0.601	0.040
SMALL BUS ECON	0.228	-0.001	0.062	-0.049	0.780
ENVIRON PLANN A	0.010	-0.748	0.146	-0.088	-0.348
AM J SOCIOL	-0.093	-0.026	0.275	-0.013	-0.664
% variance explained	63.3	9.7	7.9	4.9	4.5

(...)

ETP

JBV

SBE

2007

	Management & Organization	Entrepreneurship	Policy and Management science
ACAD MANAGE REV	0,971	-0,134	0,028
ACAD MANAGE J	0,959	-0,164	-0,024
J MANAGE STUD	0,941	0,032	0,218
ADMIN SCI QUART	0,911	-0,163	0,114
J BUS RES	0,885	0,044	0,215
J APPL PSYCHOL	0,874	-0,141	-0,274
STRATEGIC MANAGE J	0,867	-0,013	0,411
ORGAN SCI	0,814	-0,250	0,425
J MANAGE	0,803	-0,002	-0,282
J INT BUS STUD	0,653	-0,109	0,367
ENTREP THEORY PRACT	-0,105	0,923	-0,234
J BUS VENTURING	-0,134	0,920	-0,186
J SMALL BUS MANAGE	-0,122	0,857	-0,269
FAM BUS REV	0,087	0,837	-0,349
ENTREP REGION DEV	-0,494	0,791	-0,226
SMALL BUS ECON	-0,155	0,762	0,115
INT SMALL BUS J	-0,618	0,498	-0,239
RES POLICY	0,027	-0,259	0,799
MANAGE SCI	0,221	-0,422	0,639
HARVARD BUS REV	-0,324	-0,620	-0,361
% variance explained	49,1	23,8	8,1

2008

	Management & Organization	Entrepreneurship (Business/Manag)	Entrepreneurship (Economics)	Sociology	Management science
STRATEGIC MANAGE J	0,969	0,102	0,097	0,025	-0,143
J MANAGE STUD	0,958	0,091	0,144	0,055	-0,113
ACAD MANAGE J	0,936	-0,048	0,311	0,102	0,012
ORGAN SCI	0,934	-0,045	0,233	0,218	-0,097
ACAD MANAGE REV	0,927	-0,080	0,307	0,133	0,041
J MANAGE	0,889	-0,106	0,417	-0,052	0,121
J INT BUS STUD	0,799	-0,135	0,011	-0,129	-0,108
J SMALL BUS MANAGE	0,008	0,942	-0,158	-0,194	0,064
FAM BUS REV	-0,351	0,889	0,140	-0,065	0,081
ENTREP THEORY PRACT	0,339	0,860	-0,185	-0,177	0,208
J BUS VENTURING	0,605	0,602	-0,360	-0,142	0,160
INT SMALL BUS J	-0,240	0,513	-0,339	-0,233	-0,024
ENTREP REGION DEV	-0,282	0,115	-0,839	-0,149	0,230
SMALL BUS ECON	-0,416	0,077	-0,660	-0,318	0,203
J APPL PSYCHOL	0,341	-0,372	0,695	-0,200	0,373
AM J SOCIOL	-0,123	-0,374	0,084	0,900	0,070
ADMIN SCI QUART	0,567	-0,235	0,209	0,726	-0,053
MANAGE SCI	0,175	-0,250	0,137	-0,050	-0,863
% variance explained	46,5	23,9	7,1	6,8	5,7

	Management & Organization	Entrepreneurship	Technology & Policy	Sociology	Economics
J MANAGE	0,982	0,043	0,008	0,027	-0,087
ACAD MANAGE REV	0,971	0,016	0,117	-0,126	-0,023
ACAD MANAGE J	0,970	-0,029	0,038	-0,119	-0,044
J MANAGE STUD	0,969	0,087	0,138	-0,026	-0,020
STRATEGIC MANAGE J	0,963	0,027	0,210	0,030	-0,079
J BUS RES	0,949	0,124	0,034	0,096	-0,140
ORGAN SCI	0,898	-0,062	0,085	-0,286	-0,038
ORGAN SCI	0,879	-0,165	0,307	-0,204	-0,010
J WORLD BUS	0,851	0,176	0,087	0,162	-0,135
ADMIN SCI QUART	0,845	-0,142	0,052	-0,435	-0,028
J INT BUS STUD	0,827	0,063	0,167	0,166	-0,148
MANAGE SCI	0,320	-0,466	0,355	-0,097	0,136
ENTREP REGION DEV	-0,100	0,954	0,029	0,003	0,166
ENTREP THEORY PRACT	0,339	0,908	0,040	0,028	0,071
J BUS VENTURING	0,122	0,863	-0,215	0,088	0,165
J SMALL BUS MANAGE	0,141	0,811	-0,377	0,244	-0,121
INT SMALL BUS J	-0,220	0,810	-0,035	-0,081	-0,253
SMALL BUS ECON	-0,041	0,592	0,076	0,209	0,698
FAM BUS REV	-0,112	0,358	-0,543	0,247	-0,180
RES POLICY	0,044	-0,214	0,927	0,110	0,047
IND CORP CHANGE	0,005	-0,178	0,910	0,070	0,175
TECHNOVATION	0,324	-0,141	0,845	0,169	-0,175
J CORP FINANC	-0,421	-0,437	-0,639	0,384	-0,014
J FINANC ECON	-0,439	-0,450	-0,624	0,382	0,010
J FINANC	-0,444	-0,443	-0,623	0,379	0,009
AM J SOCIOL	0,035	-0,194	-0,048	-0,897	-0,104
AM ECON REV	-0,492	-0,391	-0,042	0,035	0,663
J EVOL ECON	-0,452	0,113	0,505	0,000	0,713
% variance explained	42,2	20,3	14,8	6,0	4,6

	Management & Entrepreneurship (Business) vs Economics	Management science & Policy	Innovation & Regional	Entrepreneurship (Economics)	Finance
JMANAGE STUD	0,883	0,345	-0,072	0,260	-0,062
STRATEGIC MANAGE J	0,869	0,402	-0,069	0,225	-0,028
JMANAGE	0,867	0,327	-0,179	0,249	-0,053
ACAD MANAGE REV	0,866	0,402	-0,111	0,219	-0,089
ACAD MANAGE J	0,843	0,404	-0,184	0,206	-0,111
ADMIN SCI QUART	0,809	0,453	-0,211	0,093	-0,134
J INT BUS STUD	0,799	0,348	-0,067	0,185	-0,089
ORGAN SCI	0,797	0,563	-0,069	0,124	0,009
ENTREP THEORY PRACT	0,860	-0,326	0,251	0,222	-0,055
J SMALL BUS MANAGE	0,816	-0,489	-0,051	0,219	0,077
JBUS VENTURING	0,749	-0,467	0,165	0,325	0,047
INT SMALL BUS J	0,640	-0,565	0,198	-0,021	-0,014
ENTREP REGION DEV	0,514	-0,592	0,452	0,092	-0,117
FAM BUS REV	0,438	-0,565	-0,296	0,157	0,131
MANAGE SCI	0,162	0,683	-0,063	0,104	0,297
RES POLICY	0,240	0,678	0,542	-0,161	0,478
IND CORP CHANGE	0,191	0,567	0,601	-0,112	0,455
REG STUD	-0,543	-0,046	0,359	-0,359	-0,111
SMALL BUS ECON	0,154	-0,318	0,549	0,562	-0,047
J ECON LIT	-0,945	0,064	-0,129	0,263	0,026
AM ECON REV	-0,941	0,134	0,022	0,257	-0,092
J POLIT ECON	-0,935	0,138	0,027	0,256	-0,114
Q J ECON	-0,938	0,133	0,010	0,245	-0,103
REV ECON STAT	-0,951	0,136	0,009	0,231	-0,090
ECON J	-0,941	0,145	0,007	0,211	-0,106
J IND ECON	-0,945	0,168	0,054	0,192	-0,112
REV IND ORGAN	-0,926	0,191	0,033	0,138	-0,127
INT J IND ORGAN	-0,914	0,258	0,126	0,148	-0,081
APPL ECON	-0,908	0,066	-0,183	0,062	-0,012
J EVOL ECON	-0,743	0,071	0,597	0,202	0,013
J FINANC	-0,507	-0,275	-0,589	0,155	0,467
J FINANC ECON	-0,534	-0,259	-0,584	0,160	0,455
AM SOCIOL REV	0,227	0,260	-0,304	-0,431	-0,432
% variance explained	57,2	13,9	8,7	5,4	4,1

	Management & Organization	Technology & Policy	Entrepreneurship (Business/Manag)	Entrepreneurship (Economics)	Management science
ACAD MANAGE J	0,943	0,197	0,116	-0,203	0,028
ACAD MANAGE REV	0,943	0,204	0,136	-0,182	-0,045
J MANAGE	0,927	0,179	0,103	-0,270	-0,111
ORGAN SCI	0,927	0,260	0,117	-0,148	0,106
J WORLD BUS	0,922	0,157	0,161	-0,011	-0,091
STRATEGIC MANAGE J	0,905	0,330	0,167	-0,046	0,104
J MANAGE STUD	0,898	0,321	0,229	-0,080	0,032
ADMIN SCI QUART	0,868	0,272	0,086	-0,165	0,149
J INT BUS STUD	0,855	0,112	0,013	0,069	-0,086
SERV IND J	0,841	0,346	0,241	0,035	-0,101
J ENG TECHNOL MANAGE	0,775	0,561	0,115	-0,140	0,120
J APPL PSYCHOL	0,586	-0,078	-0,114	-0,574	-0,333
TECHNOVATION	0,130	0,913	0,009	0,054	-0,043
RES POLICY	0,062	0,892	-0,215	0,075	0,071
J PROD INNOVAT MANAG	0,408	0,798	0,109	-0,119	0,224
R&D MANAGE	0,501	0,791	0,038	-0,151	0,185
IEEE T ENG MANAGE	0,412	0,761	-0,126	-0,196	0,288
J FINANC ECON	-0,382	-0,648	-0,283	0,005	0,380
J FINANC	-0,395	-0,651	-0,306	0,023	0,379
J SMALL BUS MANAGE	0,310	-0,067	0,914	0,154	-0,036
FAM BUS REV	-0,055	-0,299	0,886	-0,066	-0,024
ENTREP THEORY PRACT	0,549	0,018	0,797	0,143	-0,131
INT SMALL BUS J	-0,049	0,324	0,689	0,133	-0,369
J BUS VENTURING	0,664	0,133	0,621	0,290	-0,014
J POLIT ECON	-0,397	-0,525	-0,532	0,283	0,218
AM ECON REV	-0,378	-0,466	-0,539	0,308	0,176
ENTREP REGION DEV	0,011	0,197	0,499	0,594	-0,442
SMALL BUS ECON	-0,368	-0,415	0,112	0,690	-0,102
MANAGE SCI	0,083	0,278	-0,297	-0,028	0,700
% variance explained	53,2	16,1	10,9	4,3	3,5

	Economics vs Entrepreneurship (Management)	Finance	Management vs Entrepreneurship (Economics)	Innovation & Policy
AM ECON REV	0,974	-0,133	-0,151	-0,044
INT J IND ORGAN	0,973	-0,073	-0,114	-0,090
J IND ECON	0,971	-0,115	-0,134	-0,104
REV ECON STAT	0,971	-0,119	-0,152	-0,055
ECON J	0,970	-0,136	-0,150	-0,059
REV IND ORGAN	0,961	-0,005	-0,100	-0,176
J ECON LIT	0,954	-0,200	-0,159	-0,049
J POLIT ECON	0,954	-0,210	-0,159	-0,034
Q J ECON	0,951	-0,181	-0,163	-0,033
ECONOMETRICA	0,914	-0,174	-0,147	-0,021
J EVOL ECON	0,893	-0,002	-0,150	-0,333
INT SMALL BUS J	-0,787	0,396	-0,004	0,182
ENTREP REGION DEV	-0,739	0,488	-0,199	-0,018
J SMALL BUS MANAGE	-0,720	0,341	0,136	0,532
ENTREP THEORY PRACT	-0,707	0,421	0,171	0,500
J BUS VENTURING	-0,676	0,396	0,279	0,403
FAM BUS REV	-0,534	0,213	-0,162	0,632
J FINANC	0,218	-0,942	-0,125	0,092
J FINANC ECON	0,128	-0,957	-0,112	0,103
J BANK FINANC	0,169	-0,959	-0,106	0,090
STRATEGIC MANAGE J	-0,532	0,308	0,743	0,156
J INT BUS STUD	-0,467	0,223	0,669	0,183
J MANAGE	-0,558	0,363	0,662	0,241
ACAD MANAGE REV	-0,552	0,352	0,637	0,279
MANAGE SCI	0,237	-0,244	0,542	-0,125
SERV IND J	-0,660	0,442	0,518	0,131
SMALL BUS ECON	0,119	0,003	-0,606	0,058
RES POLICY	-0,173	0,345	0,414	-0,746
REG STUD	0,135	0,252	-0,291	-0,734
IND CORP CHANGE	0,293	0,264	0,642	-0,504
TECHNOVATION	-0,561	0,401	0,455	-0,407
% variance explained	59,7	13,6	8,0	6,3

(...)

ETP

JBV

SBE

2009

	Management & Organization	Entrepreneurship	Sociology	Policy and Management science	Finance
ORGAN SCI	0.970	0.061	-0.077	0.135	0.009
J MANAGE STUD	0.964	0.156	0.051	0.050	-0.017
ACAD MANAGE REV	0.963	0.152	-0.144	-0.012	0.019
ACAD MANAGE J	0.959	-0.014	-0.171	-0.142	0.022
STRATEGIC MANAGE J	0.931	0.189	0.115	0.201	0.044
J MANAGE	0.881	0.004	0.166	-0.310	0.070
J INT BUS STUD	0.717	0.056	0.227	0.234	-0.010
J MANAGE ORGAN	0.707	0.143	0.245	-0.599	-0.055
ADMIN SCI QUART	0.677	-0.159	-0.652	0.132	0.061
ENTREP REGION DEV	0.030	0.943	0.142	0.006	-0.011
INT SMALL BUS J	-0.086	0.912	0.152	-0.069	-0.005
ENTREP THEORY PRACT	0.431	0.776	0.245	-0.229	0.100
J BUS VENTURING	0.540	0.762	0.161	-0.155	0.063
SMALL BUS ECON	-0.423	0.726	0.237	0.196	0.164
J SMALL BUS MANAGE	0.612	0.767	0.287	0.000	0.019
FAM BUS REV	-0.027	0.208	0.293	-0.704	-0.022
AM SOCIOL REV	-0.120	-0.258	-0.935	0.079	0.018
AM J SOCIOL	-0.105	-0.260	-0.937	0.076	0.011
RES POLICY	0.408	0.065	0.056	0.604	-0.204
MANAGE SCI	0.197	-0.427	0.353	0.576	0.293
J APPL PSYCHOL	0.547	-0.307	0.016	-0.574	-0.034
J FINANC ECON	-0.453	-0.551	0.322	0.220	0.523
J FINANC	-0.452	-0.549	0.330	0.218	0.522
HARVARD BUS REV	-0.275	-0.265	0.169	0.108	-0.770
% variance explained	40.7	21.2	11.2	9.1	4.9

	Management & Organization	Entrepreneurship	Technology & Policy	Psychology & Ethics
ACAD MANAGE J	0.973	-0.101	-0.076	0.011
ACAD MANAGE REV	0.971	-0.057	0.019	0.031
ORGAN SCI	0.947	0.027	0.260	-0.058
J MANAGE STUD	0.940	0.128	0.203	-0.118
ADMIN SCI QUART	0.891	-0.077	0.175	-0.026
J MANAGE	0.886	-0.081	-0.322	0.099
STRATEGIC MANAGE J	0.874	0.228	0.368	-0.096
J INT BUS STUD	0.662	0.195	0.265	-0.238
INT SMALL BUS J	-0.096	0.920	-0.048	0.063
ENTREP REGION DEV	-0.036	0.916	-0.038	0.030
ENTREP THEORY PRACT	0.385	0.878	-0.082	0.085
SMALL BUS ECON	-0.263	0.843	0.161	0.197
J SMALL BUS MANAGE	0.549	0.798	0.173	0.003
J BUS VENTURING	0.495	0.797	-0.108	-0.012
FAM BUS REV	-0.118	0.522	-0.233	0.041
RES POLICY	0.162	-0.037	0.877	0.135
TECHNOVATION	0.160	-0.056	0.858	0.114
MANAGE SCI	0.327	-0.234	0.589	0.109
J PERS SOC PSYCHOL	-0.174	-0.625	-0.458	0.279
J APPL PSYCHOL	0.353	-0.569	-0.612	0.244
ORGAN BEHAV HUM DEC	0.165	-0.682	-0.623	0.294
J BUS ETHICS	0.160	-0.210	-0.225	-0.872
% variance explained	37.2	27.3	13.7	5.2

	Economics vs. Entrepreneurship	Management vs. Regional	Finance	Innovation policy	Entrepreneurship (Economics)
INT J IND ORGAN	0.951	-0.194	-0.126	-0.084	0.038
J IND ECON	0.946	-0.207	-0.147	-0.007	0.057
ECON J	0.932	-0.188	-0.178	-0.195	0.071
AM ECON REV	0.923	-0.169	-0.222	-0.209	0.067
Q J ECON	0.912	-0.171	-0.228	-0.221	0.067
ECONOMETRICA	0.911	-0.145	-0.144	-0.218	-0.005
J POLIT ECON	0.766	-0.192	-0.152	-0.274	0.040
INT SMALL BUS J	-0.747	0.203	0.452	-0.096	0.338
ENTREP REGION DEV	-0.681	0.094	0.596	-0.063	0.284
ENTREP THEORY PRACT	-0.678	0.577	0.329	-0.012	0.287
J BUS VENTURING	-0.632	0.594	0.402	0.039	0.227
J SMALL BUS MANAGE	-0.630	0.623	0.372	0.133	0.185
FAM BUS REV	-0.613	0.376	0.087	-0.263	0.146
ACAD MANAGE J	-0.441	0.754	0.307	0.216	-0.247
J MANAGE	-0.549	0.751	0.236	0.154	-0.115
STRATEGIC MANAGE J	-0.449	0.742	0.269	0.316	-0.133
ADMIN SCI QUART	-0.339	0.742	0.248	0.257	-0.333
ACAD MANAGE REV	-0.460	0.739	0.371	0.230	-0.158
ENVIRON PLANN C	-0.283	-0.801	0.340	0.120	-0.226
RES STUD	0.076	-0.830	0.273	0.025	-0.254
J FINANC	0.277	-0.078	-0.894	-0.233	-0.007
J FINANC ECON	0.235	-0.067	-0.908	-0.228	-0.017
TECHNOVATION	-0.354	0.237	0.172	0.806	-0.059
RES POLICY	-0.046	0.065	0.191	0.942	0.008
SMALL BUS ECON	-0.022	0.008	0.078	-0.018	0.942
	59.0	12.4	9.2	6.8	4.2

2005-2009 (Summary of factorial analysis' results)

	2005	2006	2007	2008	2009
ETP	Management & Organization (45.9%)	Management & Organization (39.9%)	Management & Organization (49.1%)	Management & Organization (46.5%)	Management & Organization (40.7%)
	Entrepreneurship (22.3%); ETP; ISBJ; JBV; JSBM; SBE	Entrepreneurship (19.6%); ERD; ETP; ISBJ; JBV; JSBM; SBE	Entrepreneurship (23.8%); ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE	Entrepreneurship (Business/Manag) (23.9%); ETP; FBR; ISBJ; JBV; JSBM	Entrepreneurship (21.2%); ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE
	Business & Sociology (9.6%)	Sociology (10.8%)	Policy and Management science (8.1%)	Entrepreneurship (Economics) (7.1%); ERD; SBE	Sociology (11.2%)
	Entrepreneurship & Psychology (8.6%); ERD	Finance (8.1%)		Sociology (6.8%)	Policy and Management science (9.1%)
		Business (5.2%)		Management science (5.7%)	Finance (4.9%)
		Psychology (4.4%)			
JBV	Management & Organization (40.3%)	Management & Organization (44.5%)	Management & Organization (42.2%)	Management & Organization (53.2%)	Management & Organization (37.2%)
	Entrepreneurship (21.9%); ERD; ETP; ISBJ; JBV; JSBM; SBE	Entrepreneurship (18.9%); ERD; ETP; ISBJ; JBV; JSBM; SBE	Entrepreneurship (20.3%); ERD; ETP; FBR; ISBJ; JBV; JSBM; SBE	Technology & Policy (16.1%)	Entrepreneurship (27.3%); ERD; ETP; FBR; ISBJ; JBV; JSBM;
	Technology & Management (11.4%)	Technology (15.7%)	Technology & Policy (14.8%)	Entrepreneurship (Business/Manag) (10.9%); ETP; FBR; ISBJ; JBV; JSBM	Technology & Policy (13.7%)
	Business (5.0%)	Business (7.9%)	Sociology (6.0%)	Entrepreneurship (Economics) (4.3%); ERD; SBE	Psychology & Ethics (5.2%)
			Economics (4.6%)	Management science (3.5%)	
SBE	Economics (62.2%)	Economics (63.3%)	Management & Entrepreneurship (Business) vs Economics (62.7%); ERD; ETP; FBR; ISBJ; JBV; JSBM	Economics vs Entrepreneurship (Business) (59.7%); ERD; ETP; FBR; ISBJ; JBV; JSBM	Economics vs Entrepreneurship (Business) (59.0%); ERD; ETP; FBR; ISBJ; JBV; JSBM
	Management (13.8%)	Management (9.7%)	Management & Science Policy (13.9%)	Finance (13.6%)	Management vs Regional (12.4%)
	Technology & Policy (10.7%)	Entrepreneurship (Business) (7.9%); ERD; ETP; ISBJ; JBV; JSBM	Innovation & Regional (8.7%)	Management vs Entrepreneurship (Economics) (8.0%); SBE	Finance (9.2%)
	Entrepreneurship (5.9%); ERD; ETP; ISBJ; JBV; JSBM; SBE	Technology & Policy (4.9%)	Entrepreneurship (Economics) (5.4%); SBE	Innovation & Policy (8.0%)	Innovation & Policy (6.8%)
		Entrepreneurship (Economics) (4.6%); SBE	Finance (4.1%)		Entrepreneurship (Economics) (4.2%); SBE
Note	FBR was not included in IS				

Table A3: Ranks of the top-50 most cited authors in the papers published in each of the 7 selected entrepreneurship journals, 2005-2010 (#: number of citations)

ERD			ETP		FBR		ISBJ		JBV		JSBM		SBE	
Rank	Author	#	Author	#	Author	#	Author	#	Author	#	Author	#	Author	#
1	Johannisson, B.	128	Wright, M.	209	Chua, J.H.	347	Ram, M.	93	Shane, S.	183	Shane, S.	67	Audretsch, D.B.	372
2	Porter, M.E.	81	Zahra, S.A.	204	Chrisman, J.J.	323	Storey, D.J.	79	Shepherd, D.A.	170	Danes, S.M.	53	Thurik, A.R.	256
3	Westhead, P.	71	Chrisman, J.J.	200	Sharma, P.	269	Westhead, P.	73	Zahra, S.A.	144	Covin, J.G.	52	Reynolds, P.D.	227
4	Aldrich, H.E.	65	Shane, S.	195	Lubatkin, M.H.	172	Aldrich, H.E.	65	Gartner, W.B.	142	Barney, J.B.	51	Acs, Z.J.	161
5	Shane, S.	65	Hitt, M.A.	182	Dino, R.N.	142	Anderson, A.R.	64	Lerner, J.	129	Aldrich, H.E.	49	Storey, D.J.	159
6	Zahra, S.A.	65	Shepherd, D.A.	173	Shleifer, A.	142	Gartner, W.B.	61	Venkataraman, S.	129	Dess, G.G.	49	Shane, S.	157
7	Audretsch, D.B.	64	Aldrich, H.E.	167	Astrachan, J.H.	140	Curran, J.	60	Wright, M.	122	Cooper, A.C.	48	Autio, E.	128
8	Malmberg, A.	63	Chua, J.H.	161	Ward, J.L.	124	Blackburn, R.A.	57	Covin, J.G.	117	Venkataraman, S.	47	Evans, D.S.	128
9	Thurik, A.R.	63	Gartner, W.B.	159	Smyrniot, K.X.	122	Shane, S.	53	Eisenhardt, K.M.	116	Zahra, S.A.	46	Wright, M.	123
10	Davidsson, P.	58	Busenitz, L.W.	147	Miller, D.	118	Johannisson, B.	52	Sapienza, H.J.	110	Audretsch, D.B.	45	Gartner, W.B.	119
11	Wright, M.	58	Covin, J.G.	145	Reeb, D.M.	101	Wright, M.	50	Aldrich, H.E.	108	Gartner, W.B.	45	Davidsson, P.	109
12	Maskell, P.	57	Davidsson, P.	131	Steier, L.P.	101	Jack, S.L.	44	Barney, J.B.	103	Miller, D.	45	Fritsch, M.	101
13	Reynolds, P.D.	54	Miller, D.	125	Schulze, W.S.	92	Carter, S.	42	Cooper, A.C.	100	Eisenhardt, K.M.	44	Van Stel, A.J.	101
14	Gartner, W.B.	51	Sapienza, H.J.	123	Klein, S.B.	85	Birley, S.	39	Gompers, P.A.	98	Westhead, P.	43	Westhead, P.	99
15	Mason, C.M.	50	Barney, J.B.	122	Litz, R.A.	82	Chell, E.	39	Busenitz, L.W.	92	Brush, C.G.	42	Jovanovic, B.	93
16	Storey, D.J.	50	McDougall, P.P.	121	Jensen, M.C.	78	Granovetter, M.S.	39	Davidsson, P.	91	Hambrick, D.C.	42	Bygrave, W.D.	84
17	Acs, Z.J.	47	Sharma, P.	118	Williams, M.L.	78	Smallbone, D.	36	Hambrick, D.C.	91	Wright, M.	41	Carree, M.A.	83
18	Ram, M.	47	Brush, C.G.	116	Zahra, S.A.	77	Jones, T.	35	Baron, R.A.	90	McDougall, P.P.	40	Kirzner, I.M.	82
19	Wiklund, J.	47	MacMillan, I.C.	109	Vishny, R.W.	76	Gibb, A.	34	Woo, C.Y.	88	Reynolds, P.D.	40	Berger, A.N.	81
20	Anderson, A.R.	45	Ireland, R.D.	107	Danes, S.M.	73	Zahra, S.A.	34	Deeds, D.L.	83	Chrisman, J.J.	39	Carter, N.M.	78
21	Granovetter, M.S.	45	Venkataraman, S.	105	Anderson, R.C.	72	Davidsson, P.	33	March, J.G.	77	Sapienza, H.J.	38	Rajan, R.G.	75
22	Lumpkin, G.T.	42	Wiklund, J.	99	Donaldson, L.	70	Drakopoulou Dodd, S.	33	MacMillan, I.C.	73	Heck, R.K.Z.	37	Schumpeter, J.A.	74
23	Smallbone, D.	42	Dess, G.G.	97	Dyer, W.G.	65	Walsh, S.	33	McGrath, R.G.	71	Jensen, M.C.	36	Lerner, J.	73
24	Eisenhardt, K.M.	40	Lumpkin, G.T.	97	Davis, J.A.	60	Perren, L.	32	Stuart, T.E.	70	Busenitz, L.W.	34	Vivarelli, M.	71
25	Eliasson, G.	40	Peng, M.W.	97	Lansberg, I.	60	Jones, O.	31	Dess, G.G.	69	Davidsson, P.	34	Parker, S.C.	67
26	Harrison, R.T.	39	Bygrave, W.D.	91	Nunez-Nickel, M.	60	Shaw, E.	31	Sarasvathy, S.D.	69	Podsakoff, P.M.	34	Santarelli, E.	66
27	Steyaert, C.	39	Carter, N.M.	90	Habbershon, T.G.	59	Eisenhardt, K.M.	30	Folta, T.B.	68	Shepherd, D.A.	34	Shleifer, A.	66
28	North, D.	38	Eisenhardt, K.M.	87	Handler, W.C.	59	Venkataraman, S.	30	Hitt, M.A.	68	Porter, M.E.	33	Blanchflower, D.G.	65
29	Schmitz, H.	37	Bruton, G.D.	86	Stafford, K.	59	Cope, J.	29	Reynolds, P.D.	68	Slevin, D.P.	33	Udell, G.F.	63
30	Burt, R.S.	36	Kuratko, D.F.	86	Hitt, M.A.	57	Edwards, P.	29	Schumpeter, J.A.	68	Mitchell, R.K.	32	Wennekers, S.	63
31	Chrisman, J.J.	36	Slevin, D.P.	83	Le Breton-Miller, I.	56	Bennett, R.J.	28	Bygrave, W.D.	66	Dant, R.P.	31	Aldrich, H.E.	62
32	McDougall, P.P.	36	Cooper, A.C.	81	Sorenson, R.L.	55	Carson, D.	27	McDougall, P.P.	62	Kaufmann, P.J.	31	Hay, M.	61
33	Sharma, P.	36	Lockett, A.	81	Kellermanns, F.W.	54	Chrisman, J.J.	27	Slevin, D.P.	61	Kuratko, D.F.	31	Delmar, F.	60
34	Miller, D.	35	Lubatkin, M.H.	81	Lopez-de-Silanes, F.	52	Cooper, A.C.	27	Gulati, R.	60	Lafontaine, F.	31	Sapienza, H.J.	60
35	Keeble, D.	33	Westhead, P.	80	Schoorman, F.D.	52	Covin, J.G.	27	Zacharakis, A.	60	Narver, J.C.	31	Porter, M.E.	59
36	Schumpeter, J.A.	33	Baron, R.A.	79	Heck, R.K.Z.	51	Crick, D.	27	Miller, D.	59	Slater, S.F.	31	Cressy, R.	58
37	Autio, E.	32	Chandler, G.N.	78	MacMillan, I.C.	50	Deakins, D.	27	Carter, N.M.	58	Berger, A.N.	30	Geroski, P.A.	57
38	Cooke, P.	32	Reynolds, P.D.	77	Salvato, C.	50	Barney, J.B.	26	Van de Ven, A.H.	58	Hitt, M.A.	30	Cooper, A.C.	54
39	Birley, S.	31	March, J.G.	73	Dyer Jr., W.G.	47	Miller, D.	26	Brush, C.G.	55	Chandler, G.N.	29	Holtz-Eakin, D.	54
40	Chell, E.	31	Autio, E.	66	Mansi, S.	46	Sharma, P.	26	Hannan, M.T.	55	Jaworski, B.J.	28	Wagner, J.	54

(...)

ERD			ETP		FBR		ISBJ		JBV		JSBM		SBE	
Rank	Author	#	Author	#	Author	#	Author	#	Author	#	Author	#	Author	#
41	Krugman, P.	31	Powell, W.W.	66	Nordqvist, M.	44	Baines, S.	24	Gimeno-Gascon, F.J.	54	Winter, M.	28	Venkataraman, S.	53
42	Van Stel, A.J.	31	Krueger, N.F.	64	Morck, R.	43	Burt, R.S.	24		Kirzner, I.M.	54	Woo, C.Y.	28	Zahra, S.A.
43	Covin, J.G.	30	Burt, R.S.	63	Gutierrez, I.	42	Macpherson, A.	24	Lumpkin, G.T.	54	MacMillan, I.C.	27	Baumol, W.J.	52
44	Shepherd, D.A.	30	Daily, C.M.	63	Lang, L.	42	Pittaway, L.	24	Levinthal, D.A.	53	Morris, M.H.	27	Roberts, M.J.	51
45	Storper, M.	30	Greene, P.G.	63	Aronoff, C.E.	39	Chua, J.H.	23	Porter, M.E.	53	Lumpkin, G.T.	26	Stiglitz, J.E.	51
46	Jack, S.L.	29	Mitchell, R.K.	62	Lumpkin, G.T.	38	Freel, M.S.	23	Audretsch, D.B.	52	Sharma, P.	26	Brush, C.G.	49
47	Saxenian, A.L.	29	Birley, S.	61	Melin, L.	38	Marlow, S.	23	Westhead, P.	52	Stafford, K.	26	Cohen, W.M.	48
48	Venkataraman, S.	29	Gatewood, E.J.	61	Tanewski, G.A.	38	Stanworth, J.	23	Birley, S.	51	Chua, J.H.	25	Minniti, M.	48
49	Portes, A.	28	Granovetter, M.S.	61	Panunzi, F.	37	Ucbasaran, D.	23	Delmar, F.	51	Kohli, A.K.	25	Bates, T.	47
50	Powell, W.W.	28	Steier, L.	61	Fialko, A.S.	36	Autio, E.	22	Chandler, G.N.	46	Pelham, A.M.	25	Fairlie, R.W.	47
51							Brush, C.G.	22	Honig, B.	46			Oswald, A.J.	47
52							McDougall, P.P.	22	Simon, H.A.	46				
53							Thorpe, R.	22						

Note: Dark (grey) cells means that the author is present in all (5-6) journals.
Source: Author's computation based on data gathered from the Scopus database.

Table A4: Ranks of the top-50 most cited sources in the 7 selected entrepreneurship journals

ERD		ETP		FBR		ISBJ		JBV		JSBM		SBE	
Sources	#	Sources	#	Sources	#	Sources	#	Sources	#	Sources	#	Sources	#
Entrepreneurship and Regional Development	495	Journal of Business Venturing	1330	Family Business Review	260	International Small Business Journal	586	Journal of Business Venturing	1563	Journal of Small Business Management	387	Small Business Economics	322
Journal of Business Venturing	374	Entrepreneurship Theory and Practice	1282	Entrepreneurship Theory and Practice	151	Journal of Business Venturing	291	Strategic Management Journal	817	Strategic Management Journal	382	Journal of Business Venturing	117
Entrepreneurship Theory and Practice	296	Strategic Management Journal	820	Journal of Financial Economics	64	Entrepreneurship Theory and Practice	279	Academy of Management Review	633	Journal of Business Venturing	380	Strategic Management Journal	109
Regional Studies	196	Academy of Management Review	810	Academy of Management Journal	63	Strategic Management Journal	221	Academy of Management Journal	612	Entrepreneurship Theory and Practice	275	Journal of Finance	101
Strategic Management Journal	187	Academy of Management Journal	654	Journal of Finance	61	Journal of Small Business Management	187	Entrepreneurship Theory and Practice	570	Academy of Management Journal	236	American Economic Review	93
Academy of Management Review	179	Administrative Science Quarterly	448	Journal of Business Venturing	49	Academy of Management Review	174	Administrative Science Quarterly	490	Academy of Management Review	213	Journal of Political Economy	73
Small Business Economics	175	Journal of Management	372	Strategic Management Journal	43	Entrepreneurship and Regional Development	138	Organization Science	276	Family Business Review	156	Journal of Financial Economics	68
Family Business Review	124	Family Business Review	282	Academy of Management Review	37	Small Business Economics	132	Journal of Management	236	Administrative Science Quarterly	131	Research Policy	61
Research Policy	110	Organization Science	274	Journal of Accounting and Economics	35	Academy of Management Journal	125	Journal of Finance	220	Journal of Marketing	131	Entrepreneurship Theory and Practice	60
Academy of Management Journal	109	Journal of Small Business Management	240	Journal of Accounting Research	27	Journal of Management Studies	110	Management Science	217	Journal of Management	126	Quarterly Journal of Economics	58
Administrative Science Quarterly	101	Journal of International Business Studies	189	Accounting Review	26	Administrative Science Quarterly	107	Journal of Small Business Management	173	Small Business Economics	122	Academy of Management Journal	53
International Small Business Journal	88	Management Science	186	Journal of Small Business Management	21	Family Business Review	97	Small Business Economics	156	Management Science	86	Journal of Industrial Economics	49
Journal of International Business Studies	82	Journal of Management Studies	175	Journal of Management Studies	19	Journal of Small Business and Enterprise Development	81	Journal of Financial Economics	154	Organization Science	77	Journal of Banking and Finance	48
European Planning Studies	76	Harvard Business Review	174	Journal of Corporate Finance	18	Harvard Business Review	73	American Economic Review	134	Journal of Finance	72	Journal of Management	37
Journal of Small Business Management	75	American Journal of Sociology	172	Journal of Management	17	Research Policy	70	American Journal of Sociology	119	Journal of International Business Studies	70	Management Science	37
American Journal of Sociology	73	American Review of Sociology	150	Administrative Science Quarterly	16	Technovation	70	Harvard Business Review	117	Harvard Business Review	69	Journal of Small Business Management	35
Organization Science	70	Small Business Economics	146	Corporate Governance: An International Review	13	Journal of Marketing	63	Research Policy	108	International Small Business Journal	67	Academy of Management Review	34
Journal of Management Studies	63	Journal of Applied Psychology	139	Organization Science	13	Journal of Management	59	Frontiers of Entrepreneurship Research	102	Journal of Applied Psychology	65	Econometrica	33
Journal of Management	60	Journal of Finance	138	Small Business Economics	13	Management Science	59	Journal of Applied Psychology	100	Journal of Marketing Research	61	Administrative Science Quarterly	32
American Economic Review	54	Entrepreneurship and Regional Development	135	Journal of Political Economy	12	Frontiers of Entrepreneurship Research	57	American Sociological Review	98	Research Policy	60	Review of Economics and Statistics	29
Harvard Business Review	53	Frontiers of Entrepreneurship Research	130	American Economic Review	11	International Journal of Entrepreneurial Behavior and Research	54	Journal of Personality and Social Psychology	94	Journal of Financial Economics	52	Economic Journal	28
World Development	50	Journal of Financial Economics	122	Management Science	11	Organization Science	53	Journal of Political Economy	91	Journal of Management Studies	49	International Journal of Industrial Organization	28
Organization Studies	44	Academy of Management Executive	88	Journal of Business Research	10	Journal of International Business Studies	52	Journal of Management Studies	87	Journal of Business Research	42	Journal of Economic Literature	28
Urban Studies	44	Research Policy	86	Journal of Applied Psychology	9	American Journal of Sociology	44	Entrepreneurship and Regional Development	85	The American Economic Review	39	Industrial and Corporate Change	27
American Sociological Review	41	American Economic Review	83	Entrepreneurship and Regional Development	8	Journal of Finance	43	Quarterly Journal of Economics	77	Entrepreneurship and Regional Development	37	Journal of Evolutionary Economics	26
Frontiers of Entrepreneurship Research	41	Venture Capital: An International Journal of Entrepreneurial Finance	77	Journal of Banking and Finance	8	Organization Studies	43	Journal of Marketing	76	American Journal of Sociology	35	Organization Science	26
Cambridge Journal of Economics	39	International Small Business Journal	74	Organizational Dynamics	8	Regional Studies	43	California Management Review	73	American Sociological Review	35	Review of Economic Studies	25
Journal of Economic Geography	39	Journal of Personality and Social Psychology	74	The Sage Handbook of Organizational Institutionalism	8	British Journal of Management	41	Journal of International Business Studies	73	Journal of Business Ethics	35	The Economic Journal	24

(...)

ERD		ETP		FBR		ISBJ		JBV		JSBM		SBE	
Sources	#	Sources	#	Sources	#	Sources	#	Sources	#	Sources	#	Sources	#
Management Science	39	California Management Review	69	American Journal of Sociology	7	Human Relations	38	Journal of Business Ethics	63	Journal of Developmental Entrepreneurship	35	Journal of International Business Studies	23
Journal of Political Economy	38	Journal of Political Economy	65	Contemporary Accounting Research	7	Journal of International Marketing	37	Econometrica	57	Journal of the Academy of Marketing Science	35	European Economic Review	22
Economic Geography	34	Asia Pacific Journal of Management	64	American Sociological Review	6	Education & Training	34	Journal of Marketing Research	57	Frontiers of Entrepreneurship Research	34	Journal of Labor Economics	22
Technovation	34	Annual Review of Sociology	61	International Journal of the Economics of Business	6	Journal of Applied Psychology	33	Academy of Management Executive	55	Journal of Banking and Finance	31	American Sociological Review	21
International Business Review	32	Journal of Marketing Research	61	Journal of Law and Economics	6	European Journal of Marketing	32	Organization Studies	50	Technovation	31	Entrepreneurship and Regional Development	19
Venture Capital: An International Journal of Entrepreneurial Finance	31	Organization Studies	61	Organization Studies	6	Industrial Marketing Management	32	Venture Capital: International Journal of Entrepreneurial Finance	50	Psychological Bulletin	30	Regional Studies	19
International Journal of Entrepreneurial Behaviour and Research	29	Advances in Entrepreneurship, Firm Emergence and Growth	60	Psychological Bulletin	6	Journal of Financial Economics	31	Journal of Law and Economics	47	California Management Review	29	Journal of Business	18
Academy of Management Executive	28	Psychological Bulletin	54	Quarterly Journal of Economics	6	International Business Review	30	Advances in Entrepreneurship, Firm Emergence and Growth	47	Journal of Law and Economics	29	Journal of Human Resources	18
Environment and Planning C: Government and Policy	28	Journal of Marketing	51	Annual Review of Sociology	5	Technology Analysis & Strategic Management	30	International Small Business Journal	46	International Marketing Review	28	Journal of Money	18
Journal of International Marketing	28	Organizational Behavior and Human Decision Processes	48	California Management Review	5	Journal of Marketing Research	29	Family Business Review	41	European Journal of Marketing	27	Economics of Innovation and New Technology	17
Environment and Planning A	27	Journal of Organizational Behavior	46	Harvard Business Review	5	Long Range Planning	29	Industrial and Corporate Change	40	Organization Studies	25	Entrepreneurship and Management Journal	17
Journal of Business Research	26	Quarterly Journal of Economics	46	Industrial Relations	5	International Marketing Review	28	Psychological Bulletin	38	Journal of International Marketing	24	Journal of Development Economics	17
Journal of Marketing	26	Journal of Business Research	43	Journal of Business Ethics	5	Journal of the Academy of Marketing Science	28	Research in Organization Behavior	37	Quarterly Journal of Economics	24	Journal of Financial Intermediation	17
California Management Review	25	Journal of Developmental Entrepreneurship	43	Journal of Financial and Quantitative Analysis	5	American Sociological Review	27	Journal of Economic Literature	35	Journal of Retailing	23	Review of Industrial Organization	17
International Marketing Review	25	Global Entrepreneurship Monitor	39	Journal of Small Business and Enterprise Development	5	California Management Review	27	Economic Journal	34	Personnel Psychology	23	International Small Business Journal	16
Journal of World Business	24	Journal of Law and Economics	39	Organizational Research Methods	5	Journal of Business Research	26	Journal of Product Innovation Management	34	Regional Studies	21	Financial Management	15
European Urban and Regional Studies	23	Human Relations	37	Accounting Horizons	4	Work, Employment and Society	26	Sloan Management Review	34	Journal of Organizational Behavior	19	American Journal of Sociology	14
Industrial and Corporate Change	23	Research in Organizational Behavior	37	Accounting, Organizations and Society	4	Understanding the Small Business Sector	25	Handbook of Organization	34	Journal of Small Business and Enterprise Development	19	Applied Economics	14
International Studies of Management and Organization	23	Handbook of Organizations	34	Auditing: A Journal of Practice & Theory	4	American Economic Review	24	The Theory of Economic Development	33	Organizational Dynamics	19	Journal of Econometrics	14
Annual Review of Sociology	20	Organizational Dynamics	33	Econometrica	4	R&D Management	24	Financial Management	32	Rand Journal of Economics	19	Harvard Business Review	13
Journal of Small Business and Enterprise Development	20	Sloan Management Review	33	Industrial and Labor Relations Review	4	Journal of Product Innovation Management	23	Journal of Banking and Finance	32	Academy of Management Executive	18	Journal of Economic Behavior and Organization	13
Economic Development Quarterly	19	The New Institutionalism in Organisational Analysis	33	Journal of Business Finance and Accounting	4	Management Learning	23	RAND Journal of Economics	31	Journal of Marketing Theory and Practice	18	Journal of Law and Economics	13
International Journal of Urban and Regional Research	19			Journal of Financial Intermediation	4					Journal of Product Innovation Management	18	Journal of Management Studies	13
Progress in Human Geography	19									Management International Review	18		

Table A5: Top-25 most cited studies for each of the 7 journals in analysis

Rank	study	ERD	study	ETP	study	FBR	study	ISBJ
1	Yin, R., (1994) Case Study Research, , London: Sage	23	Shane, S., Venkataraman, S., The promise of entrepreneurship as a field of research (2000) Academy of Management Journal, 25 (1), pp. 217-226	53	Anderson, R., Reeb, D., Founding family ownership and firm performance evidence from the S&P 500 (2003) Journal of Finance, 58 (3), pp. 1301-1328	39	Storey, D., (1994) Understanding the Small Business Sector, , London: Routledge	24
2	Granovetter, M., Economic action and social structure: The problem of embeddedness (1985) American Journal of Sociology, 91 (3), pp. 481-510	20	Barney, J., Firm resources and sustained competitive advantage (1991) Journal of Management, 17 (1), pp. 99-119	37	Schulze, S., Lubatkin, M., Dino, R., Buchholtz, A., Agency relationships in family firms: Theory and evidence (2001) Organization Science, 12, pp. 99-116	34	Curran, J., Blackburn R., A., (2001) Researching the Small Enterprise, , London: Sage	19
3	Johannisson, B., Ramirez-Pedillas, M., Karlsson, G., The institutional embeddedness of local inter-firm networks: A leverage for business creation (2002) Entrepreneurship & Regional Development, 14, pp. 297-313	19	Stinchcombe, A., Social structure and organizations (1965) Handbook of Organization, pp. 142-193. , In J. March (Ed.) Chicago: Rand McNally	32	Gersick, K., Davis, J., Hampton, M., Lansberg, I., (1997) Generation to Generation, , Boston, MA: Harvard Business School Press	29	Granovetter, M., Economic Action and Social Structure: The Problem of Embeddedness (1985) American Journal of Sociology, 91, pp. 481-510	16
4	Eisenhardt, K., Building theories from case study research (1989) Academy of Management Review, 14, pp. 532-550	16	Pfeffer, J., Salancik, G., (1978) The External Control of Organizations, , New York: Harper & Row	30	Jensen, M., Meckling, O., Theory of the firm: Managerial behavior, agency costs and ownership structure (1976) Journal of Financial Economics, 3 (2), pp. 305-360	27	Granovetter, M., The strength of weak ties (1973) American Journal of Sociology, 78 (6), pp. 1360-1380	15
5	Johannisson, B., Networking and entrepreneurial growth (2000) Handbook of Entrepreneurship, pp. 368-386. , Blackwell, London	16	Granovetter, M., Economic action and social culture: The problem of embeddedness (1985) American Journal of Sociology, 91 (3), pp. 481-510	28	Habbershon, T., Williams, M., A resource-based framework for assessing the strategic advantages of family firms (1999) Family Business Review, 12, pp. 1-25	24	Shane, S., Venkataraman, S., 'The Promise of Entrepreneurship as a Field of Research' (2000) Academy of Management Review, 25 (1), p. 217	15
6	Shane, S., Venkataraman, S., The promise of entrepreneurship as a field of research (2000) Academy of Management Review, 25 (1), pp. 217-226	16	Penrose, E., (1959) The Theory of the Growth of the Business, , Oxford: Oxford University Press	28	Sharma, P., An overview of the field of family business studies. Current status and directions for the future (2004) Family Business Review, 17, pp. 1-36	24	Grant, P., Perren, L., 'Small Business and Entrepreneurial Research: Meta Theories, Paradigms and Prejudices' (2002) International Small Business Journal, 20 (2), pp. 185-211	14
7	Burt, R., (1992) Structural Holes, The Social Structure of Competition, , Cambridge: Harvard University Press	15	Burt, R., (1992) Structural Holes: The Social Structure of Competition, , Cambridge, MA: HUP	27	Sirmon, D., Hitt, M., Managing resources: Linking unique resources, management, and wealth creation in family firms (2003) Entrepreneurship Theory and Practice, 27 (4), pp. 339-358	24	Perren, L., Ram, M., 'Case Study Method in Small Business and Entrepreneurial Research: Mapping Boundaries and Perspectives' (2004) International Small Business Journal, 22 (1), pp. 83-101	14
8	Granovetter, M., The strength of weak ties (1973) American Journal of Sociology, 78 (6), pp. 1360-1380	14	Nahapiet, J., Ghoshal, S., Social capital and the organizational advantage (1998) Academy of Management Review, 23 (2), pp. 242-266	26	Chua, J.H., Chrisman, J.J., Sharma, P., Defining the family business by behavior (1999) Entrepreneurship Theory & Practice, 23 (4), pp. 19-39	23	Hoang, H., Antoncic, B., 'Network Based Research in Entrepreneurship: A Critical Review' (2003) Journal of Business Venturing, 18 (2), pp. 165-187	12
9	Storey, D., (1994) Understanding the Small Business Sector, , (London: Routledge)	14	Schumpeter, J., (1934) The Theory of Economic Development, , Boston, MA: Harvard University Press	26	Villalonga, B., Amit, R., How do family ownership, control and management affect firm value (2006) Journal of Financial Economics, 80, pp. 388-417	21	Kirzner, I., (1973) Competition and Entrepreneurship, , Chicago, IL: Chicago University Press	12
10	Maskell, P., Malmberg, A., Localised learning and industrial competitiveness (1999) Cambridge Journal of Economics, 23 (2), pp. 167-185	13	Lumpkin, G., Dess, G., Clarifying the entrepreneurial orientation construct and linking it to performance (1996) Academy of Management Journal, 21 (1), pp. 135-172	25	Ward, J.I., (1987) Keeping the Family Business Healthy: How to Plan for Continuing Growth, Profitability, and Family Leadership, , San Francisco, CA: Jossey-Bass	21	Schumpeter, J., (1934) The Theory of Economic Development, , Cambridge, MA: Harvard University Press	12
11	Porter, M., (1990) The Competitive Advantage of Nations, , New York: Free Press	13	Chua, J.H., Chrisman, J.J., Sharma, P., Defining family business by behavior (1999) Entrepreneurship Theory and Practice, 23, pp. 19-39	24	Chrisman, J.J., Chua, J.H., Sharma, L.P., Trends and directions in the development of a strategic management theory of the family firm (2005) Entrepreneurship Theory and Practice, 29, pp. 555-575	18	Davidsson, P., Honig, B., The role of human and social capital among nascent entrepreneurs (2003) Journal of Business Venturing, 18 (3), pp. 301-331	11
12	Schumpeter, J., (1934) The theory of economic development, , Cambridge, MA: Harvard University Press	13	Gersick, K., Davis, J., Hampton, M., Lansberg, I., (1997) Generation to Generation, , Boston: Harvard Business School Press	24	Morck, R., Shleifer, A., Vishny, R., Management ownership and market valuation: An empirical analysis (1988) Journal of Financial Economics, 20, pp. 293-316	18	Uzzi, B., 'Social Structures and Competition in Interfirm Networks: The Paradox of Embeddedness' (1997) Administrative Science Quarterly, 42, pp. 35-67	11
13	Cohen, W.M., Levinthal, D.A., Absorptive capacity: A new perspective on learning and innovation (1990) Administrative Science Quarterly, 35 (1), pp. 128-152	12	Jensen, M., Meckling, W., Theory of the firm: Managerial behavior, agency cost and ownership structure (1976) Journal of Financial Economics, 3 (4), pp. 305-360	24	Schulze, W., Lubatkin, M., Dino, R., Exploring the agency consequences of ownership dispersion among the directors of private family firms (2003) Academy of Management Journal, 46 (2), pp. 179-194	18	Yin, R., (1994) Case Study Research, , London: Sage	11
14	Penrose, E., (1959) The Theory of the Growth of the Firm, , Blackwell, Oxford	12	Schulze, W., Lubatkin, M.H., Dino, R.N., Buchholtz, A.K., Agency relationships in family firms: Theory and evidence (2001) Organization Science, 12 (2), pp. 99-116	24	Fama, E., Jensen, M., Separation of ownership and control (1983) Journal of Law and Econometrics, 26, pp. 301-325	17	Barney, J., Firm resources and sustained competitive advantage (1991) Journal of Management, 17 (1), p. 99	10
15	Steyaert, C., Katz, J., Reclaiming the space of entrepreneurship in society: Geographical, discursive and social dimensions (2004) Entrepreneurship & Regional Development, 16 (2), pp. 179-196	12	Shane, S., Prior knowledge and discovery of entrepreneurial opportunities (2000) Organization Science, 11, pp. 448-469	24	Habbershon, T., Williams, M., MacMillan, I.C., A unified systems perspective of family firm performance (2003) Journal of Business Venturing, 18, pp. 451-466	17	Cohen, W., Levinthal, D., Absorptive capacity: A new perspective on learning and innovation (1990) Administrative Science Quarterly, 35 (1), pp. 128-152	10
16	Gartner, W.B., A conceptual framework for describing the phenomenon of new venture creation (1985) Academy of Management Review, 10 (4), pp. 696-706	11	Venkataraman, N., The distinctive domain of entrepreneurship research (1997) Advances in entrepreneurship, organization emergence, and growth, pp. 119-138. , Katz J. Ed., Greenwich, CT, JAI Press	24	Sharma, P., Chrisma, J.J., Chua, J.H., Strategic management of the family business: Past research and future challenges (1997) Family Business Review, pp. 1-35. , Spring	17	Eisenhardt, K., 'Building Theories from Case Study Research' (1989) Academy of Management Review, 14 (4), pp. 532-550	10

(...)

Rank	study	ERD	study	ETP	study	FBR	study	ISBJ
17	Uzzi, B., Social structure and competition in interfirm networks: The paradox of embeddedness (1997) <i>Administrative Science Quarterly</i> , 42 (1), pp. 35-67	11	Aldrich, H., Fiol, C., Fools rush in? The institutional context of industry creation (1994) <i>Academy of Management Review</i> , 19 (4), pp. 645-670	23	Astrachan, J., Klein, S., Smyrnios, K., The F-PEC scale of family influence: A proposal for solving the family business definition problem (2002) <i>Family Business Review</i> , 15 (1), pp. 45-58	16	Nahapiet, J., Ghoshal, S., 'Social Capital, Intellectual Capital, and the Organisational Advantage' (1998) <i>Academy of Management Review</i> , 23 (2), pp. 242-266	10
18	Davidsson, P., Culture, structure and regional levels of entrepreneurship (1995) <i>Entrepreneurship and Regional Development</i> , 7 (1), pp. 41-62	10	Eisenhardt, K., Building theories from case study research (1989) <i>Academy of Management Review</i> , 14 (4), pp. 488-511	23	Davis, J.F., Schoorman, F.D., Donaldson, L., Toward a stewardship theory of management (1997) <i>Academy of Management Review</i> , 22 (1), pp. 20-47	16	Shaw, E., 'Small Firm Networking: An Insight into Contents and Motivating Factors' (2006) <i>International Small Business Journal</i> , 24 (1), pp. 5-29	10
19	Krugman, P., (1991) <i>Geography and Trade</i> , (Cambridge, MA: MIT Press)	10	Baron, R., Cognitive mechanisms in entrepreneurship: Why and when entrepreneurs think differently than other people (1998) <i>Journal of Business Venturing</i> , 13 (4), pp. 275-294	22	James, H., Owner as manager, extended horizons and the family firm (1999) <i>International Journal of Economics and Business</i> , 6, pp. 41-56	16	Zhang, M., Macpherson, A., Jones, O., 'Conceptualising the Learning Process in SMEs: Improving Innovation Through External Orientation' (2006) <i>International Small Business Journal</i> , 24 (3), pp. 299-323	10
20	Lumpkin, G., Dess, G., Clarifying the entrepreneurial orientation construct and linking it to performance (1996) <i>Academy of Management Review</i> , 21, pp. 135-173	10	Busenitz, L., Barney, J., Differences between entrepreneurs and managers in large organisations: Biases and heuristics in strategic decision-making (1997) <i>Journal of Business Venturing</i> , 12, pp. 9-30	22	Morck, R., Yeung, B., Agency problems in large business groups (2003) <i>Entrepreneurship Theory and Practice</i> , 27, pp. 367-382	16	Aldrich, H.E., Zimmer, C., Entrepreneurship through social networks (1986) <i>Art and Science of Entrepreneurship</i> , pp. 3-23, In: Sexton D, Smilor R (eds), Cambridge MA: Ballinger Publishing Company	9
21	Markusen, A., Sticky places in slippery space: A typology of industrial districts (1996) <i>Economic Geography</i> , 72 (3), pp. 293-313	10	Coleman, J., Social capital in the creation of human capital (1988) <i>American Journal of Sociology</i> , 94 (SUPPL.), pp. S95-S120	22	Barney, J., Firm resources and sustained competitive advantage (1991) <i>Journal of Management</i> , 17 (1), pp. 99-120	15	Cope, J., Watts, G., 'Learning by Doing: An Exploration of Experience, Critical Incidents and Reflection and Entrepreneurial Learning' (2000) <i>International Journal of Entrepreneurial Behavior and Research</i> , 6 (3), pp. 104-124	9
22	Saxenian, A., (1994) <i>Regional Advance: Culture and Competition in Silicon Valley and Route</i> , Cambridge MA: Harvard University Press	10	Davidsson, P., Honig, B., Role of social and human capital among nascent entrepreneurs (2003) <i>Journal of Business Venturing</i> , 18 (3), pp. 301-331	22	Tagiuri, R., Davis, J., Bivalent attitudes of the family firm (1996) <i>Family Business Review</i> , 9, pp. 199-208	15	Glaser, B., Strauss, A., (1967) <i>The Discovery of Grounded Theory</i> , Chicago, IL: Aldine	9
23	Lechner, C., Dowling, M., Firm networks: External relationships as sources for the growth and competitiveness of entrepreneurial firms (2003) <i>Entrepreneurship & Regional Development</i> , 15 (1), pp. 1-26	9	Sirmon, D., Hitt, M., Managing resources: Linking unique resource management and wealth creation in family firms (2003) <i>Entrepreneurship Theory and Practice</i> , 27 (4), pp. 339-358	22	Carney, M., Corporate governance and competitive advantage in family controlled firms (2005) <i>Entrepreneurship Theory and Practice</i> , 29 (4), pp. 249-265	14	Larson, A., 'Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships' (1992) <i>Administrative Science Quarterly</i> , 37 (1), pp. 76-104	9
24	Piore, M., Sabel, C., (1984) <i>The Second Industrial Divide</i> , New York: Basic Books	9	Cyert, R., March, J., (1963) <i>A behavioral theory of the firm</i> , Englewood Cliffs, NJ, Prentice-Hall	20	Chrisman, J.J., Chua, J.H., Litz, R., A unified systems perspective of family firm performance: An extension and integration (2003) <i>Journal of Business Venturing</i> , 18 (4), pp. 467-472	14	Neergaard, H., 'Networking Activities in Technology Based Entrepreneurial Team' (2005) <i>International Small Business Journal</i> , 23 (3), pp. 257-278	9
25	Porter, M., Clusters and the new economics of competition (1998) <i>Harvard Business Review</i> 76, pp. 77-90, November-December	9	DiMaggio, P., Powell, W., (1991) <i>The new institutionalism in organizational analysis</i> , Chicago, University of Chicago Press	20	Corbetta, G., Salvato, C., Self-serving of self-actualizing? Models of man and agency costs in different types of family firms: A commentary on "Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence" (2004)	14	Anderson, A., Park, J., Jack, S., Entrepreneurial Social Capital: Conceptualizing Social Capital in New High-tech Firms (2007) <i>International Small Business Journal</i> , 25 (3), pp. 245-72	8
			Habbershon, T., Williams, M., MacMillan, I., A unified systems perspective of family firm performance (2003) <i>Journal of Business Venturing</i> , 18, pp. 451-465	20	Dyer Jr., W.G., Examining the "family effect" on firm performance (2006) <i>Family Business Review</i> , 19, pp. 253-273	14	Anderson, A.R., Jack, S.L., The Articulation of Social Capital in Entrepreneurial Networks: A Glue or Lubricant? (2002) <i>Entrepreneurship and Regional Development</i> , 14 (3), pp. 193-210	8
			Podsakoff, P., Organ, D., Self-reports in organizational research: Problems and prospects (1986) <i>Journal of Management</i> , 12, pp. 531-544	20	Gomez-Meja, L.R., Nunez-Nickel, M., Gutierrez, I., The role of family ties in agency contracts (2001) <i>Academy of Management Journal</i> , 44 (1), pp. 81-95	14	Gibb, A., 'Small Firms' Training and Competitiveness: Building on the Small Business as a Learning Organization' (1997) <i>International Small Business Journal</i> , 15 (3), pp. 13-29	8
					McConaughy, D., Matthews, C., Fialco, A., Founding family controlled firms: Performance, risk & value (2001) <i>Journal of Small Business Management</i> , 39, pp. 31-49	14	Shane, S., 'Prior Knowledge and the Discovery of Entrepreneurial Opportunities' (2000) <i>Organisational Science</i> , 11 (4), pp. 448-469	8
					Miller, D., Breton-Miller, I., (2005) <i>Managing for the Long Run: Lessons in Competitive Advantage from Great Family Businesses</i> , Boston, MA: Harvard Business School Press	14		
					Schulze, W., Lubatkin, M., Dino, R., Toward a theory of agency and altruism in family business (2003) <i>Journal of Business Venturing</i> , 18, pp. 473-490	14		

(...) **Table A5: Top-25 most cited studies for each of the 7 journals in analysis**

Rank	study	JBV	study	JSBM	study	SBE
1	Shane, S., Venkataraman, S., The promise of entrepreneurship as a field of research (2000) Acad. Manage. Rev., 25 (1), pp. 217-226	55	Barney, J., Firm Resource and Sustained Competitive Advantage (1991) Journal of Management, 17 (1), pp. 99-120	24	Jovanovic, B., Selection and evolution of industry (1982) Econometrica, 50 (3), pp. 649-670	38
2	Schumpeter, J., (1934) The Theory of Economic Development, , Boston, MA: Harvard University Press	40	Jensen, M., Meckling, W., Managerial behavior, agency costs and ownership structure (1976) Journal of Financial Economics, 3, pp. 305-360	19	Storey, D.J., (1994) Understanding the Small Business Sector, , International Thomson Business Press London	28
3	Stinchcombe, A.L., Organizations and social structure (1965) Handbook of Organizations, pp. 142-193. , March J.G. (Ed), Rand McNally, Chicago	31	Porter, M., (1980) Competitive Advantage, , New York, Free Press	17	Stiglitz, J.E., Weiss, A., Credit rationing in markets with imperfect information (1981) American Economic Review, 71 (3), pp. 393-410	28
4	Cohen, W., Levinthal, D., Absorptive capacity: A new perspective on learning and innovation (1990) Adm. Sc. Q., 35, pp. 128-152	30	Shane, S.A., Venkataraman, S., The Promise of Entrepreneurship as a Field of Research (2000) Academy of Management Review, 25 (1), pp. 217-226	16	Sutton, J., Gibrat's legacy (1997) Journal of Economic Literature, 35 (1 MARCH), pp. 40-59	24
5	Gimeno, J., Folta, T., Cooper, A., Woo, C., Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms (1997) Adm. Sci. Q., 42 (4), pp. 750-783	27	Jaworski, B.J., Kohli, A.J., Kumar, A., MARKOR: A measure of market orientation (1993) Journal of Marketing Research, 30 (4), pp. 467-477	16	Geroski, P.A., What do we Know about Entry? (1995) International Journal of Industrial Organisation, 13 (4), pp. 421-441	24
6	Davidsson, P., Honig, B., The role of human and social capital among nascent entrepreneurs (2003) Journal of Business Venturing, 18 (3), pp. 301-331	26	Penrose, E., (1959) The Theory of the Growth Firm, , New York: John Wiley and Sons	15	Blanchflower, D.G., Oswald, A.J., What makes a young entrepreneur? (1990) Discussion Paper Number 373, 373. , Centre for Labour Economics, London School of Economics	20
7	Barney, J.B., Firm resources and sustained competitive advantage (1991) Journal of Management, 11, pp. 791-800	25	Covin, J.G., Slevin, D.P., Strategic Management in Small Firms in Hostile and Benign Environments (1989) Strategic Management Journal, 10, pp. 75-87	15	Evans, D.S., Jovanovic, B., An estimated model of entrepreneurial choice under liquidity constraint (1989) Journal of Political Economy, 4 (97), pp. 808-827	20
8	Busenitz, L.W., Barney, J.B., Differences between entrepreneurs and managers in large organizations: Biases and heuristics in strategic decision making (1997) J. Bus. Venturing, 12 (1), pp. 9-30	24	Stinchcombe, A., Organizations and social structure (1965) Handbook of Organizations, pp. 142-193. , Ed. J. G. March. Chicago, IL: Rand McNally	13	Schumpeter, J.A., (1934) The Theory of Economic Development (trans. R. Opie) , Cambridge, MA: Harvard University Press	20
9	Venkataraman, S., The distinctive domain of entrepreneurship research (1997) Advances in entrepreneurship, firm emergence and growth, 3, pp. 119-138. , Katz J.A. (Ed), JAI Press, Greenwich, CT	24	Schumpeter, J., (1934) The Theory of Economic Development, , Cambridge, MA: Harvard University Press	13	Cressy, R., Are Business Startups Debt Rationed (1996) The Economic Journal, 106, pp. 1253-1270	19
10	Lumpkin, G., Dess, G.G., Clarifying the entrepreneurial orientation construct and linking it to performance (1996) Acad. Manage. Rev., 21 (1), pp. 135-172	21	Hair Jr., J.F., Andersen, R.E., Tatham, R.L., Black, W.C., (1995) Multivariate Data Analysis with Readings, 4th Ed., , Englewood Cliffs, NJ: Prentice Hall International	12	Greene, W.H., (1993) Econometric Analysis, Fourth Edition, , Prentice-Hall, Inc	19
11	Schumpeter, A., (1942) Capitalism, socialism and democracy, , Harper, New York	21	Dess, G.G., Robinson Jr., R.B., Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit (1984) Strategic Management Journal, 5, pp. 265-273	12	Kirzner, I.M., (1973) Competition & Entrepreneurship, , University of Chicago Press Chicago	19
12	Shane, S., Prior knowledge and discovery of entrepreneurial opportunities (2000) Organization Science, 11, pp. 448-469	21	Podsakoff, P.M., Organ, D.L., Self-Reports in Organizational Research: Problems and Prospects (1986) Journal of Management, 12 (4), pp. 531-544	11	Evans, D., Jovanovic, B., An estimated model of entrepreneurial choice under liquidity constraint (1989) Journal of Political Economy, 97 (4), pp. 808-827	18
13	Stuart, T.E., Hoang, H., Hybels, R., Interorganizational endorsements and the performance of entrepreneurial ventures (1999) Administrative Science Quarterly, 44, pp. 315-349	21	Nunnally, J.C., (1907) Psychometric Theory, , New York: McGraw-Hill	11	Kihlström, R., Laffont, J.J., A general equilibrium theory of firm formation based on risk aversions (1979) Journal of Political Economy, 87, pp. 719-748	18
14	Sarasvathy, S.D., Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency (2001) Academy Manag. Rev., 26 (2), pp. 243-263	20	Lumpkin, G.T., Dess, G., Clarifying the Entrepreneurial Orientation Construct and Linking It to Performance (1996) Academy of Management Review, 21 (1), pp. 135-172	11	Shane, S., Prior knowledge and the discovery of entrepreneurial opportunities (2000) Organization Science, 11 (4), pp. 448-469	17
15	Hambrick, D.C., Mason, P., Upper echelons: the organization as a reflection of its top managers (1984) Academy of Management Review, 2, pp. 193-206	19	Verhees, F.H.H.M., Meulenber, M.T.G., Market Orientation, Innovativeness, Product Innovation and Performance in Small Firms (2004) Journal of Small Business Management, 42 (2), pp. 134-154	10	Berger, A.N., Udell, G.F., The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle (1998) Journal of Banking and Finance, 22, pp. 613-673	16
16	Knight, F., (1921) Risk, Uncertainty and Profit, , Augustus Kelley, New York	19	Miller, D., The Correlates of Entrepreneurship in Three Types of Firms (1983) Management Science (pre-1986), 29 (7), p. 770	10	Dunne, P., Hughes, A., Age, size, growth and survival: U.K. companies in the 1980s (1994) Journal of Industrial Economics, 42, pp. 115-140	16
17	Gompers, P.A., Lerner, J., (1999) The Venture Capital Cycle, , Cambridge, MA: The MIT Press	17	Wernerfelt, B., A resource-based view of the firm (1984) Strategic Management Journal, 12, pp. 75-94	9	Evans, D.S., The Relationship between Firm Growth Size and Age: Estimates for 100 Manufacturing Industries (1987) Journal of Industrial Economics, 35, pp. 567-581. , 4	16
18	Jensen, M.C., Meckling, W., Theory of the firm: managerial behavior, agency costs, and capital structure (1976) Journal of Financial Economics, 3 (4), pp. 305-360	17	Storey, D., (1994) Understanding the Small Business Sector, , London, Routledge	9	Shane, S., Venkataraman, S., The Promise of Entrepreneurship as a Field of Research (2000) Academy of Management Review, 25, pp. 217-221	16
19	Sahlman, W.A., The structure and governance of venture capital organizations (1990) J. Financ. Econ., 27, pp. 473-521	17	Pfeffer, J., Salancik, G., (1978) External Control of Organizations: A Resource Dependence Perspective., , New York: Harper & Row Publishing	9	Caves, R.E., Industrial organization and new findings on the turnover and mobility of firms (1998) Journal of Economic Literature, 36 (4), pp. 1947-1982	15
20	Eisenhardt, K.M., Schoonhoven, C.B., Organizational growth - linking founding team strategy, environment, and growth among U. S. semiconductor ventures 1978-1988 (2002) Entrepreneurship: Critical Perspectives on Business and Management, , Krueger M.F. (E	16	Nahapiet, J., Ghoshal, S., Social capital, intellectual capital and the organizational advantage (1998) Academy of Management Review, 23 (2), pp. 242-266	9	Davidsson, P., Honig, B., The role of social and human capital among nascent entrepreneurs (2003) Journal of Business Venturing, 18 (3), pp. 301-331	15
21	March, J., Exploration and exploitation in organizational learning (1991) Organization Science, 2 (1), pp. 71-87	16	Kohli, A.K., Jaworski, B.J., Market Orientation: The Construct, Research Positions, and Managerial Implications (1990) Journal of Marketing, 54, pp. 1-18	9	Dunne, T., Roberts, M.J., Samuelson, L., The growth and failure of manufacturing plants (1989) Quarterly Journal of Economics, 104, pp. 671-698	15

(...)

Rank	study	JBV	study	JSBM	study	SBE
22	Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y., Initial human and financial capital as predictors of new venture performance (1994) J. Bus. Venturing, 9 (5), pp. 371-395	15	Kogut, B., Zander, U., Knowledge of the Firm, Combinative Capabilities and the Replication of Technology (1992) Organization Science, 3 (3), pp. 383-397	9	Hamilton, B., Does entrepreneurship pay? An empirical analysis of the returns of self-employment (2000) Journal of Political Economy, 108, pp. 604-631, 3	15
23	Lerner, J., Venture capital and the oversight of private firms (1995) J. Finance, 50 (5), pp. 301-318	15	Fornell, C., Larcker, D., Evaluating Structural Equation Models with Unobservable Variables and Measurement Error (1981) Journal of Marketing Research, 18 (1), pp. 39-50	9	Nelson, R.R., Winter, S., (1982) An Evolutionary Theory of Economic Change, , Harvard U. Press Belknap	15
24	Penrose, E., (1959) The Theory of Growth of the Firm, , New York: Wiley	15	Armstrong, J.S., Overton, T., Estimating nonresponse bias in mail surveys (1977) Journal of Marketing Research, 14 (3), pp. 396-402	9	Audretsch, D.B., Santarelli, E., Vivarelli, M., Start Up Size and Industrial Dynamics: Some Evidence from Italian Manufacturing (1999) International Journal of Industrial Organization, 17, pp. 965-983	14
25	Carter, N., Gartner, B., Reynolds, P., Exploring start-up event sequences (1996) Journal of Business Venturing, 11, pp. 151-166	14	Winter, M., Fitzgerald, M.A., Heck, R.K.Z., Haynes, G.W., Danes, S.M., Revisiting the Study of Family Businesses: Methodological Challenged, Dilemmas, and Alternative Approaches (1998) Family Business Review, 11 (3), pp. 239-252	8	Dunn, T., Holtz Eakin, D., Financial capital, human capital, and the transition to self-employment: Evidence from intergenerational links (2000) Journal of Labor Economics, 18, pp. 282-305	14
	Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C., (1995) Multivariate Data Analysis With Readings, , 4th ed. Upper Saddle River, NJ: Prentice-Hall	14	Teece, D.J., Pisano, G., Schuen, A., Dynamic Capabilities and Strategic Management (1997) Strategic Management Journal, 18 (7), pp. 509-533	8		
	Low, M.B., MacMillan, I., Entrepreneurship: past research and future challenges (1988) Journal of Management, 14 (2), pp. 139-161	14	Podsakoff, P.M., MacKenzie, S.B., Jeong-Yeon, L., Podsakoff, N.P., Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies (2003) Journal of Applied Psychology, 88 (5), pp. 879-903	8		
	Pfeffer, J., Salancik, C.R., (1978) The External Control Of Organizations: A Resource Dependence Perspective, , Harper and Row, New York	14	Petersen, M., Rajan, R., The benefits of lending relationships: Evidence from small business data (1994) Journal of Finance, 49 (1), pp. 3-37	8		
	Suchman, M., Managing legitimacy: strategic and institutional approaches (1995) Acad. Manage. Rev., 20 (3), pp. 571-610	14	Pelham, A., Wilson, D., A Longitudinal Study of the Impact of Market Structure, Firm Structure, Strategy, and Market Orientation Culture on Dimensions of Small-Firm Performance (1996) Journal of the Academy of Marketing Science, 24 (1), pp. 27-43	8		
	Williamson, O.E., (1985) The Economic Institutions of Capitalism, , Free Press, New York	14	Nelson, R., Winter, S., (1982) An Evolutionary Theory of Economic Change, , Cambridge, MA: Harvard University Press	8		
			Narver, J.C., Slater, S.F., The Effect of a Market Orientation on Business Performance (1990) Journal of Marketing, 54 (4), pp. 20-35	8		
			Lafontaine, F., Agency Theory and Franchising	8		
			Fama, E.F., Jensen, M., Separation of Ownership and Control (1983) Journal of Law and Economics, 26, pp. 301-325	8		
			Cooper, A.C., Gimeno-Gascon, F.J., Woo, C.Y., Initial human and financial capital as predictors of new venture performance (1994) Journal of Business Venturing, 9 (5), pp. 331-395	8		
			Cohen, W.M., Levinthal, D.A., Absorptive capacity: A new perspective on innovation and learning (1990) Administrative Sciences Quarterly, 35, pp. 128-152	8		

Table A6: Details on the background and theme of research of top-50 most cited authors in entrepreneurship

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
Australia	Davidsson, Per	11	477	6	Queensland University of Technology	Stockholm School of Economics, Sw	Jonkoping International Business School, Sweden; University of Louisville, US; Zhejiang University, China		Corporate Entrepreneurship and venturing (M&B/FIN)
	Miller, Danny	14	442	6		McGill University, Canada	Columbia University, US; Ecole des Hautes Etudes Commerciales, Canada; McGill University, Canada		Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
	Steier, L.P.	53	217	2		University of Alberta, Canada	Hitotsubashi University, Japan; University of Calgary		Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
Canada	Chua, Jess H.	5	606	4	University of Calgary	University of Michigan, US	Mississippi State University, US; Oklahoma State University, US	Editor of Entrepreneurship Theory & Practice	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
	Sharma, Pramodita	9	506	5	Concordia University	University of Calgary, Canada	Babson College, US; Dalhousie University, Canada; Jonkoping International Business School, Sweden; University of Calgary, Canada; The University of Western Ontario, Canada; Wilfrid Laurier University, Canada	Editor of Family Business Review	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
Sweden	Johannisson, Bengt	41	245	2	Växjö Universitet & Jönköping International Business School, Sweden	University of Gothenburg, Sweden	Aston University, UK; Lund University, Sweden; Roskilde University, Denmark; ; Stanford University, US; Vienna University of Economics, Austria; University of Insubria, Italy; York University, Canada	Acted as editor for the journal Entrepreneurship & Regional Development	Entrepreneurial networks and resource accumulation (SOC & P&D)
The Netherlands	Thurik, A. Roy	15	410	2	Erasmus School of Economics & Free University	Erasmus University Rotterdam, Netherlands	GSCM-Montpellier Business School, France; Center for Adv. Small Business Econ., Germany; Max-Planck-Institut für Ökonomik, Germany; Research Institute for Small and Medium-Sized Business, Netherlands; Tinbergen Institute - TI, Netherlands	Associate editor of Small Business Economics: an Entrepreneurship Journal	Entrepreneurial firm survival and growth (ECO/Industrial)
	Storey, David J.	22	373	3	University of Sussex	Newcastle University, UK	Sydney University, Australia; University of Durham, UK; University of Manchester, UK; University of Reading, UK; University of Warwick, UK		Societal consequences of entrepreneurship - policy issues (P&D); Value creation from corporate entrepreneurship - small businesses (M&B)
UK	Westhead, Paul	13	444	6	Durham Business School		Bodø Graduate School of Business, Norway; Cranfield University, UK; Imperial College London, UK; The University of Warwick, UK; University of Nottingham, School of Business, UK; University of Stirling, UK	Former Associate Editor of Entrepreneurship Theory and Practice	Corporate Entrepreneurship and venturing (M&B/FIN)
	Autio, Erkkö	27	332	4	Imperial College London	Helsinki University of Technology, Finland	Aalto University School of Science and Technology, Finland; Asian Institute of Technology Thailand, Thailand; Helsinki Institute of Physics, Finland; Institute of Strategy and International Business, Finland; London Business School, UK; University of Sussex, UK; University of Lausanne, Ecole des Hautes Etudes Commerciales, Switzerland	Founding member of the Global Entrepreneurship Monitor GEM initiative	Corporate Entrepreneurship and venturing (M&B/FIN)

(...)

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
UK	Wright, Mike	4	621	6	Nottingham University	Nottingham University, UK	Akzo Nobel, UK; Central South University China, China; Erasmus University Rotterdam, Netherlands; Federal University of Espirito Santo, Brazil; FRA, France; Imperial College London, UK; Lancaster University, Department of Management Science, UK; Max-Planck-Institut für Ökonomik, Germany; Peking University, China; Rotterdam School of Management, Netherlands; The University of Warwick, UK; Università degli Studi di Siena, Italy; Universiteit Gent, Belgium; University of Florida, US; University of Leeds, UK; University of Stirling, UK;	Former editor of Entrepreneurship Theory and Practice; Joint editor of Journal of Management Studies	Corporate Entrepreneurship and venturing (M&B/FIN)
	Brush, Candida Greer	30	312	5	Babson College	Boston University, US (D.B.A.)	Boston University, US; University of Missouri-Kansas City, US	Founding member of the Diana Project; Editor of Entrepreneurship Theory & Practice	Corporate Entrepreneurship and venturing (M&B) - Women entrepreneurship
	Bygrave, William D. [Emeritus professor]	33	303	3		Boston University, US (D.B.A.)	INSEAD	Founding member of the Global Entrepreneurship Monitor GEM initiative	Corporate Entrepreneurship and venturing (M&B) - High Tech companies
US	Greene, Patricia G.	55	206	1		The University of Texas, Austin, US	Rider University, US; Rutgers University-Newark Campus, US; University of Missouri-Kansas City, US	Founding member of the Diana Project	Corporate Entrepreneurship and venturing (M&B) - Women entrepreneurship
	Shane, Scott	1	726	6	Case Western Reserve University	University of Pennsylvania, US	Georgia Institute of Technology, US; Massachusetts Institute of Technology, US; MIT Sloan School of Management, US; University of California Berkeley Haas School of Business, US; University of Maryland, US; University of Pennsylvania, US; Wharton School of the University of Pennsylvania, US	Editor of Management Science (R&D, Innovation, and Entrepreneurship Division)	Conceptualizations of entrepreneurial processes (Theory building) & Corporate Entrepreneurship and venturing (M&B) - University spin offs
	Carter, Nancy M.	35	286	3	Catalyst	University of Nebraska, US	London Business School, UK; University of St. Thomas, Minnesota, US; University of Colorado at Boulder, US; Marquette University, US	Founding member of the Diana Project	Corporate Entrepreneurship and venturing (M&B) - Women entrepreneurship
	Gartner, William B.	7	594	6	Clemson University	University of Washington, US	Georgetown University, US; Montana State University - Bozeman, US; San Francisco State University, US; University of Southern California, US; University of Virginia, US	Co-founder of the Entrepreneurship Research Consortium, which initiated, developed and managed the Panel Study of Entrepreneurial Dynamics (PSED)	Psychological characteristics of entrepreneurs (PSY)
	Acs, Zoltan J.	37	277	2	George Mason University	The New School, US	Imperial College London, UK; Manhattan College, US; U S Small Business Administration, US; U.S. Census Bureau, US; University of Baltimore, US; University of Baltimore, US; University of Colorado at Boulder, US; University of Maryland, US; University of Maryland, US; Wissenschaftszentrum Berlin für Sozialforschung,	Co-editor and founder of Small Business Economics	Societal consequences of entrepreneurship - innovation (P&D)

(...)

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
US	Reynolds, Paul Davidson	10	493	5		Stanford University, US	Babson College, US; Florida International University, US; George Washington University; London Business School, UK, Marquette University, US	Co-founder of the Entrepreneurship Research Consortium, which initiated, developed and managed the Panel Study of Entrepreneurial Dynamics (PSED); Founding coordinator of the Global Entrepreneurship Monitor resersearch program.	Entrepreneurship networks and resource accumulation (SOC) & Psychological characteristics of entrepreneurs (PSY)
	Porter, Michael E.	32	309	4		Harvard University, US	Boston University, US		Competitive Strategy (M&B)
	Shleifer, Andrei	28	327	2	Harvad University	MIT, US	National Bureau of Economic Research, US; University of Chicago, US; Universitat Pompeu Fabra, Spain	Associate and Advisory Editor of Journal of Financial Economics; Former Associate Editor of Journal of Finance; Former Editor, Quarterly Journal of Economics; Former Editor of Journal of Economic Perspectives	Corporate governance, law and finance (FIN)
	Lerner, Josh	39	252	2		Harvard University, US	National Bureau of Economic Research, US	Co-Editor, Innovation Policy and the Economy	Corporate Entrepreneurship and venturing (M&B); Finance (FIN)
	Audretsch, David B.	6	603	4		University of Wisconsin, US	Centre for Economic Policy Research, London, UK; Durham University, UK; EIM Group, Netherlands; Erasmus University Rotterdam, Netherlands; Georgia State University, US; Institute for Advanced Study Berlin, Germany; Kiel Institute of International Economics, Germany; King Saud University, Saudi Arabia ; Max Planck Institute of Economics, Germany; Middlebury College, US; University of Baltimore, US; University of Wollongong, Australia	Co-editor and founder of Small Business Economics; Associate Editor of The Annals of Regional Science, Journal of Policy Analysis and Management, International Journal of Technology Transfer and Commercialisation, International Journal of Biotechnology, and International Journal of Industrial Organization. Former Associate Editor of Regional Studies	Societal consequences of entrepreneurship - innovation (P&D)
	Shepherd, Dean A.	12	463	4		Bond University, US	Jönköping International Business School, Sweden; Rensselaer Polytechnic Institute, US; University of Colorado at Boulder, US	Editor in Chief of Journal of Business Venturing	Allertness, opportunity creation and creative destruction (M&B)
	Covin, Jeffrey G.	16	407	5		University of Pittsburgh, US	Georgia Institute of Technology, US; Georgia Southern University, US; University of Pittsburgh		Corporate Entrepreneurship and venturing (M&B)

(...)

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
US	McDougall, Patricia Phillips	29	325	5		University of South Carolina, US	Amer. Educ. Research Association, US; Georgia Institute of Technology, US; Georgia State University, US ; Indiana State University, US; The University of North Carolina at Chapel Hill, US; University of Saskatchewan, Canada; University of Waterloo, Canada		Born Global Firms (International Entrepreneurship)
	Kuratko, Donald F.	50	224	2			Ball State University, US	International Research Board of Journal of Small Business Management	Corporate Entrepreneurship and venturing (M&B)
	Astrachan, Joseph H.	51	223	1	Kennesaw State University, US	Yale University, US	Yale University, US; University of Cincinnati, US	Editor-in-Chief, Journal of Family Business Strategy; Former Editor of Family Business Review	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
	Chrisman, James	2	675	5	Mississippi State University	University of Georgia, US	University of Alberta, Canada; University of Calgary, Canada; University of South Carolina, US; The University of Georgia, US	Editor of Entrepreneurship Theory and Practice; Field Editor of Journal of Business Venturing,	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
	Barney, Jay B.	19	393	4	Ohio State University	Yale University, US	The Max Planck Society for the Advancement of Science, Germany; Emory University, US	Co-Editor of Strategic Entrepreneurship Journal; Former Senior Editor of Organization Science; Former Associate Editor of Journal of Management	Entrepreneurial networks and resource accumulation (SOC)
	Baron, Robert A.	47	233	2	Oklahoma State University	University of Iowa	Princeton University, US; Purdue University, US; Rensselaer Polytechnic Institute, US; Oklahoma State University, US; Universite des Social Sciences, Toulouse, France; University of Minnesota, US; University of Oxford, U.K.; University of South Carolina, US; University of Texas at Austin, US; University of Washington, US,	Associate Editor of Strategic Entrepreneurship Journal	Psychological characteristics of entrepreneurs (PSY)
	Hambrick, Donald Clay	46	237	2	The Pennsylvania State University	The Pennsylvania State University, US	Columbia University, US; Harvey Mudd College, US; Harvard-Smithsonian Center for Astrophysics, US	Former Founding Senior Editor of Organization Science	Strategic Management (M&B)
	Eisenhardt, Kathleen M.	20	376	5	Stanford University	Stanford University, US	University of Utah, US; INSEAD	Former Senior Editor of Organization Science	Strategic Management (M&B); Qualitative Research Methods
	Granovetter, Mark	54	211	2		Harvard University, US	Harvard University, US; Johns Hopkins University, US; Northwestern University, US; Stony Brook University State University of New York, US	Editor of Structural Analysis in the Social Sciences series, Cambridge University Press	Economic Sociology (SOC)
	Lumpkin, G. Thomas	31	309	5	Syracuse University	University of Texas at Arlington	Northeastern State University, US; Texas Tech University Health Sciences Center at Amarillo, US; Texas Tech University at Lubbock, US; University of Illinois at Chicago, US; University of Texas at Arlington, US	Associate Editor of Strategic Entrepreneurship Journal	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses

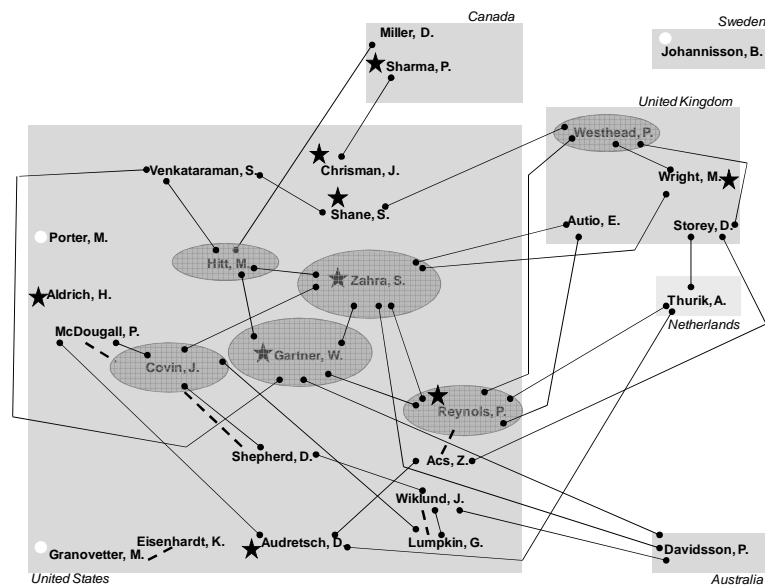
(...)

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
US	Wiklund, Johan A.	36	285	3	Texas A&M University	Jönköping International Business School, Sweden	Linköping University, Sweden; Jönköping International Business School, Sweden; Lund University, Sweden; Stockholm School of Economics, Sweden; Swiss Federal Institute of Technology, Switzerland; Syracuse University, US	Co-editor of the Strategic Entrepreneurship Journal	Corporate Entrepreneurship and venturing (M&B/FIN)
	Hitt, Michael A.	17	401	4		University of Colorado, US	Arizona State University, US; Oklahoma State University, US; University of Colorado at Boulder, US; University of Oklahoma, US; University of Texas at Arlington, US		Strategic Management (M&B); Born Global firms
	Ireland, R. Duane	48	230	1		Texas Tech University, US	Baylor University, US; University of Richmond, US; Oklahoma State University, US; Texas Tech University, US	Editor for Academy of Management Journal; Former Editor of Academy of Management Executive; Former Consulting Editor for Entrepreneurship Theory and Practice.	Value creation from corporate entrepreneurship
	Aldrich, Howard E.	8	543	6	The University of North Carolina at Chapel Hill	University of Michigan, US	Cornell University, US	Editor-in-Chief of Entrepreneurship Research Journal	Entrepreneurial networks and resource accumulation (SOC)
	Lubatkin, Michael H.	24	351	2	University of Connecticut	University of Tennessee (D.B.A.), US	Chicago Mercantile Exchange, US; EDHEC, France; EM Lyon, France ; GSBA, Switzerland ; Hebrew University of Jerusalem, Israel; INSEAD, France; Universities of St. Gallen, Switzerland; University of Cologne, Germany; University of Lund, Sweden; University of Strasbourg, France; University of Technion, Israel	Former Associate Editor on Entrepreneurship topics for Journal of International Business Studies	Corporate Entrepreneurship and Venturing (M&B/FIN) - Family Businesses
	Dino, Richard N.	40	245	1		State University of New York at Buffalo, US	Eastman Kodak; Corning, Inc.; Xerox		Allertness, opportunity creation and creative destruction (M&B) & Psychological characteristics of entrepreneurs (PSY)
	Zahra, Shaker A.	3	623	7	University of Minnesota	University of Mississippi, US	Babson College, US; Georgia State University, US; George Mason University, US; Jonkoping International Business School, Sweden; University of Twente, Netherlands	Advisory Board of Family Business Review	Born Global Firms (International Entrepreneurship) & Conceptualization of the entrepreneurial process (Theory building)
	Sapienza, Harry J.	21	374	4		University of Maryland, US	University of South Carolina, US; University of Baltimore, US		Value creation from corporate entrepreneurship
	Woo, Carolyn Y.	45	239	2		Purdue University, US	Purdue University, US		Corporate entrepreneurship and Venturing (M&B)

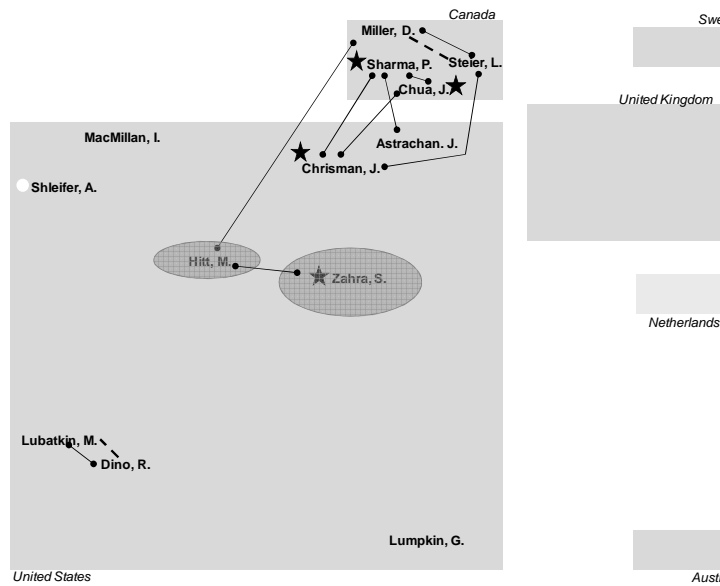
(...)

Country of most recent affiliation	Author	Rank	Global Citations (Σ citations in the 7 journals)	Number of distinct journals (out of the 7) that cite the author	Current affiliation*	PhD granted institution	Former affiliations and/or visiting positions	Editorial key roles (it excludes Editorial or Review Boards)	Theme of research**
US	Busenitz, Lowell W.	25	346	3	University of Oklahoma	Texas A & M University, US	University of Houston, US		Allertness, opportunity creation and creative destruction (M&B)
	MacMillan, Ian C.	23	362	4	University of Pennsylvania	University of South Africa (D.B.A.), South Africa	Columbia University in the City of New York, US; New York University, US; NHS Foundation Trust, UK; University of California, US; University of California, US; University of South Africa, South Africa; Northwestern University, US		Corporate entrepreneurship and Venturing (M&B)
	Slevin, Dennis P.	44	239	3	University of Pittsburgh	Stanford University, US	Indiana University, US; University of Maine, US		Value creation from corporate entrepreneurship & Corporate entrepreneurship and Venturing (M&B)
	Dess, Gregory G.	34	300	3	University of Texas at Dallas	University of Washington, US	Norwegian School of Management, Norway; ; Tuck School of Business at Dartmouth College, US; ; University of Hong Kong, China; ; University of Kentucky, US; University of Oporto, Portugal; University of Texas at Arlington, US; University of Texas System, US; University of Washington, US ; Xi'an Jiaotong University, China		Corporate entrepreneurship and Venturing (M&B)
	Venkataraman, Sankaran	18	398	6	University of Virginia	University of Minnesota, US	University of Minnesota, US; University of Pennsylvania, US; Rensselaer Polytechnic Institute, US	Editor of Journal of Business Venturing; Series Editor, Innovation, Yale University Press; Series Editor: New Horizons in Entrepreneurship, Edward Elgar Press; Co-Editor of Entrepreneurship and Ethics	Conceptualizations of entrepreneurial processes (Theory building)
	March, James G. [Emeritus Professor]	52	218	2	Washington and Jefferson College	Yale University, US	Minneapolis University, US; Stanford University, US; The University of Georgia, US; University of Illinois, US		Organizational Behaviour

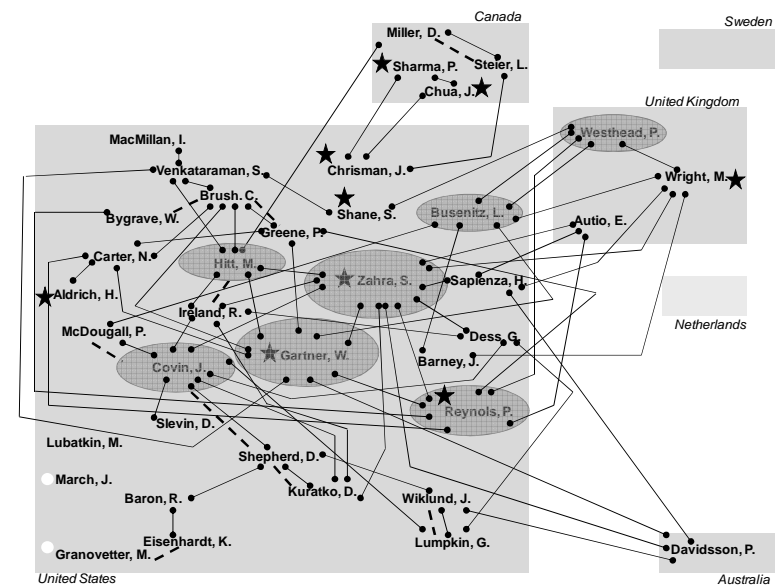
Notes: Data was gathered from Scopus bibliographic database (using the search machine 'Authors' Affiliations') and authors'/organizations' web pages; * By May 2011; ** Partially adapted from the themes proposed by Cornelius et al. (2006); D.B.A. - Doctorate in Business Administration.



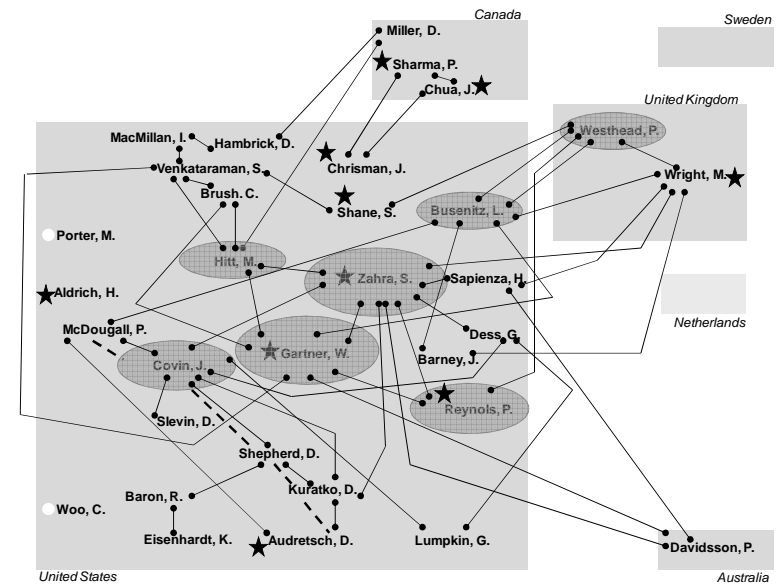
ERD



FBR



ETP



JBV

Figure A1: Mapping the international scientific (co-authorship) links between the most influential authors in entrepreneurship research

Note: Authors are allocated to countries according to their most recent (March 2011) affiliation.

Legend:

- Isolated author (no co-authorships)
- Co-authorships links
- ★ Top-10 most cited author
- - - Authors working in the same school/University
- Highly connected authors (the size of the object is related to the number of co-authorships)

Source: Author.

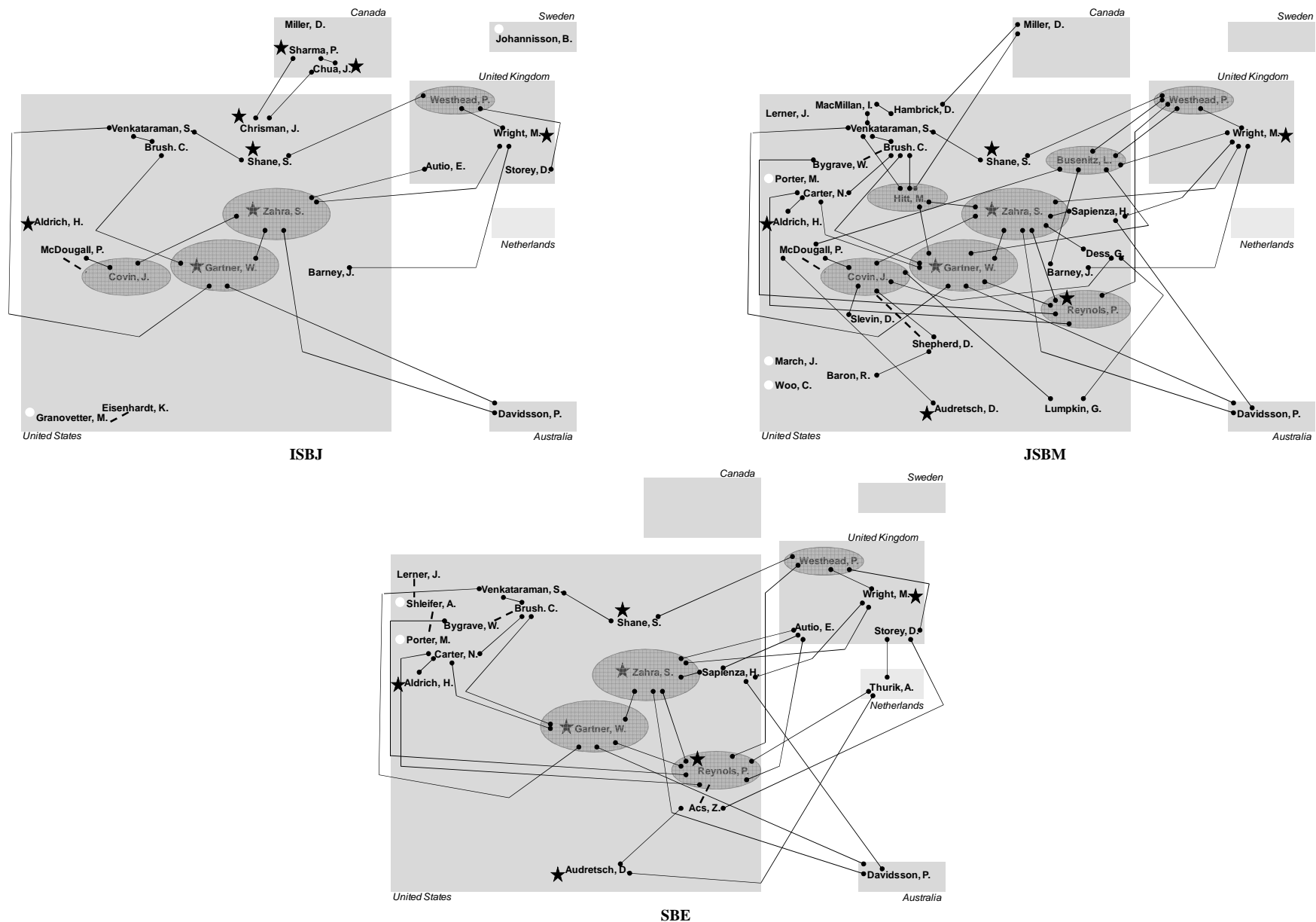


Figure A1: Mapping the international scientific (co-authorship) links between the most influential authors in entrepreneurship research

Note: Authors are allocated to countries according to their most recent (March 2011) affiliation.

Legend:

- Isolated author (no co-authorships)
- Co-authorships links
- ★ Top-10 most cited author
- Authors working in the same school/University
- Highly connected authors (the size of the object is related to the number of co-authorships)

Source: Author.

Recent FEP Working Papers

Nº 415	Liliana Fernandes, Américo Mendes and Aurora A.C. Teixeira, " <i>A weighted multidimensional index of child well-being which incorporates children's individual perceptions</i> ", June 2011
Nº 414	Gonçalo Faria and João Correia-da-Silva, " <i>A Closed-Form Solution for Options with Ambiguity about Stochastic Volatility</i> ", May 2011
Nº 413	Abel L. Costa Fernandes and Paulo R. Mota, " <i>The Roots of the Eurozone Sovereign Debt Crisis: PIGS vs Non-PIGS</i> ", May 2011
Nº 412	Goretti Nunes, Isabel Mota and Pedro Campos, " <i>Policentrismo Funcional em Portugal: Uma avaliação</i> ", May 2011
Nº 411	Ricardo Biscaia and Isabel Mota, " <i>Models of Spatial Competition: a Critical Review</i> ", May 2011
Nº 410	Paula Sarmento, " <i>The Effects of Vertical Separation and Access Price Regulation on Investment Incentives</i> ", April 2011
Nº 409	Ester Gomes da Silva, " <i>Portugal and Spain: catching up and falling behind. A comparative analysis of productivity trends and their causes, 1980-2007</i> ", April 2011
Nº 408	José Pedro Figue, " <i>Endogenous Response to the 'Network Tax'</i> ", March 2011
Nº 407	Susana Silva, Isabel Soares and Carlos Pinho, " <i>The impact of renewable energy sources on economic growth and CO2 emissions - a SVAR approach</i> ", March 2011
Nº 406	Elena Sochirca and Sandra Tavares Silva, " <i>Efficient redistribution policy: an analysis focused on the quality of institutions and public education</i> ", March 2011
Nº 405	Pedro Campos, Pavel Brazdil and Isabel Mota, " <i>Comparing Strategies of Collaborative Networks for R&D: an agent-based study</i> ", March 2011
Nº 404	Adelaide Figueiredo, Fernanda Figueiredo, Natália P. Monteiro and Odd Rune Straume, " <i>Restructuring in privatised firms: a Statis approach</i> ", February 2011
Nº 403	Cláudia M. F. Pereira Lopes, António Cerqueira and Elísio Brandão, " <i>The financial reporting quality effect on European firm performance</i> ", February 2011
Nº 402	Armando Silva, " <i>Financial constraints and exports: evidence from Portuguese manufacturing firms</i> ", February 2011
Nº 401	Elena Sochirca, Óscar Afonso and Pedro Mazedo Gil, " <i>Directed technological change with costly investment and complementarities, and the skill premium</i> ", January 2011
Nº 400	Joana Afonso, Isabel Mota and Sandra Tavares Silva, " <i>Micro credit and Territory - Portugal as a case study</i> ", January 2011
Nº 399	Gonçalo Faria and João Correia-da-Silva, " <i>The Price of Risk and Ambiguity in an Intertemporal General Equilibrium Model of Asset Prices</i> ", January 2011
Nº 398	Mário Alexandre Patrício Martins da Silva, " <i>A Model of Innovation and Learning with Involuntary Spillovers and absorptive capacity</i> ", January 2011
Nº 397	Fernando Governo and Aurora A.C. Teixeira, " <i>Marketing and technology sophistication as hidden weapons for fostering the demand for 'art house' cinema films: a cross country analysis</i> ", January 2011
Nº 396	Liliana Fernandes, Américo Mendes and Aurora A.C. Teixeira, " <i>A review essay on child well-being measurement: uncovering the paths for future research</i> ", December 2010
Nº 395	David Nascimento and Aurora A.C. Teixeira, " <i>Recent trends in the economics of innovation literature through the lens of Industrial and Corporate Change</i> ", December 2010
Nº 394	António Brandão, João Correia-da-Silva and Joana Pinho, " <i>Spatial competition between shopping centers</i> ", December 2010
Nº 393	Susana Silva, Isabel Soares and Óscar Afonso, " <i>E3 Models Revisited</i> ", December 2010
Nº 392	Catarina Roseira, Carlos Brito and Stephan C. Henneberg, " <i>Innovation-based Nets as Collective Actors: A Heterarchization Case Study from the Automotive Industry</i> ", November 2010
Nº 391	Li Shu and Aurora A.C. Teixeira, " <i>The level of human capital in innovative firms located in China. Is foreign capital relevant</i> ", November 2010
Nº 390	Rui Moura and Rosa Forte, " <i>The Effects of Foreign Direct Investment on the Host Country Economic Growth - Theory and Empirical Evidence</i> ", November 2010

Nº 389	Pedro Mazeda Gil and Fernanda Figueiredo, " <i>Firm Size Distribution under Horizontal and Vertical R&D</i> ", October 2010
Nº 388	Wei Heyuan and Aurora A.C. Teixeira, " <i>Is human capital relevant in attracting innovative FDI to China?</i> ", October 2010
Nº 387	Carlos F. Alves and Cristina Barbot, " <i>Does market concentration of downstream buyers squeeze upstream suppliers' market power?</i> ", September 2010
Nº 386	Argentino Pessoa " <i>Competitiveness, Clusters and Policy at the Regional Level: Rhetoric vs. Practice in Designing Policy for Depressed Regions</i> ", September 2010
Nº 385	Aurora A.C. Teixeira and Margarida Catarino, " <i>The importance of Intermediaries organizations in international R&D cooperation: an empirical multivariate study across Europe</i> ", July 2010
Nº 384	Mafalda Soeiro and Aurora A.C. Teixeira, " <i>Determinants of higher education students' willingness to pay for violent crime reduction: a contingent valuation study</i> ", July 2010
Nº 383	Armando Silva, " <i>The role of subsidies for exports: Evidence for Portuguese manufacturing firms</i> ", July 2010
Nº 382	Óscar Afonso, Pedro Neves and Maria Thompsom, " <i>Costly Investment, Complementarities, International Technological-Knowledge Diffusion and the Skill Premium</i> ", July 2010
Nº 381	Pedro Cunha Neves and Sandra Tavares Silva, " <i>Inequality and Growth: Uncovering the main conclusions from the empirics</i> ", July 2010
Nº 380	Isabel Soares and Paula Sarmento, " <i>Does Unbundling Really Matter? The Telecommunications and Electricity Cases</i> ", July 2010
Nº 379	António Brandão and Joana Pinho, " <i>Asymmetric information and exchange of information about product differentiation</i> ", June 2010
Nº 378	Mónica Meireles, Isabel Soares and Óscar Afonso, " <i>Economic Growth, Ecological Technology and Public Intervention</i> ", June 2010
Nº 377	Nuno Torres, Óscar Afonso and Isabel Soares, " <i>The connection between oil and economic growth revisited</i> ", May 2010
Nº 376	Ricardo Correia and Carlos Brito, " <i>O Marketing e o Desenvolvimento Turístico: O Caso de Montalegre</i> ", May 2010
Nº 375	Maria D.M. Oliveira and Aurora A.C. Teixeira, " <i>The determinants of technology transfer efficiency and the role of innovation policies: a survey</i> ", May 2010
Nº 374	João Correia-da-Silva and Carlos Hervés-Beloso, " <i>Two-period economies with private state verification</i> ", May 2010
Nº 373	Armando Silva, Óscar Afonso and Ana Paula Africano, " <i>Do Portuguese manufacturing firms learn by exporting?</i> ", April 2010
Nº 372	Ana Maria Bandeira and Óscar Afonso, " <i>Value of intangibles arising from R&D activities</i> ", April 2010
Nº 371	Armando Silva, Óscar Afonso and Ana Paula Africano, " <i>Do Portuguese manufacturing firms self select to exports?</i> ", April 2010
Nº 370	Óscar Afonso, Sara Monteiro and Maria Thompson, " <i>A Growth Model for the Quadruple Helix Innovation Theory</i> ", April 2010
Nº 369	Armando Silva, Óscar Afonso and Ana Paula Africano, " <i>Economic performance and international trade engagement: the case of Portuguese manufacturing firms</i> ", April 2010
Nº 368	Andrés Carvajal and João Correia-da-Silva, " <i>Agreeing to Disagree with Multiple Priors</i> ", April 2010

Editor: Sandra Silva (sandras@fep.up.pt)

Download available at:

<http://www.fep.up.pt/investigacao/workingpapers/>

also in <http://ideas.repec.org/PaperSeries.html>

www.fep.up.pt

FACULDADE DE ECONOMIA DA UNIVERSIDADE DO PORTO

Rua Dr. Roberto Frias, 4200-464 Porto | Tel. 225 571 100

Tel. 225571100 | www.fep.up.pt