

The Knowledge Network of International Entrepreneurship: Theory and Evidence

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ABSTRACT. The knowledge network associated with the young and emerging field of International Entrepreneurship is defined through a Boolean search progression of key words on the SSCI data bases from 1992 to 2000. The knowledge network of an applied field portrays, and usually follows, the actual developmental path of its corresponding field. Some 287 articles document the early emergence of International Entrepreneurship as a field of scholarly inquiry. When a field is young and in need of theoretical foundations, the knowledge networks of other fields may provide for those early needs. This is the case of International Entrepreneurship. The rich theoretical foundations of the two fields of International Business and Entrepreneurship, among others, have nourished and accelerated the internationalization process of entrepreneurship. A detailed analysis of 7,651 citations contained in the contributions of the 287 documents reported here traces International Entrepreneurship's rich, yet young, developmental path. This analysis reveals a wealth of information, for example the lists of highly-cited books, articles, authors and their affiliated institutions presented here.

1. Introduction

The young and highly dynamic field of International Entrepreneurship (Giamartino et al., 1993; McDougall et al., 1994; McDougall, 1996) is facing rapid change and tremendous challenges.

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The internationalization of entrepreneurship is driven by a host of dynamic factors, including rapid technological change (Etemad, 1999), globalization of competition (Ohmae, 1985, 1990; Emergi, 1992; Kobrin, 1995; Levitt, 1983) and environment (Dana et al., 1999a, b; Oviatt and McDougall, 1994), and entrepreneurial dynamism stimulated by expanding market opportunities (Kirzner, 1973; McDougall et al., 1994). This process is further fueled by the emergence of time as a competitive weapon (Stalk, 1988; Stalk and Hout, 1990), hastening technological obsolescence (Bower and Hout, 1988) and product life cycle. As this developmental process cannot draw on the well-established rules and capabilities of the past, it must improvise its own strategy over time, on an ad-hoc basis, which may give it the appearance of turbulence, if not chaos, at its early stages. This process is further complicated because entrepreneurs, who are generally self-reliant, pro-active, and discontented with the status-quo (Schumpeter, 1947), are forced simultaneously to react to the rapid change and the increasing complexities of their environment – due mainly to the *globalization of competition*, which requires resources and expertise far beyond their own – and to seek support networks to deal with those complexities (Hamel et al., 1989; Yip, 1992) at the same time. The latter is bound to infringe on their traditional independence, if not making them fully interdependent (Acs and Yeung, 1999; Etemad, 1999).

Although this process may help to further internationalize a typical small firm's supply and value chains and also enhance its competitiveness, it may not necessarily follow the orderly set of rules by which entrepreneurs had conducted themselves in the past. Entrepreneurs may find



their own capabilities and expertise, accumulated over time (Dana et al., 1999a, b), of limited relevance. They may, however, find relevant knowledge and expertise in such fields as International Business and Strategy. In such cases, the nature of the entrepreneurial discovery is, therefore, changed dramatically from one of devising ad-hoc solutions to a problem at hand, to one of identifying and accessing readily available solutions residing in existing knowledge networks.

The main purpose of this paper is, therefore, two-fold. The first is to develop the concept of an International Entrepreneurship Knowledge Network for its usefulness both to practicing entrepreneurs, and to scholars in search of relevant knowledge, accumulated experience and problem-solving frameworks. The second objective is to explore the scholarly potential of a field's knowledge network as an efficient instrument of epistemological research in that field, especially for newcomers to the field. The early parts of this paper develop the concept, while later parts focus on its application.

The structure of this paper is as follows: Immediately after this introductory note, a brief theoretical development of knowledge networks is presented, followed by a discussion of the relevance and the relationship of an International Entrepreneurship knowledge network to scholarship and practice in the field. The paper then presents and discusses the results of an epistemological bibliometric research on the emerging field of International Entrepreneurship. Finally, we discuss the implications of the knowledge network concept as a resource support system and also as a methodology for epistemological research for both scholars and practicing entrepreneurs.

2. Theoretical development

This section begins with a brief discussion of concepts relevant to Knowledge Networks (KN), before exploring a knowledge network's properties.

i) *The Concept of Knowledge.* Knowledge is simply the output of a learning (or knowing) process, just as plans are the output of the planning process. Gibbons et al. (1994) hold that the terms, *science* and *knowledge*, are often used interchangeably, or combined, to form scientific

knowledge (Gibbons et al., 1994). In his book, *Science in Action*, Latour (1987) defined the term knowledge as "familiarity with events, places and people seen many times over . . . knowledge cannot be defined without understanding what [the process of] gaining knowledge means" (p. 220). By extension, then, familiarity with the *knowledge generation system* of a given field – i.e., the knowledge network of that field – is equally necessary to the understanding of the nature, potential uses and the evolutionary process of the field over time.

ii) *The Concept of Network.* Networks have long been used in engineering and science for managing complex systems. In engineering and sciences, the word *network* commonly refers to a system (or a web) of inter-linked sub-systems (or components), each of which is optimally designed to perform a designated task effectively. Each sub-system is highly specialized; and generally draws on high levels of accumulated knowledge and expertise within its expected domain of operations. By optimal inter-linking of these components, engineers and scientists achieve a much broader, and more complex, range of functions and capabilities than the reach of individual components or sub-systems. In a strict theoretical sense, the system as a whole may not be truly optimal, yet it can be effective and flexible enough to perform the task at hand, well beyond the capabilities of its individual parts.

iii) *The Concept of Resources in a Knowledge Network.* From Latour's perspective (1987, p. 221), a network implies an "inter-linked" web of "knots and nodes" loaded with "concentration of resources" scattered over a landscape, which constitutes the domain of that subject. A knowledge network is viewed as the repository of broad and complex sets of expertise, experience and accumulated knowledge in its various parts, from which both inside and outside members can draw. A knowledge network is formed, therefore, when: a) "nodes and knots" become "loaded" with knowledge resources, b) these "nodes and knots" begin to develop cross-cutting ties and linkages among themselves as the needs arise (Podolny et al., 1996), and c) these ties begin to cross-fertilize their resources synergistically, which may in turn result in strengthening, broadening and deepening the functional capabilities of both

the network members and the network as a whole.¹

iv) *How Does a Knowledge Network Develop?*

A given knowledge network embodies both the knowledge content of its nodes and the inter-linkages of those nodes within its domain as well as to other fields. It can be viewed as the organized and the de-facto mirror of a field. Chandy and William (1994) maintain that any localized knowledge network is a part of (or sub-system of) a broader and more general system. From that perspective, the knowledge network of international entrepreneurship, as an example of an emerging discipline, could be viewed as an off-shoot of its two interacting foundational domains – Entrepreneurship and International Business – both of which are well-established sub-systems of social sciences.

These two constituent or foundational fields may not contain sufficient concepts, ideas, frameworks, or even relevant theories to provide adequate solutions for the oncoming problems facing the young field of international entrepreneurship. However, when a conducive environment for the cross fertilization of the relevant part(s) of constituent fields is provided, the theoretical foundations to support the new field will soon emerge. We clearly see this sort of development in the young field of International Entrepreneurship, where scholars draw upon the theoretical foundations of both International Business and Entrepreneurship. However, they may not find all parts of either field equally applicable to the emerging field. The theories of internationalization and growth of large firms (for example, the Eclectic Theory of Multinational Enterprises) do not apply easily to the operation and growth of smaller firms, although they may be illuminating at first. The early scholars, who did not find these theories readily applicable, began to examine other alternate theories or to develop the necessary foundations of their own. The environment for such developments becomes conducive when: i) members in one part of the network are given access to another, and ii) the members of one portion of the network, possessing certain knowledge resources useful to others, make them available to others on the network. These members may in turn need to draw on resources held by others contained elsewhere on

the network. Stated differently, when the members of a knowledge network view the network as a repository both in which to *deposit* their knowledge resources, and from which to *withdraw* their knowledge needs (which may not occur at the same time or have the same intrinsic value), the network begins to function effectively.²

As a result of such continuous critical examination, enriching and cross fertilizing within the network, a node (i.e., a subsystem designated to perform a specialized task) can draw upon the expanded resources of other nodes, fields or sub-fields, to solve problems that fall within its immediate domains. In the knowledge network terminology, a node becomes “further loaded” (i.e., further enriched) with new concepts, ideas (or inventions), problem solving frameworks, and even theory essentials (CIFTE) as it draws upon those of others to pave the road for its own further developments, and in turn, for the future development of the network through the repository aspect of networks (e.g., from Entrepreneurship and International Business in the case of International Entrepreneurship).

Our working hypothesis is that the young field of International Entrepreneurship is in the early stage of this network formation. International Business and Entrepreneurship constitute at least two parts of that knowledge network. Scholars from various fields, but mainly from entrepreneurship and international business, interested, for example, in internationalization of smaller firms, have begun to examine the applicability and relevance of these established fields (and others) to a series of observed phenomena in the emerging field. To no one’s surprise, while some well-received theories of either traditional field are inapplicable, their theoretical and methodological traditions are paving the road for the development of new theories in the emerging field of International Entrepreneurship.

v) *When is an Interdisciplinary Field Born?* An interdisciplinary field is born when the knowledge core (or the CIFTE) of one constituent field (i.e., International Business) is cross-fertilized in the other field (e.g., entrepreneurship) or sub-field, to support the further development of the emerging cross-disciplinary knowledge network (e.g., International Entrepreneurship) with synergistic impact. Such cross-fertilization may be tenuous

at first as scholars of a field begin to examine the unfamiliar CIFTE of the other field(s). As various CIFTES are used with increasing intensity, however, linkages between cores of knowledge become better established and more effectively utilized. Consequently, the initial signs of a new interdisciplinary field or sub-field begin to appear. When a few cross-linked key nodes accumulate sufficient CIFTE, then the “core” of the emerging sub-field is gradually formed and the process by which a knowledge network can sustain and enrich itself, on its own, will be underway. Culnan and Swanson (1986) observed such development in the early stages of Management Information Systems (MIS). We assert that such a process is also in progress in International Entrepreneurship and we seek to find confirmatory evidence in the empirical section of this study.

The architects and builders of the new core will then be viewed as the pioneers of the new field. Naturally, the fields from which these pioneering scholars had diverged – and on which they constructed the new core – would constitute the foundational/constituent fields of the emerging interdisciplinary sub-field. Latour (1987) observes that the lists of their names constitute “*the who*” of the core. The content of their publication would be “*the what*” – i.e., the early content – of the foundational CIFTE of the newly emerging field. In the early stages, these pioneers might be viewed as the “deviants” in the constituent fields from

which they diverted, and they may be forced to publish their work in the fringe media outside of the “main stream journals.” However, if this evolutionary process continues (both in terms of strengthening and widening of the linkages and also in enriching the contents), the sub-field establishes a “following and a tradition of its own” (Culnan and Swanson, 1986; Culnan, 1987), with its own communication or publication media. This media will then represent “*the where*” of the emerging knowledge network. Prior to this consolidation, the potential contents are scattered and must be found in the communication media of other related knowledge networks, which may prove to be difficult for the early scholars.³ The process of consolidation will further energize the fledgling network to deal with higher complexities than before through the development of more powerful CIFTE and stronger inter-linkages.

Figure 1 characterizes schematically the formative stages of a knowledge network, with a few members combining on several topical themes to act as a node, not initially very rich with CIFTE (schematically represented by very few and small layers), which become inter-linked to draw upon network properties constituting the inceptive stages of a potential field. The collective resources of the network can then serve as a much richer and larger base than that of any individual member or team of members. The number and height of layers on a node are used in Figure 1 to signify its

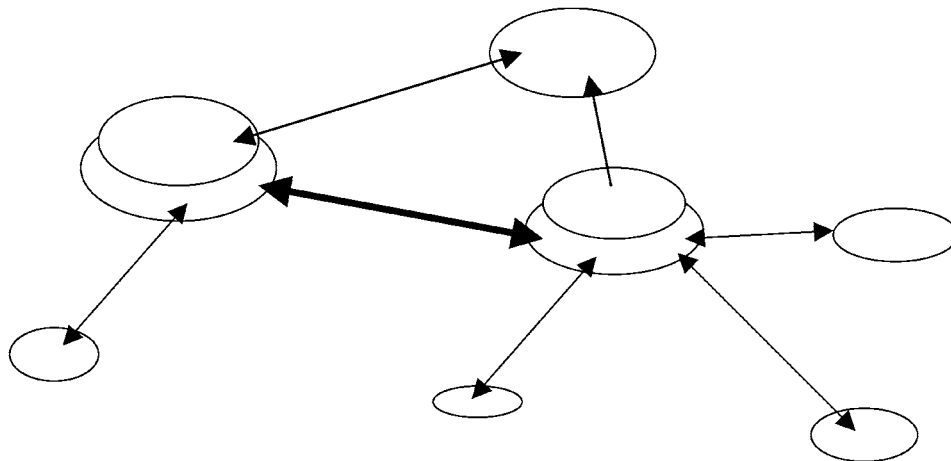


Figure 1. A schematic representation of the formative stages of a knowledge network.

resource richness. Using the same symbolism in Figure 2, however, two of the three nodes favoured by the knowledge worker, users and depositors gain more CIFTE resources and form stronger inter-linkages to represent the expanding structure of the “Core” in their favour. In these schematics, further height symbolizes further “richness” in terms of development of theoretical or conceptual depth in the subject matter of the core.

vi) *How Does a Knowledge Network Attract More Members and Expand?* The addition of new and relevant theoretical and conceptual tools to a field’s CIFTE helps to further strengthen the core’s CIFTE. This stronger core, and its associated CIFTE, capable of solving more complex problems than previously, attracts more members interested in those problems. As newly-attracted scholars use the new CIFTE to build even stronger theory or theoretical structures on or around the core (which in turn helps them to solve more complex problems), they implicitly help the knowledge network to further expand and diffuse. The demonstrative effects of the newly-developed capabilities may attract even more scholars with challenging problems. The consequence of more thinkers, writers and scholars joining the network

in pursuit of their own self-interests (i.e., attacking and solving more complex problems and issues for publishing), is further advancement of the node’s (or the core’s) previous CIFTE. In turn, this process helps to enhance the depth and breadth of the field. This is bound to attract more scholars (and practitioners) to this continuously resource-enriched theoretical core as they can potentially be used to attack even more complex and challenging problems than previously possible. They may simultaneously lead to stronger conceptual frameworks or theory essentials, which would be applicable to other pending questions both within and outside of the evolving network. The former strengthens and enriches the field – e.g., makes it deeper; and the latter broadens the field beyond its previous confines. As more current questions or problems are solved, the core of the field (or its CIFTE) expands and the knowledge network’s foundations become further strengthened. It is important to note that this evolutionary process can take a potentially exponential path, beyond an early threshold.

vii) *How Does a Knowledge Network Diffuse?* Naturally, the members of a knowledge network become the agents of its further diffusion and

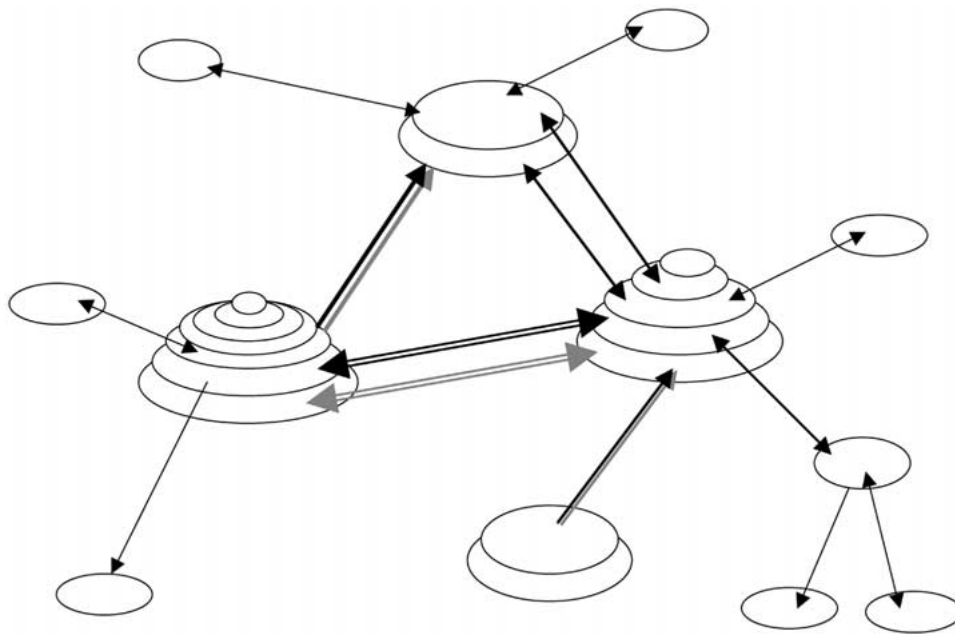


Figure 2. A schematic representation of enriched and inter-linked nodes towards the formation of the core in a knowledge network.

expansion, as they rely on CIFTE developed previously by others to attack complex problems facing them. Through this process, both newly-attracted and older scholars further use network-based CIFTE to find new solutions, which they in turn deposit onto the network for the use of others. This newly-deposited resource starts a new cycle of CIFTE development in the network. This process could also be viewed as diffusion, especially when non-members are attracted to network resources to solve problems of other fields. The use of previous publications by scholars for addressing their problems of interest and consequently publishing them, is very similar to the diffusion process outlined above.

viii) *The Emergence of a Paradigm*. In general, emerging systems build momentum and dynamism with time. Before the emergence of a consolidating, or dominant, “paradigm” to lead both the academic inquiry and entrepreneurial practice, the field may remain “issue-oriented” and “practically-oriented” for some time (Whitley, 1984a). Whitley has held that the emergence of a “dominant paradigm” is necessary for both the formalization and the wide acceptance of a discipline. This should not, however, be too disturbing to researchers in the young field of International Entrepreneurship, because the scientific status of management research in the broader field of administrative sciences has been also viewed as a “practically-oriented” social science (Whitley, 1984a) or a “socially constructed truth” (Astley, 1985). There is a near consensus that the nature of knowledge in management in particular and administrative sciences in general are “fragmented” (Whitley, 1984b) in a sense that a grand unifying paradigm has not emerged and may not emerge very soon. Scholars in the emerging field of International Entrepreneurship may, therefore, continue to experience both the feeling of fragmentation and the absence of unifying theory in academic and practical inquiries for a while longer. In spite of that unease, previously-established CIFTE would gradually be revised, extended and adapted until the field’s “dominant paradigm” emerges, as discussed above for MIS. On the practical side, the accumulated international business expertise and entrepreneurial capabilities of the early pioneers would guide ad-hoc processes before these rules and processes

become time-tested routine and well-established principles.

3. The relationship of a knowledge network to scholarly practice

Several questions can, at this point, help us understand and illustrate the above discussion:

- How are such developments traced and documented?
- How is new knowledge created and disseminated?
- How do these developments correspond with the reality of knowledge creation?
- What is the relationship between the developmental level of a knowledge network and the corresponding practice in the field?
- How can scholars and practitioners in the field use the resources of a knowledge network?

The balance of this section elaborates on these questions.

i) *The Method of Tracing and Documenting*. The generic methodology for tracing and documenting the development of a knowledge network is *epistemological bibliometrics*, whereby bibliometric methods are used to identify the members of the field, their contribution to the field and the use of those contributions by others prior to a point in time. This in turn will allow for a deeper understanding of concepts, ideas and theories of that field prior to that selected point in time. The evidence of scholarly reliance on the past CIFTE and their developmental path are, for example, found in the pattern of user’s bibliography and citations in their scholarly works. In this paper we have traced that pattern backwards in time, from year 2000.

ii) *The Process of Knowledge Creation and Dissemination*. The bibliographic records contained in scholarly works portray the preceding CIFTE, to which scholars referred to, in order to support or further develop their own work. Although they may have relied upon such work of others to varying degrees, their acknowledgement in their citations and bibliography records their use and reliance. Citations can be viewed as quantitative measures of the use of the listed bibliography, regardless of the qualitative degree of reliance on them. Various low-order bibliometric techniques

can easily document the epistemology of such reliance and the consequent developments related to them.

When scholars publish their newly developed concepts and ideas, especially in the main-stream journal of the field, as well as those of other fields, they begin the dissemination process, which also begins to strengthen the previous CIFTE and inter-linking such newly-developed CIFTE to the corresponding knowledge network(s). As a direct result, the reach and scope of the field begin to expand – a process, which can be easily traced and documented by bibliometric methods. However, if such developments, or diffusions, are not broadly-communicated, published or entered into the citation tracking systems, they remain opaque to the knowledge network, its potential users, and naturally bibliometric research will not be able to uncover them.⁴

Bibliometric epistemology can, by examining citations, reveal and verify the antecedents of an emerging field and identify the distinguishing features of its emerging knowledge network in terms of the identity of scholars in the field, the nature of their scholarly work, and the extent of their use by others. It can therefore characterize a knowledge network in terms of “*the who*,” “*the what*,” “*the where*” and “*the when*” of the field, as Latour (1987) suggested. Since a full epistemological investigation is beyond the scope of this introductory article, a summary window to the emergence of the International Entrepreneurship knowledge network is provided in Tables I to IX, below, and discussed in the next part of this paper.

iii) *The Time Leads and Lags*. The actual contribution of a scholar becomes a part of the information stored on the knowledge network. For the most part, there are minor time leads and lags (that consequently even out with time) between the contribution, its inclusion in the knowledge network, and the consequent use by others. The internationalization of entrepreneurship may have indeed begun with the efforts of a few forward-looking entrepreneurs in pursuit of internationalizing the scope of their operations on an ad-hoc basis – thereby *leading* the knowledge network. Generally, however, actual practice *follows* the conceptual development in the field. The knowledge network is the reflection of all these practices.

iv) *Correspondence with Practice*. Identifying and mapping the developmental path of an emerging theory paradigm is not only important to scholars, but it is also vital to the pioneering students and practitioners of the field. In the early stages, when the experiential pathways are not well-established, pioneering firms and scholars explore various promising paths and experiment tentatively. Ratnatunga and Romano (1997) observed that a clear identification of the early dependence on certain fields (i.e., the foundation or constituent fields) becomes crucial to a field’s efficient progress without wasteful experimentation. Similarly, the early identification and development of promising experimental or practical pathways are critical to smooth development of the corresponding practice. Such initial dependence on the existing CIFTE, has been observed in several emerging fields such as Management Information Systems (MIS) and Management of Technology (MOT). Although somewhat fragmented initially, there have been successful practices in both MIS and MOT prior to their scholarly development. Barton (1992), for example, observed that both MIS and MOT were initially characterized as issue driven and a loose collection of solutions and ideas, rather than fields, before the emergence of a coherent and internally consistent theoretical structure of their own. MIS has progressed beyond its early dependence on its constituent sciences (Culnan, 1987), such as Computer Science, Management Science and Organization Behavior. MIS has already developed its own integrated theoretical tradition (Culnan and Swanson, 1986, 1987; Culnan et al., 1990) in a remarkably short span of time. For example, the knowledge network of MIS portrayed in several well establish publication and diffusion media, with some minor leads and lags, reflects both the rich state of practice and equally rich CIFTE of MIS.

The appearance of prestigious journals, such as *MIS Quarterly*, is a manifestation of the ongoing consolidation of the field, portraying the maturing process in the MIS Knowledge Network supported by users, practitioners and scholars alike. In contrast, MOT has progressed less rapidly. Although eight to ten well-established MOT-oriented journals constitute the main fora for dissemination of MOT issues, a distinct set of

conceptual frameworks and theory essentials with their own unique and intrinsic characteristics has not yet emerged. As a practical field of enquiry, however, MOT issues and problems are continuously being solved. The consensus is that MOT's knowledge network is fragmented, remains tenuous, and is under-developed as its cross linkages to constituent fields are yet to be fully and strongly established (Lee and Etemad, 1999). It is still difficult to point to a body of knowledge with distinguishing boundary conditions as the core, or the CIFTE, of MOT. Similarly, the extent of correspondence between the actual practice and the knowledge network is not very clear – the development of technology seems to have surpassed that of its knowledge network. This is mainly due to the fact that practically-oriented technological development or knowledge are highly valued by those who have developed it; and as a direct result, they remain highly protected and thus opaque to others. Similar observation can perhaps be made for International Entrepreneurship – which is, however, still in its infancy as compared to MOT.

v) *Uncovering the Resources of Knowledge Network Through Bibliometric Epistemology.* As discussed earlier, bibliometric epistemology can be utilized both for identifying the relevant knowledge network and for locating its resources. The work-horse of this family of techniques is the *key word search* of a domain, which can yield two distinct data bases:

- A *source information* data-base, containing the identity, location, date and the contributions of active members of the knowledge network. This data base will identify scholars, developers, and contributors and their contribution(s) to a given field confined by the boundaries defined by a series of key words; and,
- ii) A *citation* data base, housing the citation and citation-related behaviours associated with the contributions contained in the source data base. While the source-information data base provides for Latour's characterization of a field's landscape, the citation data base can uncover a reasonably detailed developmental pattern of the various paths, including the pattern of how authors have relied on previously-developed CIFTE to support their own

work. Not only can the contributors and their contribution be identified, but the extent to which others have used those works can be also be revealed. For example, this analysis can produce a list of the most relied-upon authors, their books and articles in terms of the frequency of their citations as a proxy for their use.

4. Analysis of results

Analysis of the 287 Documents Included in International Entrepreneurship Domain. The results of our bibliometric search are presented in Tables I to IX. Table I shows a Boolean progression of key words for defining and confining the domain of the search in terms of a string of nested key words. It also presents the process of consolidation of these identifying key words as well as the results of the keyword search over the SSCI Data Base from 1992 to 2000. This search over a nine-year interval yielded 287 articles, which share the defining keywords, “global” and “entrepreneurship.” Each of these terms is hybrid and represents a much wider list of key words as shown in Table I. For example, “global” consists of five non-overlapping components: Int'al* (international), Cross*, Intzation* (internationalization), Intzed* (internationalized), and Exim* (export and/or imports), each of which have its own components. Int'al* is, for example, a summation of documents attached to “international,” “global,” “transnational” and “multinational.”

Cross* is a typical example of a simple Boolean operation. Cross* is defined as a Boolean cross-section of “cross” AND (i.e., “ $\cap$ ”) a set of overlapping terms which are all attached to cross as a suffix to form, for example, cross-country, cross-countries, cross-border, and cross-borders. Due to the overlap, a Boolean operator had to be used. Although each of the terms independently is associated with a large number of documents in the SSCI data sets, the hybrid (Boolean) term of cross-country(ies)/cross-border(s) returns only 18 documents in 1992. Similar Boolean operations were used to identify documents characterizing “entrepreneurship.” As seen in Table I, the term “entrepreneurship” is defined by its constituents, including: Small Firms*, exim* (exporting and/or

TABLE I
The Boolean progression of key words and the distribution of search results 1992–2000

Keywords/Year	1992	1993	1994	1995	1996	1997	1998	1999	2000
Small*(small+new+family)	5082	5616	5359	5408	5936	5938	5736	5832	6061
Firm*(firm+business+enterprise)	1481	1576	1661	1603	1827	1778	1889	1784	1827
Exim*(exporter+importer+trader)	1260	1397	1271	1240	1262	1265	1198	1223	1244
S-firm*(small* $\cap$ (firm+exim))	203	263	268	289	290	291	299	313	293
Ent*(entrepreneur(s)/(ial)/(ship))	86	150	141	134	177	136	136	157	151
SME*(sme+small/smaller-sized)	29	31	27	34	43	39	48	68	59
Vent*(venture+venturer+incubator)	41	39	46	33	36	44	53	45	59
Start*(start+start-up+founder(s))	69	83	99	81	80	75	83	111	112
Σ Ent*	421	546	567	504	605	570	601	674	655
Int'l*(int'l+global+transnational+multinational)	2077	2041	2246	2181	2370	2447	2395	2412	2585
Cross*(cross-country(ies) or border(s))	18	31	35	27	37	41	44	56	52
Intztion *(Int'l*(ization))	55	76	81	120	149	239	338	327	443
Intzed*(Int'l*(ized))	1	2	1	3	3	10	10	14	8
Exim*(export+import trade)*(s/ing)	138	112	134	103	102	108	129	112	138
Glob* = Σ (all int'l/global components)	2268	2441	2481	2421	2640	2808	2867	2878	3165
Ent* = Σ (all Ent. Components)	421	546	567	504	605	570	601	674	655
Glob*	2268	2441	2481	2421	2640	2808	2867	2878	3165
Σ Ent* $\cap$ Glob*	22	20	27	28	29	34	32	35	60
Σ Citations of Ent* $\cap$ Glob*	419	377	880	453	552	732	1284	1102	1852

Remarks:

1. Numbers indicate records for each item (e.g., journal articles, books, reviews as entries in SSCI data bases).
2. Σ Ent* $\cap$ Glob* = 287 articles.
3. Σ Citations = 7651 Documents.
4. “+” denotes union in Set terminology.
5. “ $\cap$ ” denotes cross-section in Set terminology.

importing firms), s-firm* (small firms), SME* (small and medium-sized enterprises), Vent* (venture), Start* (start-up, newly founded and founders). When the components of some of these terms were overlapping, the Boolean operator of “AND” was used. The final contents of Glob* (e.g., 2,268 documents in 1992) and Ent* (e.g., 421 in 1992) were combined annually (from 1992 to 2000) and are reported in Table I in the row entitled Σ Ent* $\cap$ Glob*, for a total of 287 documents. The total number of citations attached to these 287 documents is reported in the row entitled Σ citations in the table, for a total of 7,651 documents. As indicated earlier, we refer to the database of 287 documents as the “source or citing sample” and their 7,651 citations as the “citation database.” All the results reported in Table II to XII are based on the information contained in the above two databases.

The landscape of this field appears to be very widely spread over some 150 journals. Some 24 “mainstream” journals, as shown in Table II,

account for 142 articles and 49% of all the articles published over the period (C24 = 49%). The list of these journals, which have each published somewhere between eighteen (i.e., *Journal of International Marketing*) and three articles, are shown in Table II. The total list of 150 journals, publishing International Entrepreneurship-oriented articles, can be divided into several groups based on the intensity of articles published. For the period of analysis, they fall into four categories: i) seven journals, which have published more than six articles (over the nine-year period), ii) five journals, which have published between four to six articles, iii) some twelve journals, which published three articles, and iv) some 126 journals (not shown in Table II) which have published one or two occasional articles over the nine-year period of analysis. Although the division of categories is somewhat arbitrary, the first category, as shown in Table II, contains seven journals. They are: *Journal of International Marketing*, *Journal of Small Business Economics*, *Journal of*

TABLE II
Distribution of 287 source documents with keywords of “Ent” (Entrepreneurship) and “Glob” (Globalization) in their titles

Discipline	Source	No. artic.	Cumulative citations
Market’g	J Int Mktg	11	
Economics	Small Bus Econ	11	
Global	J Int’l Bus Stud	11	
Ent	J Small Bus Mgt	10	
Bus	Business History	8	58, C5 = 20%
Ent	J Bus Venturing	7	
Int’l Econ	World Econ	7	
Global	Int’l Affairs	6	
Develop’t	Environ Plan A	4	
Bus	J Bus Research	4	86, 10 = 30%
Global	J World Bus	4	
Develop’t	Regional Studies	4	
Management	Academic Mgt J	3	
Economics	Applied Econ	3	
Market’g	Ind Mktg Mgt	3	
POM	IJ Oper Prod Mgt	3	
Accounting	J Accounting	3	
Develop’t	J Develop’t Stud	3	
Economics	J Economic Lit	3	
Technology	Res Tech Mgt	3	118, C20 = 41%
Technology	Research Policy	3	
Strategy	Strategic Mgt J	3	
International?	WELTWIR ARCH	3	
Develop’t	World Develop’t	3	142, C24 = 49%

Remarks:

1. Discipline categories are judged primarily by the journal titles in the Citing Sample from “Source Journal Article” in SSCI Database 1992–2000.
2. Other Sources not listed in Table 2 contain:
 - 19 journal with 2 documents each = 38;
 - 107 journals with 1 document each = 107;
 Therefore, some 150 journals have published the total of 287 articles (142 listed in the table + 38 + 107), which accounts for C287 = 100%.

International Business (JIBS), *Journal of Small Business Management*, *Journal of Business History*, *Journal of Business Venturing (JBV)*, and *World Economy (International Affairs)* published exactly six articles in the nine-year period). In the absence of a few dedicated journals, these seven (or eight) journals, do perhaps substitute for the “main stream” media housing the core of International Entrepreneurship, as not all of the 278 documents are scholarly articles.

The distribution of document-types is shown in Table III. Actually, Table III reports two related distributions: the distribution of document-types in the left frame, and the annual distribution of scholarly articles over the nine year period in the right frame. Some 197 scholarly articles with their associated 6,046 citations, followed by 61 book

reviews with some 75 citations, dominate the document types. The number of citations in the scholarly articles ranges from 19 to 122, which, on average, exceeds the citations in other types as shown in Table III. Due to this intensity of citations, we traced scholarly articles further and over time. There is an upward movement over time in both the number of articles and their associated citations as shown in the right frame of Table III.

The pattern of co-authorship for years 1992 to 1997 (inclusive of 2nd quarter) is presented in Table IV. The data in Table IV indicate that a total of 248 authors have been involved in publishing 174 International Entrepreneurship-oriented documents, averaging 1.43 authors per article.⁵ This average has increased over the period from the low

TABLE III
Distribution of citations by document types and the annual associated citations for scholarly journals

All document sources				Annual distribution of scholarly articles and citations			
Document types	Freq	Citation No.	Citation range	Year	Art No.	Citation No.	Mean
Scholarly Articles	197	6046	19–122	1992	14	409	29.2
Biographies	2	1	0–	1993	10	275	27.5
Book-Reviews	61	75	1–5	1994	16	664	41.5
Editorials	5	28	0–23	1995	16	417	26.1
Editorial-Maters	11	50	0–42	1996	17	509	29.9
Letters	1	3	3	1997	24	681	28.4
Meeting-Abstracts	1	0	0	1998	28	1122	40.1
News-Items	1	0	0	1999	26	987	38.0
Notes	2	37	5–32	2000	25	982	39.3
Reviews	5	554	59–122				
Software-Reviews	1	3	3				
Sub-total		6797	0–162	Sub-total	176	6046	34.3

Remarks:

There are 287 source documents with keywords of Ent (entrepreneurship) and Glob (globalization) in their titles of which only 197 articles are designated as Scholarly Articles in SSCI classification. Due to technical difficulties only 176 of them are reported in the above table.

TABLE IV
Patterns of co-authorship frequencies in the source documents For 1992–1998 Q2

Frequency distribution of co-authorships for years:									
Authors	1992	1993	1994	1995	1996	1997	98q2	Sub-totals	Totals
0				1				1	
1	18	19	17	19	19	20	6	118	118
2	4	1	7	5	6	11	5	39	78
3			2	2	4	2	3	13	39
4				1		1		2	8
5			1					1	5
Art. no.	22	20	27	28	29	34	14	174	248
Aut. no.	26	21	42	39	43	52	25	248*	
Mean	1.18	1.05	1.55	1.39	1.48	1.53	1.78	1.43	
Inst. no.	22	18	39	32	35	47	21	214*	

Observations:

1. A total of 248 Article-Authors have been involved in publishing in International Entrepreneurship.
2. With the possibility of multiple publications for a given author in 1992 to 1998 *the universe of active authors becomes even smaller!*

1.05 (in 1993) to the high of 1.78 (in 1998), indicating that both the size of scholarly teams and their co-authorship have experienced a mild upward trend over this shorter period of study (92–98). The last row of Table IV (entitled Inst. No.) documents the number of institutions (i.e., 214) with which these authors have reported an affiliation. The locational distribution of first authors' institutional affiliation is reported in

Table V. While authors affiliated with institutions located in the U.S. dominate the distribution in Table V with 100 documents (close to 47% of the total), some 30 documents originated from the U.K. (accounting for 14% of the total). Four other country-affiliations (Canada for 8.4%, Australia for 4.7%, the Netherlands for 4.7%, and Germany for 5.6%) account for 23.4% of the documents. The number of articles for these four countries

TABLE V
Distribution of country of affiliated Institutions and their number of articles (No. Art.) contributed to the source sample

#	Affiliated country	No. of art.
1	USA	100
2	England	25
3	Scotland	3
4	Wales	1
5	N-Ireland	1
6	Canada	18
7	Australia	10
8	Netherlands	10
9	Germany	12
10	Sweden	6
11	Italy	3
12	Swiss	2
13	Belgium	2
14	India	2
15	Hong-Kong	1
16	S-Korea	1
17	Argentina	1
18	Israel	1

Remarks:

Only 167 institutions located, of which 46.7% are in U.S.A., 14% in England, 8.4% in Canada, 4.7% in Australia, and 4.7% in the Netherlands. Unfortunately, the recent Window's version of SSCI databases, the column entitled "research institutions" is no longer reported. Therefore, we rely on only 174 research articles identified in the earlier version of the analysis, which covers from 1992 to 1999-Q2.

ranges from 10 to 18 documents each. Twelve other country-affiliations accounts for less than 10% of the published documents. Although three countries – U.S., U.K., and Canada – seem to be very active in the field, the International Entrepreneurship phenomenon is by no means limited to these three countries as some 15 other country affiliations are also reported. Institutional affiliations of authors fall into four broad categories for the period of analysis: some 136 affiliated institutions, located in various countries, are associated with only one article each; 18 affiliated institutions are associated with two articles each; 11 affiliated institutions are associated with four articles each; and one institution (College of Business of University of Maryland, College Park) is associated with five articles in International Entrepreneurship.

It appears that International Entrepreneurship scholars have relied heavily on scholarly articles

and books for supporting their work. As shown in Table VI, scholarly articles, published in scholarly journals with 4,887 citations (see Table II for list of journals and their concentration of articles) and books with 2,200 citations have been the most important sources upon which International Entrepreneurship scholars have heavily relied. Approximately 154 articles are cited much more heavily than others, as shown in Table VII. However, the intensity of the number of citations differs very widely. For example, only a handful of documents (eight) have eleven or more citations each, followed by four, five, seven, and fourteen documents with nine, eight, seven, and six citations each, respectively. This is followed by 112 documents (56 & 56), which have five or four citations. These 154 documents (with equal and greater than four citations each) must be viewed as the shared core, as they have been used and acknowledged heavily by scholars.

TABLE VI
The distribution of citation concentration by document-type in the sample, 1992–2000

Document types	Number of citations	% of citation
Annual report	1	
<i>Books</i>	2200	28.75%
Conferences	98	1.3%
Government	214	3.17%
In press	21	0.3%
<i>Journal article</i>	4887	64%
Magazine	2	–
Official reports	8	0.02%
Report	22	0.32%
Theses	70	1.03%
Unpublished	49	0.07%
Working papers	79	1.17%
Total	7651	100%

Remarks:

Approximately 5,700 cited documents have been contributed to the total of 7,651 citations. The concentration of these citations in publication media has a highly-skewed distribution in favour of journal articles (4,887 citation for 64%), published books (2,200 citations for 28.8%) and all others (562 Citations for 7.2%).

TABLE VII
The distribution of concentration of total citations (7,651) in the sample

Concentrations of citations	Approximate no. of focuments	Total citations	Cumulative citations (>=)
Greater and equal to 11	8	118	118
Equal to 10	4	40	158
Equal to 9	4	36	194
Equal to 8	5	40	234
Equal to 7	7	49	283
Equal to 6	14	84	367
Equal to 5	56	280	647
Equal to 4	56	224	871
Equal to 3	105	315	1186
Equal to 2	362	724	1910
Equal to 1	5741	5741	7651
Total	6362		7651

Remarks:

There are 154 cited documents with 4 and more citations each, to which we have applied our heuristics in order to produce the above table, the selected list of highly cited books and the highly cited journal articles. The approximate number of documents cited is about 6,362 different documents. The distribution of their citations is given in Table IX.

Most-cited journal articles

We have used the above bibliometric analysis to identify the six most highly cited journal articles and books, as follows:

1. Johanson, J. (1977), *Journal of International Business Studies*, v. 8, p. 23
2. Cavusgil, S. T. (1984), *Journal of Business Research*, v. 12, p. 195
3. Bilkey, W. J. (1977), *Journal of International Business Studies*, v. 25, p. 45
4. Oviatt, B. M., *Journal of International Business Studies*, v. 25, p. 45
5. Misenbock, K. J. (1988), *International Small Business Journal*, v. 6, p. 42
6. Bonnacorsi, A. (1992), *Journal of International Business Studies*, v. 23, p. 605

Most-cited books

1. Porter, M. E. (1985), *Competitive Advantage of Nation and Competitive Strategy*
2. Buckley, P. J. (1979), *The Future of Multinationals*
3. Williamson, O. E. (1975), *Market Hierarchies*
4. Caves, R. E. (1982), *Multinational Enterprise*
5. Hofstede, G. (1980), *Culture Consequence*
6. Harrigan, K. R. (1986), *Management of Joint Ventures*

An abridged list of highly cited books, and journals publishing highly-cited articles, is presented in Tables VIII and IX.

The analysis of the citation data-base. A similar analysis can be performed on the 7,651 citations contained in the above 287 documents. For example, the patterns of use of the past CIFTE are shown in Table X. The 287 articles use a long list of past documents, which goes as far back in time as 1893. For example, the period 1893 to 1969 accounts for some 327 citations; that is, these 327 citations refer to documents that show publication dates between 1893–1969 in the SSCI source data-base. On the other side, documents published in 1990 to 1997 show the highest pattern of citation (2,600), indicating that the knowledge network of International Entrepreneurship has been building momentum with time, and its growth rate has increased since the late 1980s (see Table X). Due to technical complexities of the source data-base, the “types” of cited documents – e.g., research article, book, report, etc. – are estimated heuristically and are shown in Table XI. Citations referring to journal articles (4,887) followed by books (2,200) show dominance over all other document-types, such as proceedings, official reports and theses (reported in Table XI as “others”). The periodic distribution of citations for

TABLE VIII
The list of the highly cited books, associated disciplines, number of documents involved and citations

Disciplines	Last name	Full citation entry	Cit. #	No. doc.	Citation no.
Strategy	Porter	PORTER-ME-1985-COMPETITIVE-ADVANTAG/ 1990/1980*	+12	3	27
MNEs	Buckley	BUCKLEY-PJ-1976-FUTURE-MULTINATIONAL	+10	3	18
Econ.	Williamson	WILLIAMSON-OE-1975-MARKETS-HIERARCHIES	11	1	11
Ent. Global	Caves	CAVES-RE-1982-MULTINATIONAL-ENTERP/1996*	7	2	11
Ent.	Harrigan	HARRIGAN-KR-1986-MANAGING-JOINT-VENTU	5	2	10
Sociology	Hofstede	HOFSTEDE-G-1980-CULTURES-CONSEQUENCE	7	1	7
Econ.	Williamson	WILLIAMSON-OE-1985-EC-I-CAPITALISM	6	1	6
Org. Behavior	Pfeffer	PFEFFER-J-1978-EXTERNAL-CONTROL-ORG	5	1	5
Econ.	Penrose	PENROSE-ET-1959-THEORY-GROWTH-FIRM	5	1	5
Psych/methods	Nunnally	NUNNALLY-JC-1978-PSYCHOMETRIC-THEORY	5	1	5
Tech./Develop't	Nelson	NELSON-RR-1982-EVOLUTIONARY-THEORY	5	1	5
Econ.	Knickerbocker	KNICKERBOCKER-FT-1973-OLIGOPOLISTIC-REACTI	5	1	5
Ent.	Green	GREEN-MB-1991-VENTURE-CAPITAL-INT	5	1	5
Ent. Global	Dunning	DUNNING-JH-1993-MULTINATIONAL-ENTERP	5	1	5
Int'l Econ.	Bartlett	BARTLETT-CA-1989-MANAGING-BORDERS-TRA	5	1	5
Strategy	Harrigan	HARRIGAN-KR-1988-COOPERATIVE-STRATEGI-P205	5	0	0

Remarks:

1. We combined two books of Porter (1990) and Caves (1996) into their obviously earlier versions with the same book titles. There are totals of: 32 books with more than 4 citations contribute 178 citations (8.1% of 2,200) to the citations of book types. Among them, eight books are written by three authors: Porter, M. (3 books with subtotal citations 27); Buckley, P. (3 books 18 citations); and Harrigan, K. R. (2 books 10 citations).
2. The list includes 19 major books with citation ≥ 5 only; ii) Classification of disciplines is based on the keyword in book title only; and iii) Screening is based on 7,651 citations from 287 journal articles whose titles are related to entrepreneurship and globalization.

each document-type and their associated percentages for 1992 to 1997, 1998, 1999, and 2000 are also reported in Table XI. The distribution of citations to journal articles and books dominates those in others throughout the period. As indicated earlier, the highly used, if not the entire, CIFTE upon which International Entrepreneurship scholars have relied can be reconstructed by this methodology. An abridged list of the most-cited authors and a representative sample of their publication, as appeared in the SSCI data-base, is also reconstructed and presented in Table XII.

The analysis of the citation data-base. A similar analysis can be performed on the 7,651 citations contained in the above 287 documents. For example, the patterns of use of the past CIFTE are shown in Table X. The 287 articles use a long list of past documents, which goes as far back in time as 1893. For example, the period 1893 to 1969 accounts for some 327 citations; that is, these 327 citations refer to documents that show publication

dates between 1893–1969 in the SSCI source data-base. On the other side, documents published in 1990 to 1997 show the highest pattern of citation (2,600), indicating that the knowledge network of International Entrepreneurship has been building momentum with time, beginning the late 1980s (see Table X), and that it is still growing. Due to technical complexities of the source data-base, the “types” of cited documents – e.g., research article, book, report, etc. – are estimated heuristically and are shown in Table XI. Citations referring to journal articles (4,887) followed by books (2,200) show a dominance over all other document-types, such as proceedings, official reports and theses (reported in Table XI as “others”). The periodic distribution of citations for each document-type and their associated percentages for 1992 to 1997, 1998, 1999, and 2000 are also reported in Table XI. The distribution of citations to journal articles and books dominates those in others throughout the period. As indicated earlier, the highly used, if not the entire, CIFTE

Table IX
Most highly cited journals, a representative publication and number of citations

Disc	Journal	Subtotal	Doc No.	Concentrations	Year and representative article (Full SSCI citation entry)	Cit. No.
Glob	JIBS	208	31		JOHANSON-J-1977-J-INT-BUS-STUD-V8-P23	21
Stra	Stra Mgt J	52	10		KOGUT-B-1988-STRATEGIC-MANAGEMENT-V9-P319	8
Bus	J Bus Res	45	7		CAVUSGIL-ST-1984-J-BUS-RES-V12-P195	18
Iglob	I Mktg Rev	34	5		JOHANSON-J-1990-INT-MARKETING-REV-V7-P11	13
Mktg	J Mktg	25	5	C5 = 364 62%	CAVUSGIL-ST-1994-J-MARKETING-V58-P1	9
Mgt	A M Rev	21	4		PARKHE-A-1993-ACAD-MANAGE-REV-V18-P227	7
Econ	Q J Econ	15	2		VERNON-R-1966-Q-J-ECON-V80-P190	9
Mgt	J Mgt Stud	15	2		CAVUSGIL-ST-1984-J-MANAGE-STUD-V21-P3	8
Dev	Eu Res	14	2		CAVUSGIL-S-1980-EUROPEAN-RES-V8-P273	10
Mgt	J Mgt	12	2	C10 = 441 75%	HITT-MA-1994-J-MANAGE-V20-P297	4
Ent	J Bus Vent	12	2		MCDUGALL-PP-1994-J-BUS-VENTURING-V9-P469	8
Glob	Mgt I Rev	11	2		BEAMISH-PW-1993-MANAGE-INT-REV-V33-P121	6
Mgt	Mgt Sci	10	2		KOGUT-B-1991-MANAGE-SCI-V37-P19	5
Ilaw	J Law Econ	9	2		GATIGNON-H-1988-J-LAW-EC-ORG-V4-P305	5
Mgt	AMJ	9	2		KOH-J-1991-ACAD-MANAGE-J-V34-P869	5
Soc	A Soc Rev	8	1		DIMAGGIO-PJ-1983-AM-SOCIOLOG-REV-V48-P147	8
Mktg	Eu J Mktg	6	1		BELL-J-1995-EUR-J-MARKETING-V29-P60	6
Glob	Wor Dev	5	1		HIRSCH-S-1974-WORLD-DEV-V2-P41	5
Iglob	JEconBehOrg	5	1		BALAKRISHNAN-S-1993-J-ECON-BEH-ORG-V20-P99	5
Econ	Economica	5	1	C20 = 521 89%	CAVES-RE-1971-ECONOMICA-V38-P1	5
Mgt	ASQ	5	1		PFEFFER-J-1976-ADM-SCI-Q-V21-P398	5
Mgt	Sloan MR	4	1		ANDERSON-E-1990-SLOAN-MANAGE-REV-V31-P19	4
Ent	S B Econ	4	1		BUCKLEY-PJ-1989-SMALL-BUSINESS-EC-V1-P89	4
OB	Res Org Beh	4	1		TUSHMAN-M-1985-RES-ORGAN-BEHAV-V7-P171	4
Mktg	J Mktg Res	4	1		ARMSTRONG-JS-1977-J-MARKETING-RES-V14-P396	4
Econ	J Ind Econ	4	1		KOGUT-B-1989-J-IND-ECON-V38-P183	4
Mktg	British J Mkt	4	1		SIMMONDS-K-1968-BRIT-J-MARKET-V2-P93	4
Soc	Am J Soc	4	1	C28 = 587	GRANOVETTER-M-1985-AM-J-SOCIOLOG-V91-P481	4
Sub	28 journals	587	96	100%		

Remarks:

- *1. The full length table includes 96 journals with citations >= 4;
2. The classification of 28 inter-disciplinary journals is based on their explicit titles only; and
3. These 28 interdisciplinary journals contributed 587 citations for 12% of subtotal journal article citations.

TABLE X
The periodic distribution of publications in the citation sample

Type of document	Article	%	Book	%	Others	Subtotal	%
Missing date/blank	0	0%	21	1%	97	118	1.5%
1893–1969*	166	3.4%	156	7.1%	5	327	4.3%
1970–1979	379	7.8%	242	11.0%	30	651	8.5%
1980–1984	553	11.3%	289	13.1%	25	867	11.3%
1985–1989	1104	22.6%	425	19.3%	76	1605	20.1%
1990–1994	1745	35.7%	670	30.5%	185	2600	34.0%
Subtotal	4887	100%	2200	100%	564	7651	100%
Subtotal (%)	63.9%		28.8%		7.4%	100%	

Remarks:

The two oldest books, as they appear in SSCI databases, are: Durkheim, E (1893), *Division Labor Society* and Neave, HR (1900) *Total Quality Management*. The youngest two books are Rugman, A. M. (2000), *The End of Globalization* and OECD (1999), *National Innovation Systems*.

TABLE XI
The periodic distribution of citations by document type

Journal/Year	Cumulative 92–97	1998	1999	2000	Totals
Journal Article	2002	870	674	1341	4887
Book	1104	325	336	435	2200
Others	307	89	92	76	564
Sub	3413	1284	1102	1852	7651
Journal Article %	58.7%	67.8%	61.2%	72.4%	63.9%
Book %	32.3%	25.3%	30.5%	23.5%	28.8%
Others %	9.0%	2.6%	2.7%	2.2%	16.5%
Total source	160	32	35	60	287
Total citation	3413	1852	1102	1284	7651
Citations by source	21.3	57.9	31.5	21.4	26.7

upon which International Entrepreneurship scholars have relied can be reconstructed by this methodology. An abridged list of the most-cited authors and a representative sample of their publication, as appeared in the SSCI data-base, is also reconstructed and presented in Table XII.

5. Implications for research

The knowledge network of International Entrepreneurship is at a crossroads. It may further converge and consolidate into a field of its own, or it may alternatively diverge and become an interdisciplinary extension of its constituent fields. The historical development of science suggests that the process of creating and sustaining growth in a new field, especially in its early develop-

mental stages, is not trivial. There are usually more and better-understood CIFTEs, as well as well-tested research methodologies, in the established disciplines, making research and further development much easier than in newer, interdisciplinary fields. These difficulties increase the chances of further divergence in interdisciplinary fields.

The initial working hypothesis of this paper suggested two constituent fields: International Business, and Entrepreneurship. Our research confirms that scholars of International Entrepreneurship have relied heavily upon both of these fields (as well as others) to support their research as described in the early parts of this paper. However, the knowledge networks of the constituent fields are already well established and may

TABLE XII
The abridged list of highly cited authors in the sample, 1992–2000

Authors	Citation	SSCI Representative Entry (Date, Journal, Volume, pp)			
CAVUSGIL-ST	80	1980	EUROPEAN RES	V8	P273
JOHANSON-J	58	1977	J INT BUS STUD	V8	P23
BUCKLEY-PJ	52	1989	SMALL BUSINESS EC	V1	P89
PORTER-M	45	1990	COMPETITIVE ADVANTAG		
DUNNING-JH	44	1993	MULTINATIONAL ENTERP		
KOGUT-B	37	1988	J INT BUS STUD	V19	P411
WILLIAMSON-OE	36	1975	MARKETS HIERARCHIES		
REID-SD	32	1981	J INT BUS STUD	V12	P101
BEAMISH-PW	30	1985	COLUMBIA J WORLD BUS	V20	P13
HENNART-JF	29	1988	STRATEGIC MANAGEMENT	V9	P361
BILKEY-WJ	28	1977	J INT BUS STUD	V8	P93
CZINKOTA-MR	28	1983	J INT BUS STUD	V14	P147
VERNON-R	27	1966	Q J ECON	V80	P190
ANDERSON-O	24	1993	J INT BUS STUD	V24	P209
GERINGER-JM	24	1991	J INT BUS STUD	V22	P249
CAVES-RE	23	1982	MULTINATIONAL ENTERP		
HARRIGAN-KR	23	1986	MANAGING JOINT VENTU		
MCDUGALL-PP	23	1994	J BUS VENTURING	V9	P469
COOPER-RG	22	1985	J INT BUS STUD	V16	P37
OVIATT-BM	21	1994	J INT BUS STUD	V25	P45
BARTLETT-CA	19	1989	MANAGING BORDERS TRA		
KRUGMAN-P	19	1979	J INT ECON	V9	P469
TEECE-DJ	19	1997	STRATEGIC MANAGE J	V18	P509
ACS-ZJ	18	1990	INNOVATION SMALL FIR		
CHRISTENSEN-CH	18	1987	J INT BUS STUD	V18	P61
GOMESCASSERES-B	18	1990	J INT BUS STUD	V21	P1
HITT-MA	18	1997	ACAD MANAGE J	V40	P767
WELCH-LS	18	1988	J GEN MANAGE	V14	P34
BONACCORSI-A	17	1992	J INT BUS STUD	V23	P605
CHANDLER-AD	17	1962	STRATEGY STRUCTURE C		
HIRSCH-S	17	1974	WORLD DEV	V2	P41
MILLER-D	17	1983	STRATEGIC MANAGE J	V4	P221
RUGMAN-AM	17	1981	INSIDE MULTINATIONAL		
HAMEL-G	16	1991	STRATEGIC MANAGE J	V12	P83
HOFSTEDE-G	16	1980	CULTURES CONSEQUENCE		
PARKHE-A	16	1991	J INT BUS STUD	V22	P579
PORTES-A	16	1993	AM J SOCIOL	V98	P1320

offer authors in the fledging field of International Entrepreneurship strong attraction to publish their scholarly works in the journals of their established fields. Such attractions may impede International Entrepreneurship from evolving into a field of its own, with its own associated knowledge networks. Although the emergence of a unifying CIFTE to consolidate International Entrepreneurship as a field is not automatic, the appearance of dedicated journals may stimulate and accelerate the emergence of International Entrepreneurship as a field of its own. The rapid development of International Entrepreneurship in the past fifteen years suggests

that the field is indeed developing a momentum. As a direct result, the likelihood of divergence is reduced and the chances of convergence toward a coherent interdisciplinary field have gradually increased.

The systematic analytical approach of this research, based on minimal assumptions, lends strong endorsement to the potential of Bibliometric as a research methodology, especially for newcomers to a field who are not yet well-established members of a knowledge network. Without relying on any a-priori background or stringent assumptions, this research developed a

theory for guiding simple bibliometric techniques to uncover and then chart out the landscape of International Entrepreneurship as a potential field of scholarly inquiry. The only assumption in this research was that International Entrepreneurship, as a field or sub-field, was at the cross-section of the two fields of International Business and Entrepreneurship. As an initial condition, this turned out to be both minimal and non-restrictive, as other constituent fields were also uncovered. The methodology proved to be powerful and efficient, yielding much valuable information. The research uncovered highly-cited books and scholarly articles as well as highly-cited journals and foundation fields upon which International Entrepreneurship scholars have relied to support their work. The results of this research also suggest that the theory of knowledge network, developed to support the methodology utilized here, merits further attention, to enhance scholarly inquiry in this field as well as the others. Therefore, the true potentials of the theory and its associated research methodology presented here, especially when higher-order Bibliometric techniques are used, should not be lost on scholars of this and other emerging fields.

Notes

¹ Unfortunately, the concept of knowledge network has only recently been used to characterize, and model complex social systems in Social Sciences in order to deal with their pertinent issues systematically. Complex problems in Social Sciences are approached, for the most part, on ad-hoc basis. The young field of international entrepreneurship is an example of such a system. Its highly dynamic system, facing tremendous change and uncertainty, is at times bordering turbulence. Its internationalization process, driven by, as reviewed earlier, rapid socio-economic and technological change, combined with entrepreneurial dynamism, could be vastly enhanced by combining the existing knowledge networks of International Business and Entrepreneurship.

² The World Wide Web is very close to this conception so far as the information is concerned. Each Web-site provides a wealth of information at the disposal of the web and the web-users, who are the members of the public at large. These members may not have deposited any thing onto the web in the expectation drawing from the web as the need arises. In that sense they are not viewing the web as a repository and may never become a formal member. As a result, the World Wide Web has become a de-facto public information network.

³ The results of this research will show that the highly cited materials, upon which the scholars of International Entrepreneurship have relied, is spread over a long time period and a

large number of journals (i.e., 158). Without a systematic methodology, such as the one presented in this paper, it is practically impossible to identify the core materials of a field.

⁴ Following the logic and the process of bibliometric research, one can easily observe that, articles published in journals not listed in SSCI databases will not be found as source articles. However, references or citations, to the same articles by other journal articles may uncover them. This is one of the main reasons for carrying the analysis at both the source and citation levels in a parallel fashion, as we have done in this address.

⁵ Due to a change in the structure of SSCI data-base after the second quarter of 1998, the pattern of co-authorship can be only reported up that point.

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