Books as a knowledge translation mechanism: citation analysis and author survey

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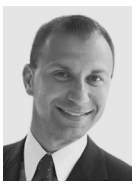


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Abstract

Purpose – *As a response to the claims that much of management academic research is irrelevant from the practitioner perspective, this study aims to empirically investigate whether books serve as effective knowledge distribution agents and whether peer-reviewed publications are used in the development of book content.*

Design/methodology/approach – *A citation analysis of 40 authored and nine edited books was done, followed by a survey of 35 book authors.*

Findings – *This study refutes the previous claims that management academic research has made little impact on the state of practice. Peer-reviewed sources, such as refereed journals, book chapters, and conference proceedings, are used to develop the content of knowledge management and intellectual capital (KM/IC) books. Even though most business professionals do not directly read academic articles, the knowledge existing in these articles is delivered to them by means of books and textbooks.*

Practical implications – *Scholarly research has played a significant role in developing the KM/IC field. This study confirms the existence of the indirect knowledge dissemination channels where books serve as knowledge transmission agents. Therefore, academics should not change their research behavior. Instead, infrastructure should be developed to facilitate the transition of scholarly knowledge to practitioners. The question is not whether academic research is relevant, instead it is whether it reaches practitioners in the most efficient way.*

Originality/value – *This is the most comprehensive empirical investigation of the role of books in academic knowledge transition ever conducted.*

Keywords *Knowledge management, Intellectual capital, Relevance, Academic research, Citation analysis, Scientometrics*

Paper type *Research paper*

1. Introduction

Knowledge management and intellectual capital (KM/IC) is a burgeoning scholarly management discipline which has existed for just over a decade. Despite this, it has already gained recognition within the business community and can boast various attributes of an academic discipline. For example, it has its own set of journals (Bontis and Serenko, 2009; Serenko and Bontis, 2009), university courses (Ruth *et al.*, 2003; Bontis *et al.*, 2006), theories (Grant, 2002; Serenko *et al.*, 2007), and scientometric studies that attempt to understand the past, present and potential growth of the field (Serenko and Bontis, 2004; Rodríguez-Ruiz and Fernández-Menéndez, 2009; Ma and Yu, 2010; Serenko *et al.*, 2011b).

To facilitate the future of KM/IC as a well-recognized discipline, it is critical not only to promote scholarly research but also to ensure the success of KM initiatives in organizational settings (Jennex and Olfman, 2005; Jennex and Olfman, 2006). However, academics and practitioners define KM success from different perspectives; whereas the former concentrate on theoretical and generalized measures, the latter focus on specific measurable impacts, such as productivity outcomes and overall effectiveness (Jennex *et al.*, 2009). They also have different goals and career objectives in mind. Academics

want to achieve recognition within their own research community, whereas practitioners wish to use the knowledge generated by scholars to solve current organizational problems. As a result, the impact of scholarly KM/IC research on the state of practice has been questioned (Andriessen, 2004; Ferguson, 2005). For example, there is evidence that terminology used by KM/IC researchers has little relevance to industry professionals (Eijkman, 2011). Despite theoretical advancements in the KM/IC field, IC reporting has not become the central system for the valuation, measurement, and reporting of intangible assets (Andrikopoulos, 2010). Initially, the scholarly side of the KM/IC discipline was represented by both academics and practitioners; gradually, however, industry professionals withdrew from academic research. For example, in 1994 non-academics generated 30 percent of all peer-reviewed KM/IC articles, but by 2009 their output dropped to only 10 percent (Serenko *et al.*, 2010).

KM/IC scholars create new knowledge in the form of refereed journal articles and conference proceedings, which may be delivered to industry professionals through two channels (Booker *et al.*, 2008). The direct knowledge dissemination approach assumes that practitioners educate themselves by reading scholarly publications. However, evidence suggests the opposite; practitioners are mostly unaware of scholarly works, rarely read them, and find scholarly papers outdated, difficult to comprehend and of little value (e.g. see Pearson *et al.*, 2005). According to the indirect knowledge transfer method, scholarly knowledge is delivered to practitioners by means of knowledge translation mechanisms, which summarize, contextualize and transform knowledge existing in peer-reviewed sources, and present it to busy professionals in a very compact, easy to comprehend form. Examples of these mechanisms include classes, workshops, industry magazines, online sources, and books. In a previous investigation, Serenko *et al.* (2011a) explored the role of KM/IC books as an indirect knowledge dissemination mechanism, and concluded that books serve as knowledge distribution agents and that the body of knowledge published in peer-reviewed sources is used in the development of book content. The books, in turn, are read by practitioners and students, who later join the professional world. Their study, however, relied on self-reported data (i.e. author interviews). The present investigation takes a step further; it attempts to expand the proposed framework and test it through a different method (i.e. citation analysis from 40 authored and 9 edited books) followed by a survey of 35 book authors.

2. Literature review and study's model

2.1 Practical relevance of scholarly research

Since their inception, universities have been considered not only educational but also research institutions with the mission to create and disseminate various forms of theoretical and practical knowledge. For example, in 1878 Daniel Coit Gilman, the first president of Johns Hopkins University stated that it is ''one of the noblest duties of a university to advance knowledge and to diffuse it not merely among those who can attend the daily lectures but far and wide''[1]. Currently, the creation and dissemination of scientific knowledge is a common mission statement for contemporary universities, and research is considered one of the most important activities for faculty members (Jagodinski, 2008).

When the first business schools appeared over a century ago, they were similar to trade or vocational institutions for the training of professional elite. However, in the post-second world war period, business schools were criticized for their lack of scholarly rigor, weak scientific foundation, and the absence of strong theoretical base (Starkey and Tempest, 2005). As a response, since the seventies, business schools have repositioned themselves as rigorous research institutions, as evident in the establishment of elite journals, development of related theories, and exponentially growing scholarly output (Wensley, 2007). However, business schools do not exist in isolation; three major stakeholders in the context of business research are academics, practitioners, and policy makers. Academics wish to achieve recognition within their own scientific community by producing rigorous, theoretical research published in peer-reviewed journals. In contrast, industry professionals need understanding and applied knowledge that quickly facilitates

their decision-making to produce desirable outcomes. Policy makers want to comprehend the aggregate effect of macro-level changes on the behavior of groups or societies. This disparity has created a gap between the objective of business school researchers and needs of practitioners as well as policy makers. The key reason is that business research has adopted the scientific model (Bennis and O'Toole, 2005) or the old paradigm of scientific discovery, when the research objectives are set based on the interests of the academic community that pursues knowledge for the sake of pure knowledge (Gibbons *et al.*, 1994; Starkey and Madan, 2001).

The issue of the practical relevance of business school research has attracted much attention, and various solutions have been offered. For example, Benbasat and Zmud (1999) posit that researchers should focus on topics that are of interest to practitioners, and journal editors should encourage this behavior. Knights and Scarbrough (2010) demonstrate that relevant knowledge naturally emerges from collaborative and mutually beneficial researcher-practitioner interactions. Such relationships facilitate new discoveries, foster learning, create sources of access for investigations, enhance teaching, and supplement traditional research funding resources (Knights, 2008). Starkey *et al.* (2009) suggest that business academics and practitioners work collaboratively to create a new form of the science of management where relevance is considered a necessary condition for rigor. Patriotta and Starkey (2008) argue that stakeholders need to re-imagine business schools through the lens of moral imagination by adjusting their vision, mission, values and views of knowledge in both academia and practice. Hodgkinson and Starkey (2011) believe that the application of critical realism and design science is a basis for both rigorous and relevant scholarly management output. Nicolai and Seidl (2010) show that instead of pursuing the model of instrumental relevance (i.e. prescribing what courses of action to take) academics should concentrate on the model of conceptual relevance (i.e. enriching practitioners' understanding of the decision situation).

On the one hand, the relevance issue has been well explored in the management literature. On the other hand:

> The overall debate seems to have been conducted on the basis of remarkably little substantial empirical evidence [. . .] [and] the debate has failed to be cumulative over time but exhibited many signs of bald repetition (Wensley, 2007, p. 9).

In fact, except for a few notable examples (see Duncan, 1974; Shrivastava, 1987; Ankers and Brennan, 2002; Pfeffer and Fong, 2002; Baldridge *et al.*, 2005), very few empirical studies of the relevance issue were conducted. The present investigation attempts to fill that void by empirically exploring one of the critical ways of academic knowledge dissemination.

2.2 The role of scholarly books

> Indeed much academic research may be more influential on practice through incorporation in our core texts than through direct readership of either academic articles (Wensley, 2007, p. 43).

Traditionally, peer-reviewed journals have played a critical role in the dissemination of scientific findings. The first scholarly journal dedicated exclusively to science, the Philosophical Transactions of the Royal Society[2], was established in 1665 and remains in existence to the present day. The introduction of scholarly journals has had a major impact on scientific progress since the increased proliferation of journals has coincided with a decrease in disputes amongst academics relating to simultaneous discovery (Merton and Sztompka, 1996). Additionally, the quality of academic work has increased as a result of the accessibility and timeliness of journals (Greco *et al.*, 2006). Scholarly journals also provide universities with a method of performance measurement for their faculty by tracking the number of published papers and citation impact of faculty (Dalton, 2006; Serenko and Jiao, 2012). Based on data from the Ulrich periodical database, there are over 43,500 scholarly journals worldwide that publish approximately 1,350,000 scholarly articles per year (Tenopir, 2004; Björk *et al.*, 2009).

Despite the significance of scholarly journals in the development of science, they have several limitations. First, a journal article is targeted at other academics and students. In

addition, each article has to meet the requirements of a rigorous review process which authors have to take into consideration a priori. As a result, it contains scientific details, is written in a specific way and uses jargon that is not understood by non-academics. Second, each journal article is usually devoted to a particular, and narrow-focused phenomenon of interest. Third, it has only a few, if any, practical recommendations; instead, authors usually emphasize its theoretical contributions. Fourth, most articles require prerequisite knowledge found in alternative sources. Therefore, it is almost impossible for busy practitioners to read journal publications in order to obtain insights that they may later utilize in their decision-making.

Scholarly books address most limitations of journal articles which makes them more attractive to the non-academic audience. Table I shows differences between scholarly books and scholarly journals (White, 1983; Dalton, 2006; Greco *et al.*, 2006), and demonstrates how they differ across several factors. In contrast to journal articles, many books and textbooks are written by practitioners; in fact, the impact of books published by professionals is as high as that of written by academics (Pfeffer and Fong, 2002). Most importantly, reading a scholarly book does not require substantial prerequisite knowledge of the topic. A book also contains recommendations that were previously published in multiple journal articles. Therefore, scholarly books serve as a knowledge translation mechanism by which the knowledge existing in peer-reviewed journals may be delivered to students (i.e. future practitioners) and industry professionals.

In recent years, book and textbook prices have dramatically increased, which has caused university libraries to reallocate funds from books to journals. Currently in academia, scholarly books are read less often than before because students and researchers prefer short versions of recent material accessed online, for example, through digital libraries (Detlor *et al.*, 2011). It is possible, however, that the proliferation of electronic books will reverse this trend in the future. At the same time, Adler and Harzing (2009) claim that the impact of books is greater than that of articles published in even the most prestigious journals, because scholarly books receive more than 40 percent of all citations. In addition, books are read by non-academics.

As a knowledge dissemination mechanism, books have had a long history. The first messages were written on clay, wood, stone and metal. Later, parchments scrolls were invented, followed by the codex (Roberts and Skeat, 1983). The relationship between academia and books dates back to 427 AD when Nalanda, the world's first university located in North East India, had a large library. In the thirteenth century, scholarly institutions and monasteries started playing a critical role in the life of the book. They possessed the largest

Table I Scholarly books vs scholarly journals

Factor	*Scholarly books*	*Scholarly journals*
Target audience	Academics, students, and practitioners	Academics and students (and potentially journal reviewers)
Focus	Relatively broad	Extremely narrow
Practical recommendations	Multiple due to ample page size	Very limited and narrow in focus
Information sources	Literature review on multiple topics, summaries of various journal articles, and personal expertise	Literature review on a specific topic and results of a single study or experiment
Knowledge base	Possesses context for argument	Requires prerequisite knowledge found in alternative sources
Authors	Mostly academics and practitioners	Mostly academics and students
Discipline	Humanities Social sciences	Sciences Social sciences
Impact	Direct impact on scientific development Direct impact on society	Direct impact on scientific development Limited direct impact on society
Time bound	Can be considered outdated	Can be published faster than a book therefore can offer more recent information
Accessibility	Length can be a deterrent Difficulty obtaining hard copies	Easily available online

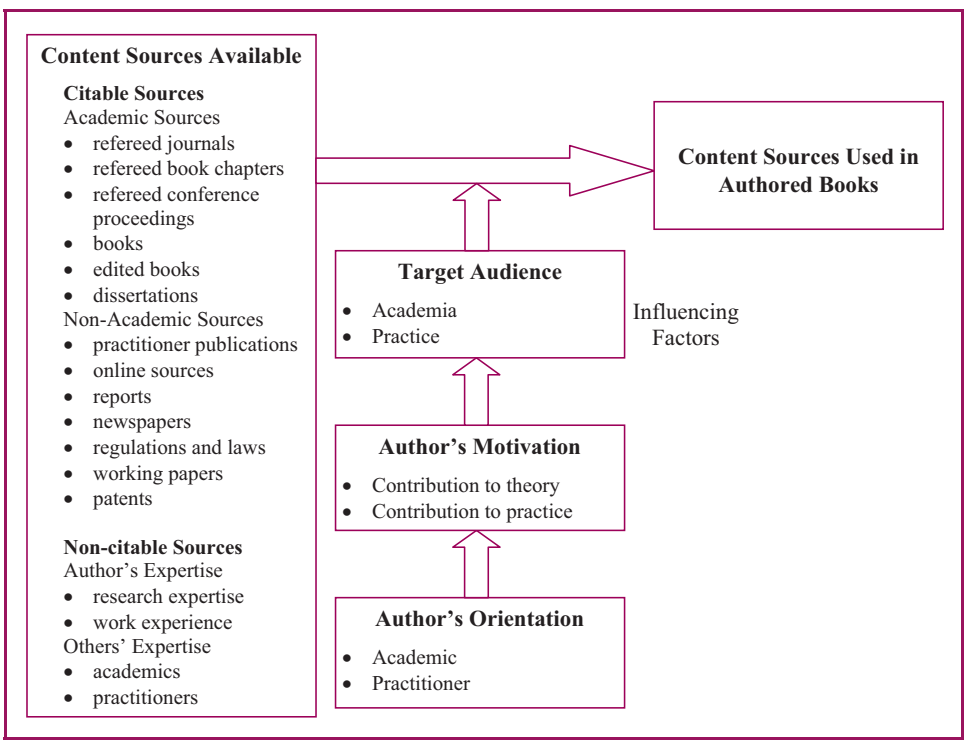
libraries, provided access to their collections, and actively engaged in bookmaking (Saenger, 1975). After the invention of the printing press in 1440, books became mass produced and more accessible outside of the scholarly world (McLuhan, 1962). The motivation behind the creation of the book was to collate experiences, document observations, preserve knowledge for future generations, and communicate findings to academics, students and practitioners (Daly and Brater, 2000). Over time, content quality of books improved, and they were considered a source of authority (Saenger, 1975). By 2010, 129 million books had been published worldwide (Jackson, 2010).

Books have impacted the development of our society in various ways (Darton, 1982). Scholarly books are important since the knowledge they contain is integral for the advancement of our knowledge-based society (Dalton, 2006). Textbooks also facilitate the dissemination of ideas so that they might be turned into actions when read by students. The transmission of academic knowledge has a dramatic effect on human behavior by legitimizing actions congruent with academic theory while delegitimizing those that do not conform to it (Ghoshal, 2005). On the one hand, the importance of scholarly books has been clearly recognized in academia and beyond. On the other hand, the effectiveness of scholarly books in the transmission of knowledge, theories, and ideas outside of academia is unclear. For example, White (1983) found that scholarly books in law are read only by academics with law degrees and intellectuals interested in the subject matter, not by the general public or professionals. At the same time, the material found in these books is transmitted to potential practitioners through professors in academia.

2.3 Study's model

This study's model, adapted from Serenko *et al.* (2011a), explicates the process by which the book content is formed (see Figure 1). Authors have a variety of academic and non-academic sources available at their disposal. They include citable sources, for example, refereed journals, conference proceedings, industry reports, books and book chapters, and non-citable sources, for instance, authors' personal expertise and the expertise of others. Authors' decisions of what type of information sources (i.e. both citable

Figure 1 Books as knowledge translation agents



and non-citable) to use in order to develop their book content depends on several influencing factors. Authors' personal orientation (i.e. academic vs. practitioner) affects their motivation (i.e. the reason why the book is written). Academic and practitioner authors are inspired by theoretical vs practical needs, respectively. In other words, academically-oriented authors wish to contribute to theory whereas practice-focused authors are interested in discussing practical implications and offering managerial advice. Further, authors who are theoretically motivated and wish to contribute to theory target an academic audience, such as other academics and students. They also rely more on peer-reviewed publications as a source of their book content. In contrast, practice-oriented authors, who want to advance the state of managerial practice, envision practitioners and students (i.e. future practitioners) as their future book's audience. They use more non-peer reviewed information sources and rely on their previous expertise.

Overall, books represent a mechanism by which the body of knowledge existing in both citable (i.e. peer-reviewed journals, book chapters, conference proceedings) and non-citable (i.e. authors' personal expertise, expertise of others) forms may be transformed and delivered to academics, students and practitioners in a very accessible way. This knowledge transition process is reflected in the degree to which various types of information sources are referenced in a book, which may be observed by counting categories of book references. The usage of non-citable sources may be measured by surveying book authors directly. Therefore, based on the framework and assumptions above, this project's methodology was developed as described in the following section.

3. Methodology

A comprehensive search for KM/IC books was conducted. First, the authors of this study were familiar with many books published in the field. Second, an online search of the major book publishers, Amazon.com, Google Books, and Google Scholar was done based on several keywords, such as knowledge management, intellectual capital, intangible assets, organizational learning, learning organization, knowledge and business, knowledge and organization, knowledge transfer, knowledge engineering, community of practice, knowledge market, etc. The search was based not only on the book title, but also on the book description and content. As a result, 40 authored books and nine edited books in English language were identified. Three of them were printed in the UK, and the rest in the USA. The books were published for the period from 1994 to 2009, with approximately the same number of books appearing per year.

The data collection process consisted of two stages. The first phase included an analysis of authored book and edited book citations. For this, all citations in each book were classified based on their type (e.g. peer-reviewed article, book, book chapter, practitioner magazine, website, etc.) In order to eliminate the effect of book size (i.e. number of pages), the citation type count was converted to percentage. At the second stage, an online survey of book authors was conducted. The editors of edited books were excluded from the survey since they did not generate the book content themselves, but only provided guidance to the authors. Survey questions pertained to four areas:

1. The author's academic vs practitioner orientation (academic vs practitioner self-identification, number of peer-reviewed articles published, number of practitioner articles published, and years of full-time university/college teaching experience).
2. The author's motivation to write the book (theoretical vs practical).
3. The book's target audience (academic vs practitioner).
4. The extent to which non-citable book content sources were used, which cannot be identified by means of citation analysis, such as personal research, personal work experience, discussions with academics and discussions with practitioners.

When the same author wrote multiple books, motivation and target audience questions were repeated for each book individually. If only one author of a multi-authored book completed the questionnaire, his/her data was used for that book. If multiple authors of the same book

completed the survey, their responses were averaged. Sixty-seven unique authors were identified and contacted by email, followed by two reminders. The questionnaire is available in the Appendix.

4. Results

Table II provides an overview of the sample of 40 authored books and nine edited books studied. A total of 35 completed questionnaires were received, yielding a response rate of 52 percent. Overall, author survey data on 32 books were obtained and used for analysis. For the eight books that had no author survey data, descriptive analysis of citations was done, but these books were excluded from further correlation analysis.

There were ten female and 25 male authors. On average, they published 2.7 peer-reviewed and 8.6 practitioner articles per year, and had eight years of full-time university/college teaching experience. A total of 70 percent of them had a PhD, primarily in the fields of management, social science, engineering, computer science, psychology, and economics. Table III outlines general citation data and demonstrates that edited books contain more citations than authored books on average. Table IV and Table V show the categories of content sources for authored books and edited books, respectively. Books represented almost a half of all citations in authored books, followed by practitioner magazines, peer-reviewed journals, book chapters, and general online resources. Other types of citations were very rare. Overall, peer-reviewed sources, such as refereed journals, refereed

Table II Sample statistics – the number of authors

	1 author	*2 authors*	*3 authors*	*4 authors*	*Total*
Number of authored books	27	10	2	1	40
Number of edited books	3	4	1	1	9

Table III General citation data

	Total no.	*Avg. per book*	*Min*	*Max*	*Std dev.*
Authored books, $n = 40$	7,715	193	22	857	187
Edited books, $n = 9$	3,814	424	62	815	197

Table IV Content sources used – authored books

n	*Type of content sources used*	*Avg. (%)*	*Min (%)*	*Max (%)*	*Std dev. (%)*
1	Books	45.2	15.5	100	20.3
2	Practitioner/trade/industry (i.e. non-academic) journals/magazines	18.9	0.0	40.0	8.7
3	Peer-reviewed journals	13.4	0.0	36.1	10.4
4	Book chapters (e.g. chapters in edited books or encyclopedias)	4.9	0.0	19.2	4.6
5	General online sources (i.e. websites, excluding online newspapers)	4.7	0.0	35.2	7.9
6	Peer-reviewed conference proceedings	2.1	0.0	7.1	1.9
7	Reports (including technical reports)	2.0	0.0	11.3	3.1
8	Newspapers (off-line)	1.7	0.0	13.3	2.9
9	Edited books	1.0	0.0	6.5	1.7
10	Legal rules, laws or regulations	0.9	0.0	33.3	5.3
11	Working papers	0.7	0.0	4.6	1.2
12	Other (unpublished manuscripts, interviews, case studies, dissertations, personal communications, patents, etc.)	4.5	0.0	43.3	8.0
	Total	100			

Table V Content sources used – edited books

n	*Type of content sources used*	*Avg.*	*Min*	*Max*	*Std dev.*
1	Books	29.9	21.5	53.2	10.4
2	Peer-reviewed journals	25.6	15.9	34.1	5.2
3	Practitioner/trade/industry (i.e. non-academic) journals/magazines	20.2	12.9	26.8	4.7
4	Book chapters (e.g. chapters in edited books or encyclopedias)	8.6	1.6	16.0	4.2
5	General online sources (i.e. websites, excluding online newspapers)	4.2	0.0	15.7	5.5
6	Peer-reviewed conference proceedings	3.7	0.0	8.5	3.3
7	Reports (including technical reports)	2.4	0.0	14.4	4.6
8	Edited books	1.7	0.2	4.4	1.4
9	Working papers	1.3	0.0	2.9	1.1
10	Other (off-line newspapers, unpublished manuscripts, interviews, case studies, dissertations, personal communications, etc).	2.4	0.8	4.8	1.1
	Total	100			

conference proceedings, and book chapters (which are usually peer-reviewed) constituted 20.4 percent of all citations in authored books. In edited books, a somewhat similar pattern was observed, but peer-reviewed journals were used more frequently, with all peer-reviewed sources constituting 37.9 percent of all citations.

Table VI presents correlations among different categories of citations. Three observations have been made. First, book citations act as a substitute for all other categories of citations; the more authors cite books, the less they cite other types of sources. Second, peer-reviewed journal citations correlate positively with practitioner magazine citations, and negatively with general Internet sources. Third, citations of conference proceedings correlate positively with general Internet citations; this may happen because both types of sources are located through search engines.

The citation data were correlated with the results of the author survey. Several findings emerged as reported in Tables VII to IX. First, there is a strong relationship between the author's degree of academic vs. practitioner orientation and the overall number of citations; in general, more academically-focused authors use more citations than practitioner-centered. Second, results show that academically-focused authors wish to contribute to theory, target other scholars, and get ideas from other academics. Those who are more practitioner-oriented are motivated to contribute to practice, target other practitioners, use fewer citations, and get ideas from other practitioners and personal work experience. Third, the validity of the self-reported academic vs. practitioner scale was further confirmed. Authors who publish more scholarly articles identify themselves as

Table VI Correlations between content sources used – authored and edited books

		Authored books					*Edited books*				
n	*Type of content sources used*	*1*	*2*	*3*	*4*	*5*	*1*	*2*	*3*	*4*	*5*
1	Books	1					1				
2	Peer-reviewed journals	−0.48*	1				0.20	1			
3	Practitioner/trade/industry (i.e. non-academic) journals/magazines	−0.73*	0.40*	1			−0.37	0.57*	1		
4	Book chapters (e.g. chapters in edited books or encyclopedias)	−0.32*	0.26	0.10	1		−0.62*	−0.30	0.12	1	
5	General online sources (i.e. websites, excluding online newspapers)	−0.28*	−0.38*	−0.01	−0.14	1	−0.60*	−0.72*	−0.29	0.66*	1
6	Peer-reviewed conference proceedings	−0.46*	0.15	0.26	0.22	0.34*	−0.75*	−0.74*	−0.25	0.58*	0.89*

Note: *$p < 0.1$

Table VII Correlations between the author's orientation, the author's motivation, the book's target audience and the number of citations

	ORIENT	*No. of citations*	*TMOT*	*PMOT*	*ACAUD*	*PAUD*	*APUB*	*PPUB*
Self-reported degree of academic vs practitioner orientation (ORIENT)	1							
Total no. of citations in the book	0.51*	1						
The degree of the author's motivation to contribute to theory (TMOT)	0.09	0.18	1					
The degree of the author's motivation to contribute to practice (PMOT)	−0.46*	−0.33*	−0.13	1				
The degree to which the author targeted an academic audience (ACAUD)	0.23	0.30*	0.82*	−0.26	1			
The degree to which the author targeted a practitioner audience (PAUD)	−0.44*	−0.33*	−0.21	0.66*	−0.31*	1		
Number of academic articles written (APUB)	0.65*	0.26	0.22	−0.49*	0.24	−0.42*	1	
Number of practitioner articles written (PPUB)	−0.32*	−0.38*	−0.07	0.20	0.29	0.25	−0.14	1
Number of years of full-time university/college teaching (TEACH)	0.52*	0.36*	0.13	−0.20	0.33*	0.00	0.29	−0.32*

Note: *$p < 0.1$

Table VIII Correlations between self-reported information sources and the author's orientation, the author's motivation, the book's target audience, and the number of citations

Extent to which the following information sources were used	*ORIENT*	*No. of citations*	*TMOT*	*PMOT*	*ACAUD*	*PAUD*	*APUB*	*PPUB*
Personal research	−0.14	−0.49*	−0.12	0.23	−0.29	0.39*	−0.08	0.24
Personal work experience	−0.26	−0.47*	−0.20	0.35*	−0.29	0.19	−0.12	0.31*
Discussions with academics	0.22	0.38*	0.36*	0.09	0.36*	−0.22	−0.10	−0.46*
Discussions with practitioners	−0.61*	−0.48*	−0.05	0.59*	−0.25	0.44*	−0.72*	0.28

Note: *$p < 0.1$

Table IX Correlations between content sources used and influencing factors

	ORIENT	*TMOT*	*PMOT*	*ACAUD*	*PAUD*
Books citations	0.22	−0.09	0.14	0.02	−0.03
Peer-reviewed journals citations	0.57*	0.08	−0.33*	0.23	−0.26
Practitioner/trade/industry (i.e. non-academic) journal/magazine citations	0.12	0.05	−0.04	−0.13	0.14
Book chapters (e.g. chapters in edited books or encyclopedias) citations	0.35*	0.09	−0.42*	0.17	−0.18
General online sources (i.e. websites, excluding online newspapers) citations	−0.31*	−0.29	0.23	−0.26	0.09
Peer-reviewed conference proceedings citations	0.10	−0.14	−0.24	−0.05	−0.15

Note: *$p < 0.1$

academically-focused, are less inspired to contribute to practice and do not target practitioners. The more practitioner articles authors publish, the fewer citations they use in their books. Authors who are more academically-oriented have more university/college full-time teaching experience, cite more sources, target other scholars, and publish more academic and fewer practitioner articles.

Fourth, academically-focused authors cited more peer-reviewed journals and book chapters, and fewer unreliable online sources than practically-focused authors. Fifth, the number of citations is negatively correlated with three self-reported measures: personal research, personal work experience, and discussions with practitioners. However, it

positively correlates with discussions with academics. Therefore, instead of relying on published material, practice-focused authors develop their book content based on their existing knowledge and advice from their professional colleagues. In contrast, academic authors rely on the body of knowledge published in peer-reviewed sources and consult other academics. Even though some of the correlations in these tables were not statistically significant, most were in the theoretically proposed direction; the lack of statistical significance was a result of a small sample size of authored books (32).

Table X further demonstrates that personal research and discussions with academics act as a substitute for peer-reviewed journals. Authors, who use more personal work experience and ideas obtained from discussions with academics, use more refereed journal citations. Personal work experience also substitutes for information from book chapters. Note that statistically significant differences among these four self-reported content sources were observed, $F(3, 123) = 7.242$, $p < 0.01$.

5. Implications

The purpose of this study was to explore whether KM/IC books serve as a knowledge translation mechanism. A theoretical model was adapted from Serenko *et al.* (2011a) and extended further. Empirical data were obtained from two sources: citation analysis of 40 authored and nine edited books; and a survey of these books' authors. Since both data sources were conceptually and empirically independent, confidence in the validity of the findings is assured. Based on the results, eight implications are proposed that warrant discussion:

5.1 Implication no. 1: the body of knowledge that exists in peer-reviewed sources, such as peer-reviewed journals, book chapters and conference proceedings, is used to develop the content of KM/IC books

This study refutes the previous claims that management academic research has made little, if any, impact on the state of practice. Only a few years ago, Bennis and O'Toole (2005) published a seminal *Harvard Business Review* article stating that the scientific model which is used to establish research directions in business schools has completely failed. Quickly, the ideas expressed in this article widespread; in less than six years this paper was cited over 700 times, and many followers continued critiquing the practical value of management research. However, most of their arguments were not supported empirically. In fact, only a handful of studies have analyzed the impact of management research by following a rigorous methodological approach.

Table X Correlations between citation-based content sources and self-reported content sources

	Personal research Avg. = 6.2	*Personal work experience Avg. = 5.57*	*Discussions with academics Avg. = 4.60*	*Discussions with practitioners Avg. = 5.93*
Book citations	0.09	0.22	−0.06	0.20
Peer-reviewed journal citations	−0.36*	0.27	0.21	−0.41*
Practitioner/trade/industry (i.e. non-academic) journal/magazine citations	−0.15	−0.08	−0.09	−0.08
Book chapter (e.g. chapters in edited books or encyclopedias) citations	0.06	−0.33*	0.14	−0.24
General online source (i.e. websites, excluding online newspapers) citations	0.01	0.04	−0.03	0.08
Peer-reviewed conference proceedings citations	−0.13	−0.08	0.08	−0.15

Note: *$p < 0.1$

In this study, it was observed that in the KM/IC field, authored and edited books contain 20.4 percent and 37.9 percent citations from peer-reviewed publications, respectively, with peer-reviewed journals being an important source. As stated by Serenko *et al.* (2011a), these books are often read by practitioners and used as textbooks to educate future managers. This highlights the importance of the indirect knowledge distribution approach when scholarly knowledge is delivered to professionals by means of intermediaries, such as books. Therefore, academics should not change their research behavior. Instead, policies, procedures, and infrastructure should be developed to facilitate the dissemination of scholarly knowledge to practitioners. The question is not whether academic research is relevant; instead it is whether it reaches practitioners in the most efficient way. Perhaps editors of academic publications can also consider a supplemental practitioner-friendly abstract that points to the practical implications of a research study written in generic terms.

5.2 Implication no. 2: in KM/IC, edited books contain twice as many references from refereed journals as authored books

Compared to authored books, edited books contain more peer-reviewed journal references (25.6 vs 13.4 percent). This is not surprising. First, each edited book chapter is written by one or more contributors who are usually academics or students; second, edited books are mostly targeted to the academic audience; and third, edited books are often theoretical (non-empirical) and contribute to theory. This demonstrates that the content of edited book chapters is better referenced, which is usually done in scholarly publications. It is also noteworthy that edited books typically focus on going much deeper into a specific topic than a peer-reviewed journal would.

5.3 Implication no. 3: the major source of references in KM/IC books are other books

References from books constitute 45 and 30 percent of all references in authored and edited books, respectively. This reveals that book authors rely heavily on other books which serve as a major information source. In fact, according to Serenko and Bontis (2004), the most frequently cited KM/IC work is the book by Nonaka and Takeuchi published in 1995 entitled *The Knowledge Creating Company* (Nonaka and Takeuchi, 1995). Recently, Thomson Reuters (formerly ISI) announced the launch of the Book Citation Index, which demonstrates the importance of citations to books.

5.4 Implication no. 4: non-academic publications are heavily used in the content of KM/IC books

References from practitioner, trade, or industry magazines represent almost 20 percent of all KM/IC book citations. This finding is not surprising since KM/IC initially emerged as a professional field with several major professional publications (e.g. *Fortune* magazine's famous cover story describing intellectual capital in 1991) which inspired both academics and practitioners to engage in scholarly research. In addition, practitioner publications are a good source of real-life examples and cases that complement theories presented in books.

5.5 Implication no. 5: in KM/IC, citations of books substitute all other categories of citations

The percentage of book citations is negatively correlated with all other types of citations. The more authors cite other books, the less likely they are to cite other sources, including peer-reviewed journals, professional magazines, websites, etc. This observation further highlights the importance of books as a source of ideas which are used in other books. In peer-reviewed articles, which are mostly targeted to the academic audience, authors report the detailed results of a single investigation. Practical implications of the study, which are an after-thought rather than the purpose of the project, are limited to one or two paragraphs only. In contrast, books allow authors to explore a particular issue in depth by drawing on both the scientific evidence and non-citable sources, such as personal research, work experience, and discussions with colleagues. This unique feature of books makes them very attractive to other book authors.

5.6 Implication no. 6: personal research is the major non-citable source of book content

Out of the four categories of non-citable book content, personal research plays a major role, scoring 6.23 out of 7 (i.e. between frequently and very frequently), followed by discussions with practitioners (5.93) and work experience (5.57). At the same time, discussions with academics were used only occasionally (4.60). It is likely that KM/IC book authors are very familiar with the academic body of knowledge and they rarely ask for input from other scholars. Instead, they use the knowledge they have accumulated from conducting research. At the same time, they utilize ideas from industry professionals that may serve as case studies and real-world examples.

Personal academic knowledge that authors use to develop their book content is a result of their prior engagement in various academic research projects. As such, a book represents a collection of research summaries of thousands of scholarly publications, many of which are not directly cited by the author. This further confirms that academic research has an impact on the state of practice.

5.7 Implication no. 7: the validity of the proposed model was confirmed empirically

Academically-oriented authors: have more years of full-time university/college teaching experience; publish more peer-reviewed articles; wish to contribute to theory; target their books to other scholars; use more citations in general; and get ideas from other academics. They tend to cite more peer-reviewed journals and book chapters, and fewer general online sources, such as websites. In contrast, practice-focused book authors: are less likely to teach full-time in academia; publish more professional (i.e. non-refereed) articles; want to address practical issues of interest to industry professionals; and use fewer citations in their books. They cite fewer peer-reviewed sources and more websites, and get ideas from other practitioners and personal work experience. Therefore, this study's model received strong empirical support and can be used in future research.

Even though books written by practitioner authors contain fewer references from peer-reviewed sources than books written by academically-oriented authors, they still use academic material. All types of books may be used as textbooks or recommended readings in academic courses, and may be read by both scholars and industry professionals. In addition, the line between the academic- or practitioner-focused books is blurred; and a book cannot be classified as purely academic or practitioner. In fact, the audience itself makes this decision. On the one hand, practice-oriented books are less effective at utilizing refereed literature than academia-centered ones. On the other hand, they still contribute to the dissemination of scholarly knowledge to the professional audience.

5.8 Implication no. 8: indirect knowledge distribution channels should be further investigated

The scholarly body of knowledge may reach practitioners by means of two channels: direct (when professionals are supposed to read peer-reviewed sources to educate themselves) and indirect (when knowledge existing in peer-reviewed sources is converted to the format that may be easily comprehended by current or potential industry professionals). This study demonstrated the existence of the indirect channels where books serve as knowledge transmission agents. Future investigations should further explore other indirect channels. For example, scholarly knowledge may be transmitted through consultants, workshops, professional meetings, indirect interactions, scholarly news releases, professional associations, etc.

6. Limitations and conclusion

Despite its contribution, this study has several limitations. First, it is possible that some KM/IC books were missed. KM/IC is a very broad field. In this study, various keywords were used to identify as many relevant books as possible, but it is difficult to ensure full coverage of the topic. Second, several of the identified book authors might not have received survey participation requests since all correspondence was sent by email, and some email addresses might have been inactive or some messages might have been accidentally

deleted by spam filters. Third, only books published in English were selected. This was done to ensure the accuracy of citation analysis. Nevertheless, this may limit the generalizability of the findings. Fourth, despite authors' intentions, it is possible that some of the books included in this study were never used as textbooks and were read predominantly by academics. In this case, the transfer of scholarly knowledge to practice did not occur. Fifth, there are several problems associated with citation analysis (Serenko and Dohan, 2011). For example, the fact that the source was cited does not mean that the authors actually read the original publication. Negative citations, when the cited work is critiqued, still contribute to the overall citation count. Self-citations may also distort the findings. Not all citations are equal; whereas some cited works are heavily used to form the book's core arguments, others are cited to merely beef-up general statements. Nevertheless, citation analysis is a popular method in scientometrics. It is hoped that future researchers will continue this line of investigation and address the limitations above.

In conclusion, this investigation represents one of the first documented attempts to study the role of books as the disseminator of knowledge from the academic to the practitioner audience. Overall, it is concluded that previous statements on the irrelevance of scholarly KM/IC research are not empirically grounded. In fact, scholarly knowledge reaches current and future practitioners through indirect channels with the assistance of knowledge translation mechanisms, such as books.

Notes

1. ww.press.jhu.edu/about/index.html
2. http://rstl.royalsocietypublishing.org

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Appendix. Questionnaire

Part 1. Academic versus practitioner orientation

- How many academic articles do you publish per year on average?
- How many practitioner articles do you publish per year on average?
- How many years of full-time university/college teaching experience do you have (if any)?

- In what area was your PhD? (if any)
- On a scale from 1 to 7 (1 = practitioner; 7 = academic), what are you? Options: 1 = pure practitioner; 2 = mostly practitioner; 3 = slightly more practitioner than academic; 4 = equally academic and practitioner; 5 = slightly more academic than practitioner; 6 = mostly academic; 7 = pure academic.

Part 2. Your motivation to write the book

The two questions below pertain to your motivation to write the book entitled *TITLE* (i.e. why did you write it?). Please indicate your level of agreement with these statements:

- I wrote this book because I wanted to contribute to theory. Options: 7 = strongly agree; 6 = agree; 5 = somewhat agree; 4 = neutral; 3 = somewhat disagree; 2 = disagree; 1 = strongly disagree.
- I wrote this book because I wanted to contribute to practice. Options: 7 = strongly agree; 6 = agree; 5 = somewhat agree; 4 = neutral; 3 = somewhat disagree; 2 = disagree; 1 = strongly disagree.

Part 3. Book's target audience

The two questions below pertain to the target audience of your book entitled *TITLE*. Please indicate your level of agreement with these statements:

- When I was writing this book, I targeted an academic audience (i.e. academics, researchers, and students). Options: 7 = strongly agree; 6 = agree; 5 = somewhat agree; 4 = neutral; 3 = somewhat disagree; 2 = disagree; 1 = strongly disagree.
- When I was writing this book, I targeted a practitioner audience (i.e. industry professionals, non = students, and non = academics). Options: 7 = strongly agree; 6 = agree; 5 = somewhat agree; 4 = neutral; 3 = somewhat disagree; 2 = disagree; 1 = strongly disagree.

Part 4. Content sources

The four questions below pertain to the content sources of your book entitled *TITLE*. Please indicate your level of agreement with these statements:

- When I was writing this book, I used this information source to develop the content of this book: Options: 7 = very frequently; 6 = frequently; 5 = sometimes; 4 = occasionally; 3 = rarely; 2 = very rarely; 1 = never.
- Personal research.
- Personal work experience.
- Discussions with academics.
- Discussions with practitioners.

Part 5. Other

What is your gender? (male/female)

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