



A NETWORK ANALYSIS OF TOURISM RESEARCH

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Abstract: This paper uses network analysis to identify the pioneering scholars and seminal works which have influenced recent papers in leading journals. The analysis extends beyond rankings of scholars by using co-citation networks to visualize the relationships between the most influential scholars and works and to uncover the disciplinary contributions which have supported the emergence of tourism as a field of academic study. The networks of scholars and works illuminate invisible colleges, tribes and territories in tourism research and indicate that while the social sciences have been most influential, business-related citations are increasing. The findings contribute to the discourse about the epistemology of tourism research by using bibliometric techniques to offer insights into the interdisciplinary structure of tourism research. **Keywords:** tourism, epistemology, knowledge domain, bibliometrics, co-citation analysis, network analysis. Crown Copyright © 2013 Published by Elsevier Ltd. All rights reserved

INTRODUCTION

The epistemology of tourism research has been the subject of ongoing discussion and debate. There is broad consensus within the tourism academy that the corpus of tourism research is fragmented and eclectic (Belhassen & Caton, 2009; Echtner & Jamal, 1997; Graburn & Jafari, 1991; Jafari, 2001; Leiper, 2000; Tribe, 1997; Xiao & Smith, 2006b). In the 1990s Pearce (1993, p. 26) posed the question “is tourism, the study area, somehow more than the sum of its parts or simply a composite of these separate contributions?” and elsewhere describes tourism as a ‘field of study’ or ‘specialism’, rather than a discipline (Pearce, 1991). Similarly, various scholars have highlighted the field’s

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lack of theoretical development and discussed the ‘disciplinary dilemma’ and the ‘indiscipline’ of tourism (Echtner & Jamal, 1997; Tribe, 1997). More recently, Xiao and Smith (2006b) described tourism as a maturing field with a specialized literature and close relationships with parent disciplines. In contrast, Belhassen and Caton (2009) regard tourism research as a young area of study that is greatly influenced by other disciplines and research traditions.

While there are many approaches for understanding the epistemology and knowledge structure of a field one common approach involves analyzing its scholars and the content of publications. There have been various efforts over the last two decades to identify the most productive and influential tourism scholars, institutions and publications, including attempts to rank tourism journals, individual scholars, and institutions based on productivity and citation counts (Jamal, Smith, & Watson, 2008; Jogaratnam, Chon, McCleary, Mena, & Yoo, 2005; Jogaratnam, McCleary, Mena, & Yoo, 2005; McKercher, 2007; McKercher, 2008; McKercher, Law, & Lam, 2006; Page, 2005; Park, Phillips, Canter, & Abbott, 2011; Pearce, 1992; Pechlaner, Zehrer, & Abfalter, 2002, 2004; Ryan, 2005; Schmidgall, Woods, & Hardigree, 2007; Sheldon, 1990, 1991; Zhao & Ritchie, 2007).

Although the authors acknowledge the utility of identifying the most influential researchers and journals, it is possible to go beyond rankings by using other bibliometric techniques to understand the tourism research knowledge domain. On the basis of recent citation studies in tourism, the purpose of this paper is to extend the analysis of tourism knowledge production beyond rankings and indices by exploring the disciplinary structure of the field using co-citation and network analysis. Specifically, the research is guided by three key questions. Firstly, who are the most cited scholars (elders) in leading tourism research journals? Secondly, what are the most cited works (inscriptions) in tourism research? And thirdly, what are the relationships between highly cited scholars and works and to what extent can these relationships illuminate invisible colleges, networks and tribes in tourism research?

The analysis of progress in knowledge and theory not only provides an understanding of the development of ideas and interpretations but also highlights the influence of academic forces and trends that shape knowledge production (Belhassen & Caton, 2009). Botterill (2001) suggests that this type of epistemological enquiry can also be a useful means for developing a shared understanding of how knowledge unfolds and influences the intellectual and educational products of the field.

LITERATURE REVIEW

There are two areas of the literature that serve as a foundation for this paper: the theoretical development of tourism as a field of research, and the application of bibliometrics to analyze knowledge domains.

The Disciplinary Structure of Tourism Research

The growth in tourism research and scholarship has been dramatic, resulting in a sharp increase in the number of journals and doctoral dissertations throughout the 80s and 90s (Cheng, Li, Petrick, & O'Leary, 2009; Huang, 2011; Meyer-Arendt & Justice, 2002). By the early 90s, some argued that tourism was reaching maturity as a discipline in its own right (Goeldner, 1988; Jafari, 1990; Sheldon, 1991), although this argument was only partially supported (Coles, Hall, & Duval, 2009; Echtner & Jamal, 1997; Leiper, 2000; Ryan, 1997), or rejected outright by many academics (Belhassen & Caton, 2009; Cooper, Fletcher, Gilbert, Shepherd, & Wanhill, 1998; Pearce, 1991, 1993; Tribe, 1997; Xiao & Smith, 2006b). Debate over the nature of tourism has not diminished and more recent research on the development of the tourism field has continued to examine issues such as the dominant paradigms and disciplinary status in research (Echtner & Jamal, 1997; Leiper, 2000; Tribe, 1997), theoretical advances in subfields such as sociological and anthropological studies (Dann, 1999, 2001, 2005), and the epistemological basis of tourism knowledge (Ayikoru, 2009; Belhassen & Caton, 2009; Botterill, 2001; Coles, Hall, & Duval, 2006; Ren, Pritchard, & Morgan, 2010; Tribe, 2004, 2006, 2010; Wray, 2002).

The field of tourism research is largely viewed as fragmented and there appears to be some consensus that it is an inter-disciplinary field of study, but not a discipline in its own right (Tribe, 1997, 2010). Authors have also noted that the field lacks a unified theoretical approach (Ap, Musinguzi, & Fu, 2011; Echtner & Jamal, 1997). Tribe (2010) concludes that the tourism academy is a rather divergent community which results in a broad range of approaches and contributory disciplines. However, some recent commentators have noted that tourism research may have entered a phase of post-disciplinary fertilization and can be described as a fractionally coherent field (Coles et al., 2006; Darbellay & Stock, 2011; Ren et al., 2010).

The inter-disciplinary nature of tourism research makes it an interesting subject for epistemological and ontological inquiry (Pritchard, 2006). Dann and Cohen (1991, p. 167), suggest that “there exists no all-embracing theory of tourism, since tourism, like any other field of human endeavour, is a target field, comprising many domains and focuses, to which various theoretical approaches can be appropriately applied”. One framework which is useful in the context of tourism epistemology or ‘academic territories’ is Tribe’s (1997, 2004) conceptualization of *The Creation of Tourism Knowledge* (see Figure 1). This conceptual framework describes the inter-disciplinary dynamics of tourism knowledge production and the trans-disciplinary formation of the body of tourism knowledge. Tribe (1997, 2004) highlights the split personality of tourism studies: its business and non-business components. A later analysis refers to these as the business of tourism and the social science of tourism (Tribe, 2010) but this delineation has been challenged by Ren et al. (2010) who argue that it is too simplistic and reductionist. Notwithstanding this observation, Tribe contends that progress in multi-disciplinary and inter-disciplinary scholarship and

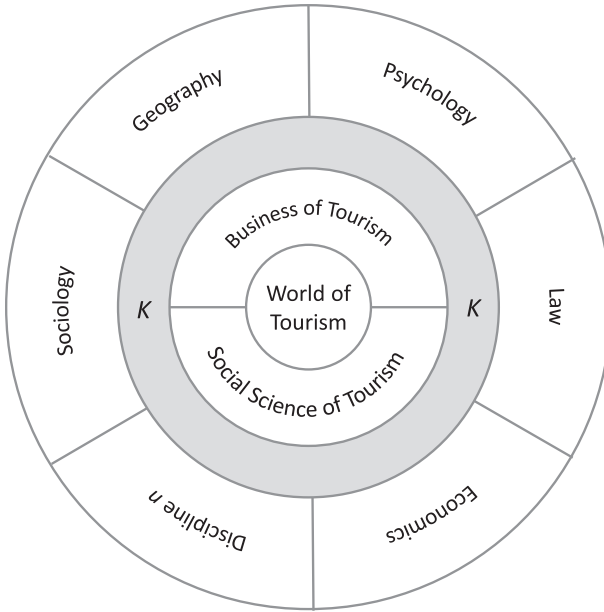


Figure 1. The Creation of Tourism Knowledge (Adapted from Tribe, 2004, p. 50)

knowledge creation takes place in band *K*, which represents the combination and interactivity of disciplines with one another and the field.

Coles et al. (2006) have criticized attempts to categorize tourism research into various disciplines. They argue that disciplines are an “artefact of previous academic divisions of labour which still dominate current institutional regulatory regimes” (p. 293) and suggest that tourism would benefit from a post-disciplinary outlook which is more problem-focused and based on greater flexibility in knowledge production. However, they lament that post-disciplinary progress may be frustrated by existing frameworks of academic governance and hegemonies within the tourism academy. Some support for this view was provided by Tribe (2010), who used a qualitative actor network theory approach to critically analyze the territories and tribes of tourism studies.

Following Becher and Trowler (2001), Tribe (2010) acknowledges the importance of social aspects, power and politics inherent in the production of knowledge and presents a framework for studying the epistemology of tourism. The value of this work is that the analysis not only identifies the disciplinary structure of the field but also investigates the culture and practices of academics. Tribe’s discussion of academic tribes and networks examines the role and influence of universities and departments, academic freedom, clans, elders, cultural aspects, network formation, inscriptions and obligatory passage points on the epistemology of tourism. A number of other authors have recognized that social and political aspects play a role in the process of

communicating ideas and building the canon of accepted knowledge in tourism (Belhassen & Caton, 2009; Hall, 2004; Pritchard & Morgan, 2007; Ren et al., 2010; Tribe, 2004). The role of influential publications (inscriptions), scholars (elders) and clans as obligatory passage points for those wishing to progress in the field are germane to this study.

Several sociological studies of modern science and the interactions of scientists discuss the notion of ‘invisible colleges’ within research communities (Lukkonen, Tijssen, Persson, & Sivertsen, 1993; Macharzina, Wolf, & Rohn, 2004). According to Price (1969, p. 119) “the basic phenomenon seems to be that in each of the more actively pursued and highly competitive specialties in the sciences there seems to exist an ‘in-group’. The people in such a group claim to be reasonably in touch with everyone else who is contributing materially to research in this subject. . .”. Tribe (2010) notes that this invisible college represents what many have referred to as an ‘old guard’ which has significant hegemonic influence over the production of knowledge. However, this phenomenon is largely known only from personal histories, reflections and interviews (cf. Dwyer, 2011; Nash, 2007; Pearce, 2011; Smith, 2010) and so far there has been little objective analysis of invisible colleges, networks, tribes and territories in tourism research.

Bibliometrics

There are many approaches to understanding the knowledge domain of the tourism field. These approaches provide ‘windows’ through which one can peer into the ‘house’ that is tourism research in order to understand its foundations and architecture. Each window provides some insight but does not allow the observer to see the entire house. While the linguistic approach of Belhassen and Caton (2009) and the actor network theory approaches of Tribe (2010) and Ren et al. (2010) offer some insights into the epistemology of tourism several authors have suggested that bibliometric techniques provide another window for exploring the architecture of tourism research (Ap et al., 2011; Baloglu & Assante, 1999; Hall, 2011). Bibliometric studies of tourism provide indicators of research production in the field over a period of time and allow scholars to study tourism as a knowledge creation system (Barrios, Borrego, Vilagínés, Ollé, & Somoza, 2008). A bibliometric approach also provides newcomers who may struggle to make sense of the tourism field with insights into important authors and works.

Bibliometrics are concerned with studying relations between ‘cited’ and ‘citing’ literature. Garfield (1972) is widely credited with pioneering the use of bibliometrics with his Science Citation Index (SCI), which enabled the systematic quantitative analysis of scientific literature. The range of bibliometric techniques include word frequency analysis, citation analysis, authorship analysis, co-citation analysis, co-author analysis, co-word analysis and simple document counting, such as the number of publications by an author, research group or country.

Generally speaking, the various techniques in bibliometrics can be categorized as either evaluative or relational (Benckendorff, 2009; Borgman & Furner, 2002).

Evaluative techniques assess the impact of scholarly work, usually to compare the performance or scientific contributions of two or more individuals or groups. Hall (2011, p. 21) observes that evaluative metrics can be broadly classified into three groups. The first group includes *productivity measures* such as the number of (cited) papers, number of papers per academic year and number of papers per individual author. The second category includes *impact metrics* such as the total number of citations, number of citations per academic year, number of citations per individual author/journal, and usage log data (i.e. usage impact factors that consists of average usage rates for the articles published in a journal). The third group consists of *hybrid metrics* such as average number of citations per paper as well as various indices which aim to capture both productivity and impact in a single figure.

Many authors have applied evaluative methods to rank or rate journals, scholars or institutions in the tourism field. This has included authorship analysis (Sheldon, 1991), citation analyses (Howey, Savage, Verbeeten, & Van Hoof, 1999; Xiao & Smith, 2005, 2006a), rankings of authors, institutions, and journals (Jogaratham et al., 2005; Pechlaner et al., 2002, 2004; Zehrer, 2007a; Zhao & Ritchie, 2007), research collaboration (Sheldon, 1991; Zehrer & Pechlaner, 2010), academic leadership in the academy (Hall, 2005; McKercher, 2008; Page, 2005; Ryan, 2005), trends and perceptions of journals (Cheng et al., 2009; Zehrer, 2007b; Pechlaner et al., 2004; Sheldon, 1990), methodological trends and innovations in tourism research (Faulkner & Ryan, 1999; Reid & Andereck, 1989; Riley & Love, 2000; Xiao & Smith, 2006a), utilization of research knowledge (Xiao & Smith, 2007), and the evolution of trends and themes (Swain, Brent, & Long, 1998; Xiao & Smith, 2006a). In the hospitality field, some researchers have explored longitudinal trends and changes in subject areas and research techniques (Baloglu & Assante, 1999; Crawford-Welch & McCleary, 1992)

Relational techniques explore relationships within research, such as the structure of research fields, the emergence of new research themes and methods, or co-citation and co-authorship patterns. While keywords, titles and authors can be used to explore relationships, co-authorship analysis and co-citation analysis are the most common relational techniques. Relational evaluation has been applied much less frequently to understand tourism research activity and to date most studies have focused on co-authorship analysis (Benckendorff, 2010; Racherla & Hu, 2010; Ye, Li, & Law, 2013). Benckendorff (2009) provides a co-citation analysis of Australian tourism research but the findings do not consider the international research arena and are limited in scope.

Citation analysis is based on the premise that authors cite papers they consider to be important to the development of their research. As a result, heavily cited articles are likely to have exerted a greater influence on the subject than those less frequently cited (Leydesdorff,

1998). Co-citation analysis is a relational technique which extends citation analysis by adding insight into the intellectual structure of a field of study. The basis of co-citation analysis is that pairs of documents which often appear together in reference lists (i.e. are co-cited) are likely to have something in common. When two authors or papers are frequently cited together there is a good likelihood that their ideas relate to each other. A list of all possible pairs of works cited among all citations in a given document enables a researcher to obtain the basic data for co-citation frequencies and co-citation networks (Pasadeos, Phelps, & Kim, 1998).

Co-citation analysis has proved to be a useful empirical technique for describing the intellectual structure of disciplines such as management information systems (Culnan, 1986), marketing (Jobber & Simpson, 1988; Lin, 1995), internet advertising (Kim & McMillan, 2008), family business research (Casillas & Acedo, 2007), operations management (Pilkington & Fitzgerald, 2006), services management (Pilkington & Chai, 2008), strategic management (Acedo, Barroso, Rocha, & Galán, 2006; Eto, 2002), performance measurement (Neely, Gregory, & Platts, 2005), international management (Acedo & Casillas, 2005), and tourism (Benckendorff, 2009). It is common in these studies to limit the analysis of citations to papers published in the leading journals in a field. Xiao and Smith (2008) have noted a need for further research in tourism to map citations and intellectual networks. This paper addresses this need by using co-citation analysis to reveal the intellectual structure of the field of tourism.

METHODOLOGY

While citation rates, indices and impact factors are increasingly common, the data required for more sophisticated citation-based relational analysis are operationally difficult to prepare because of the considerable pragmatic challenges associated with constructing a dataset which is likely to be representative of the entire tourism knowledge domain (McKercher, 2008; Schmidgall et al., 2007). These problems are compounded by the fact that the tourism field has not historically been well served by traditional databases like the Social Sciences Citation Index (SSCI). As a result it has often been difficult to calculate citation indices for the tourism field. Recent developments have resulted in more inclusive alternatives such as Elsevier's Scopus and Google Scholar.

The raw data used in this study were extracted from the Scopus database. Scopus was used because its coverage of tourism journals is more comprehensive than the SSCI database (McKercher, 2008). While Google Scholar is the most comprehensive and has been employed by several authors it is only useful for citation counts and indices and does not include the detail required for relational co-citation analysis. This study provides a citation analysis of 15 years of tourism research by using the reference lists of papers published in *Annals of Tourism Research (ATR)*, *Journal of Travel Research (JTR)* and *Tourism Management (TM)* between 1996 and 2010 as source data. Following past studies

of this type, the analysis included articles but not reviews, conference reports, editorials, notes, letters or errata. The timeframe was partly determined by the Scopus dataset, which was incomplete prior to 1996. The year 2010 was selected as the upper limit because it is both convenient and customary in bibliometric research to look at data in five or ten year intervals.

The analysis was limited to ATR, JTR and TM for several reasons. Firstly, they are the most prominent and highly cited journals in the field of tourism, with a number of studies over the last 22 years consistently ranking them as the top three most influential journals (Chang & McAleer, 2012; McKercher et al., 2006; Pechlaner et al., 2004; Ryan, 2005; Sheldon, 1990; Zehrer, 2007b). All three journals have received the highest ranking possible across different rating systems, which indicates that they represent "...the best or leading journal[s] in its field [and] publish outstanding, original and rigorous research that will shape the field" (Harzing, 2012, p. 7). As this study is concerned with identifying the most influential works in tourism research it is reasonable to look for these works in the reference lists of papers published in the leading international journals in the field. Secondly, while it is acknowledged that books also influence scholarly thinking, academic journals are generally regarded as the dominant communication platform for researchers (Macharzina et al., 2004). Thirdly, the data used for this study are extracted from a secondary bibliographic database and further constraints are imposed by the availability of reference lists required for relational analysis. While Scopus provides the most comprehensive coverage of references used by papers in the top three tourism journals, data for other respected journals are incomplete for the timeframe adopted in this study. Finally, the journals analyzed in this paper are 'mainstream' tourism journals with a broader treatment of topics and wide geographical coverage. More specific and disciplinary-focused titles are typically found in the next tier of journals (e.g. *Journal of Sustainable Tourism*, *Journal of Travel and Tourism Marketing*, *Vacation Marketing*), introducing an element of bias which would confound the purpose of this study.

Before analyzing the data a considerable effort was made to standardize entries and correct inconsistencies, particularly the spelling of author names, institutional affiliations, and citation details. These inconsistencies appear due to errors in the Scopus data capturing process, variations in title abbreviations and discrepancies and errors made by authors themselves in the original papers. There were a number of inconsistencies in cases where authors are known by their second or third name rather than their first name (e.g. C. Hall, M. Hall, C.M. Hall). There were also a number of obvious misspellings (e.g. Perdue, Purdue). Other citation errors included incomplete or incorrect publication years or incorrect volume, issue or page numbers. Another problem encountered when examining citations was multiple editions of books. For the purpose of this study, books with multiple editions (e.g. Clare Gunn's *Tourism Planning*) have been recorded and treated as the same publication. The data cleaning exercise involved importing the Scopus data to Access and Excel databases and sorting the various

citation fields to more easily identify inconsistencies. The data was only amended when there was no doubt that there was an inconsistency which would affect the outcome of the analysis. For reliability purposes, the entire dataset was screened independently by two researchers to ensure that major errors and consistencies were eliminated prior to analysis.

The data extracted from Scopus included a total of 2,486 source articles ($JTR = 571$, $Annals = 825$, $TM = 1,090$) by 2,650 different authors. The discrepancy is due to multiple articles by the same author and because many authors also feature as co-authors with others. The Scopus database was converted to the SSCI ISI Export Format so that it could be analyzed using the *Sitkis* bibliometric software package (Schildt & Mattsson, 2006). *Sitkis* allows researchers to conduct various bibliometric analyses on both the source articles and the citations themselves. For co-citation analysis the software uses a dense network sub-grouping algorithm based on an iterative identification of tightly coupled areas to arrange citations into a matrix. This matrix is then used to generate network diagrams using the *NetDraw* software, which is included with the network analysis software suite *UCINET* (Borgatti, Everett, & Freeman, 2009). The paper provides a qualitative approach to interpreting the data rather than reporting quantitative metrics, i.e. no centrality measures are reported, but the data is interpreted in light of the disciplinary structure of tourism research.

RESULTS AND DISCUSSION

Several analyses were conducted on the Scopus dataset to address the research questions posed in the introduction of this paper. The 2,486

Table 1. Most frequently cited journals in *ATR*, *JTR* and *TM*, 1996–2010

Publication	Citations	Self-Citation	GS <i>h</i> -index	GS <i>g</i> -index
Annals Tourism Research	8351	12.2%	154	229
Journal of Travel Research	5891	11.0%	117	178
Tourism Management	5103	6.9%	127	175
Journal of Marketing	1117	–	144	442
Journal of Travel & Tourism Marketing	959	–	47	71
Journal of Consumer Research	872	–	252	421
Journal of Marketing Research	854	–	247	451
Journal of Leisure Research	835	–	95	137
Journal of Sustainable Tourism	686	–	62	91
Cornell HRA Quarterly	632	–	69	108
Tourism Economics	576	–	40	59
International Journal of Hospitality Management	517	–	59	84
Leisure Sciences	485	-	79	122
Journal of Vacation Marketing	460	-	48	68
Journal of Retailing	434	-	139	285

source articles produced a large dataset of 96,380 citations, covering 53,322 works and drawing on 27,170 different lead authors. Past studies of this nature have been criticized because they have focused on journal articles and have failed to identify other publications that may be influential (McKercher, 2008). The method employed in this paper addresses these concerns and identifies a variety of references, including journal articles, books, conference papers, doctoral theses and reports. Seventy-eight per cent of works were cited only once and 95.7% were cited five times or less. This distribution indicates that many works received very few citations and were either unlikely to have had a significant impact on the development of the field or were too recent to have had time to impact on the literature. Most of the cited works are relatively recent, with 96.3% of all citations published after 1970. As a matter of interest, the oldest cited work was Blaise Pascal's famous work, *Pensées* from 1670, followed by John Locke's 1689 work *Essay on Human Understanding*.

Most Frequently Cited Journals

In total, the citations were drawn from 23,068 different publications, illustrating that a diverse body of knowledge influences studies published in leading tourism journals. The 15 most frequently cited journals are summarized in Table 1. Together the top 15 journals accounted for 28.8% of citations. They represent what Tribe (2010) refers to as important *inscriptions* in tourism research. It can be argued that these journals have had the most influence on tourism research published in the leading journals between 1996 and 2010.

When interpreting the results in Table 1 it is important to note that the choice of using source papers from ATR, TM and JTR does create a self-citation bias which inflates the number of citations for these three journals. Although large scale bibliometric studies have concluded that it is not necessary to correct for journal self-citation when conducting citation analysis (Nisonger, 2000) the extent of journal self-citation for the three source journals have been reported in the interest of transparency.

In order to provide an independent assessment of these journals the *h*-index and *g*-index for each journal was calculated using *Google Scholar* and the *Publish or Perish* software package (Harzing, 2012). Hirsch's *h*-index measures both the productivity and cumulative impact of a scholar's output. A scholar with an index of *h* has published *h* papers which have each been cited in other papers at least *h* times. The advantage of the *h*-index is that it combines an assessment of both quantity (number of papers) and quality (impact, or citations to these papers). The index can also be applied to a group of scholars, a university or a journal. The *g*-index aims to improve on the *h*-index by giving more weight to highly-cited articles. It should be noted that this supplementary analysis is not based on the Scopus dataset and considers all citations to all papers published up to 2010. The indices confirm that the three leading tourism journals are not only well cited within the dataset, they are

also highly cited within the broader tourism knowledge domain. The list of journals is dominated by tourism, hospitality, leisure and marketing journals. The marketing emphasis may be surprising to some; however several authors have discussed the important role of marketing in the tourism field (Echtner & Jamal, 1997; Goeldner, Ritchie, & McIntosh, 2000; Jafari & Aaser, 1988; Sheldon, 1990). These patterns are noteworthy because as Tribe (2010) observes, journals constitute ‘obligatory passage points’ which guide regimes of truth, establish dominant discourses, and provide essential points of references.

Table 2. Most cited lead authors in *ATR*, *JTR* and *TM*, 1996–2010

Author	Country	No. Cited Works	Citations				McKercher (2008)	
			1996–2000	2001–2005	2006–2010	Total	1970–2007	1998–2007
Erik Cohen*	ISR	79	156	203	221	580	4	–
Colin Michael Hall	AUS/NZL/ FIN	133	99	118	265	482	3	1
Chris Ryan*	AUS/NZL	102	122	165	192	479	14	9
Richard Butler*	CAN/GBR	63	106	113	159	378	5	36
Philip Pearce*	AUS	65	112	146	114	372	7	–
John Crompton	USA	39	83	129	155	367	1	13
Abraham Pizam*	USA	54	92	127	134	353	9	–
Arch Woodside*	USA	58	65	105	144	314	38	–
Douglas Pearce*	NZL	76	106	85	115	306	10	39
John Urry	GBR	23	84	92	119	295	2	3
Dean MacCannell	USA	12	74	95	105	274	6	8
Martin Oppermann	NZL/AUS	52	45	100	127	272	22	38
Graham Dann*	BRB/GBR	47	53	85	129	267	18	–
Don Getz	CAN/AUS	68	55	71	129	255	13	35
William Gartner*	USA	24	58	97	99	254	43	–
JR Brent Ritchie*	CAN	52	69	73	101	243	12	11
Seyhmus Baloglu	USA	23	11	76	147	234	–	25
Peter Murphy	CAN/AUS	41	80	52	86	218	–	–
A. Parasuraman	USA	21	43	57	115	215	–	–
Clare Gunn	USA	18	64	61	84	209	–	–
Dimitrios Buhalis*	GBR	49	24	52	132	208	17	2
Stephen Witt*	GBR	28	54	68	85	207	16	28
Richard Oliver	USA	25	16	47	132	195	–	–
Charlotte Echtner	CAN	14	44	52	98	194	–	–
Geoffrey Crouch*	CAN/AUS	39	43	51	97	191	46	32
Philip Kotler	USA	21	43	57	81	181	–	–
Stephen Page	NZL/GBR	57	30	57	88	175	23	12
Valene Smith*	USA	25	64	47	61	172	34	–
Richard Prentice	GBR	38	52	47	72	171	45	46
Pauline Sheldon*	USA	28	44	67	59	170	31	–

* Current fellows of the International Academy for the Study of Tourism (IAST).

Most Cited Lead Authors

Tribe (2010) also discusses the importance of *elders* or *pioneers* who have shaped the tourism field. Table 2 provides a list of the top 25 authors cited most often by researchers in *ATR*, *JTR* and *TM*. The Scopus dataset includes all authors for a citation but the software used for this analysis was designed for SSCI ISI data which is limited to the lead author. However, if it is assumed that the first author normally makes the most substantial contribution to a paper then this list should provide a reasonably good approximation of the authors who have been the most influential sources for tourism researchers.

The list of authors contains a number of prominent international scholars in the tourism field including many members of the International Academy for the Study of Tourism (IAST)—an organization which by some accounts exemplifies Crane’s (1972) notion of an ‘invisible college’ with a substantial influence on the field (Tribe, 2010). The far right column of the table provides a comparison with the most recent international citation-based ranking of tourism scholars undertaken by McKercher (2008). McKercher’s ranking used a different methodology to previous papers because it was based on citation data collected from *Google Scholar*. Many of the most cited authors in this

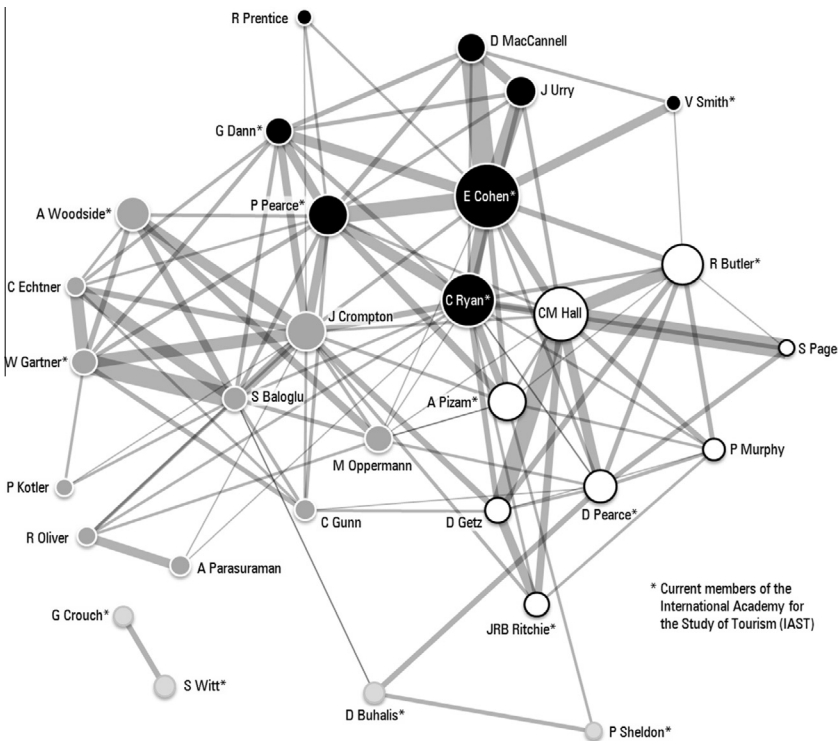


Figure 2. Co-citation/network analysis of most cited authors

study are also included in McKercher's list, although there are notable exceptions. The original analysis also included *Hair et al.* (211 citations) but Joseph Hair is not included in the above list because the citations for this author are for a general statistical reference.

The table provides a summary of citations over three periods to more easily discern key trends. The results indicate that all of the top authors have sustained citations over all three time periods, with most authors increasing their citations in the most recent five year period. Authors who have received more citations in the leading tourism journals in recent times include Colin Michael Hall, Seyhmus Baloglu, Richard Oliver, Dimitrios Buhalis, Martin Oppermann, Arch Woodside, Graham Dann and Don Getz. Valene Smith is the only author that has been cited less frequently in recent times, while citations for Philip Pearce, Peter Murphy and Doug Pearce have remained steady.

Co-Citation Network of Most Cited Authors

Given that one of the research questions for this paper was concerned with the relationships between influential scholars and works a co-citation network was constructed to better understand the relationships between the most cited authors. This relational analysis extends beyond the ranking of authors and identifies pairs of authors who are frequently cited together in the same paper. From this information it is possible to construct a co-citation matrix of the authors included in Table 2. Using this matrix, it is then possible to construct a network of influential tourism authors using network analysis. Figure 2 shows the pattern of co-citations for the most influential authors.

This network provides a diagrammatical representation of the relative distances between authors, and illustrates structural patterns and differing positions within the network. The figure shows only those links with more than 70 co-citations in order to keep the diagram relatively uncluttered and easier to interpret. The thickness of the links represents the strength of co-citation ties, while the size of each node indicates the number of citations for each author.

A common social network analysis technique involves identifying clusters or cliques of related nodes within the network. This was done by using *Netdraw* to conduct a faction analysis. A faction is a part of the network in which the nodes are more tightly connected to each other than to nodes in other factions (Hanneman & Riddle, 2005). To identify factions, *NetDraw* iteratively scans the distribution of nodes among a selected number of factions to minimise the number of connections between factions and to maximize the number of connections within factions. Several clustering solutions with different numbers of factions were generated but the best solution contained four clusters. These are shown using different colored nodes in the network in Figure 3.

The *first cluster* (black) at the top of the network contains authors who are well known for their work in anthropology, sociology and social psychology. Erik Cohen seems to play a central role in this network and the links between his work and that of Dean MacCannell, Valene

Smith and John Urry are particularly insightful. As Nash and Smith (1991) observe, anthropologists and sociologists working in tourism have readily mined each other's territory and have used theories and methodologies with little concern for disciplinary origins. Richard Prentice appears as an outlier in this cluster. Most of the authors in the *second cluster* (white) come from a geography or planning background. Colin Michael Hall and Dick Butler play an important bridging role between the two clusters.

The *third cluster* (grey) mostly includes authors who have a consumer behavior focus, with some outlying authors from the marketing field. The work of John Crompton is a pivotal bridge between this cluster and the rest of the network but contributions from Philip Pearce and Graham Dann also play an important role. The *fourth cluster* is not really a coherent cluster but includes a number of outlying authors. The work of Geoff Crouch and Stephen Witt has a tourism demand theme while Dimitrios Buhalis and Pauline Sheldon are connected by publications in information technology and tourism.

While the fourth cluster is less coherent, the three major clusters which have been identified provide support for Tribe's (2010) notion of networks, tribes and territories in tourism studies. Tribe's (2010) network approach builds on earlier work by Barnes (2001), who claims that an academic knowledge area consists of a series of networks which are formed of entities that are related to one another. This claim is supported by the current analysis, as it provides an epistemological insight into the nature and disciplinary structure of the field and highlights the trans-disciplinary origins of the knowledge domain. While there is some evidence of Tribe's (1997, 2010) two fields of tourism research the findings provide more support for the contention that the disciplinary patchwork that underpins the field is more nuanced (Ren et al., 2010).

By illuminating invisible colleges within the field, the network also reveals the post-disciplinary and inter-disciplinary role of some authors in bridging the divide between clusters. The work of authors like Dick Butler, Colin Michael Hall, Phil Pearce, Graham Dann and John Crompton is frequently cited alongside with the work of other authors from multiple clusters, suggesting that they play an important role in producing work which has post-disciplinary application. It is important to note that some of these authors may not necessarily have a post-disciplinary outlook but their position in the network suggests that their influence transcends disciplinary boundaries. In this regard the results support the views of Coles et al. (2006) and Ren et al. (2010) who have argued that a disciplinary framework may be somewhat fixed and deterministic.

Most Cited Individual Works

While the analysis of the most cited authors provides some interesting points for contemplation, it is equally interesting to explore the most cited individual works which have influenced tourism researchers

Table 3. Most Cited Works in ATR, JTR and TM, 1996–2010

Author	Title	Publication Source	Citations	Citations per Year
Urry (1990)	<i>The tourist gaze: leisure and travel in contemporary societies</i>	Book	185	13.2
Butler (1980)	<i>Concept of a tourist area cycle of evolution: implications for management of resources</i>	Canadian Geographer	161	11.5
MacCannell (1976)	<i>The tourist: a new theory of the leisure class</i>	Book	149	10.6
Gunn (1979)*	<i>Tourism planning</i>	Book	109	7.8
Mathieson and Wall (1982)	<i>Tourism: economic, physical and social impacts</i>	Book	109	7.8
Smith (1977)*	<i>Hosts and guests: an anthropology of tourism</i>	Edited Volume	107	7.6
Crompton (1979)	<i>Motivations for pleasure vacation</i>	Annals of Tourism Res.	104	7.4
Cohen (1972)	<i>Toward a sociology of international tourism</i>	Social Research	99	7.1
Woodside and Lysonski (1989)	<i>A general model of traveler destination choice</i>	Journal of Travel Res.	93	6.6
Echtner and Ritchie (1993)	<i>The measurement of destination image: an empirical assessment</i>	Journal of Travel Res.	90	6.4
Murphy (1985)*	<i>Tourism. A community approach</i>	Book	88	6.3
Cohen (1988)	<i>Authenticity and commoditization in tourism</i>	Annals of Tourism Res.	87	6.2
Gunn (1972)*	<i>Vacationscape: designing tourist regions</i>	Book	80	5.7
Cohen (1979)	<i>A phenomenology of tourist experiences</i>	Sociology	79	5.6
Fakeye and Crompton (1991)	<i>Image differences between prospective, first-time, and repeat visitors to the lower Rio Grande Valley</i>	Journal of Travel Res.	79	5.6
Ap (1992)	<i>Residents' perceptions on tourism impacts</i>	Annals of Tourism Res.	71	5.1
Poon (1993)	<i>Tourism, technology and competitive strategies</i>	Book	70	5.0
Krippendorf (1987)	<i>The holidaymakers: understanding the impact of leisure and travel</i>	Book	69	4.9
Parasuraman, Zeithaml, and Berry (1988)	<i>SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality</i>	Journal of Retailing	69	4.9

Inskip (1991)	<i>Tourism planning: an integrated and sustainable development approach</i>	Book	67	4.8
Um and Crompton (1990)	<i>Attitude determinants in tourism destination choice</i>	Annals of Tourism Res.	67	4.8
MacCannell (1973)	<i>Staged authenticity: arrangements of social space in tourist settings</i>	American J. of Sociology	64	4.6
Pearce (1981)	<i>Tourist development</i>	Book	64	4.6
Parasuraman, Zeithaml, and Berry (1985)	<i>A conceptual model of service quality and its implications for future research</i>	Journal of Marketing	63	4.5
Plog (1974)*	<i>Why destination areas rise and fall in popularity</i>	Cornell HRA Quarterly	63	4.5
Moutinho (1987)	<i>Consumer behaviour in tourism</i>	European J. of Marketing	60	4.3
Gartner (1994)	<i>Image formation process</i>	J Travel & Tourism Marketing	57	4.1
Hall (1994)	<i>Tourism and politics: policy, power and place</i>	Book	56	4.0
Pearce (1982)	<i>The social psychology of tourist behavior</i>	Book	56	4.0
Baloglu and McCleary (1999)	<i>A model of destination image formation</i>	Annals of Tourism Res.	55	5.0
Dann (1981)	<i>Tourist motivation: an appraisal</i>	Annals of Tourism Res.	53	3.8
Long, Perdue, and Allen (1990)	<i>Rural resident tourism perceptions and attitudes by community level of tourism</i>	Journal of Travel Res.	53	3.8
Mayo and Jarvis (1981)	<i>The psychology of leisure travel: effective marketing and selling of travel services</i>	Book	52	3.7
Hofstede (1980)*	<i>Culture's consequences</i>	Book	51	3.6
Lankford and Howard (1994)	<i>Developing a tourism impact attitude scale</i>	Annals of Tourism Res.	50	3.6
Milman and Pizam (1995)	<i>The role of awareness and familiarity with a destination: the Central Florida Case</i>	Journal of Travel Res.	50	3.6
Pizam (1978)	<i>Tourism's impacts: the social costs to the destination community as perceived by its residents</i>	Journal of Travel Res.	50	3.6

* Later editions of these works are also included.;

over the last 15 years. These key inscriptions, according to Tribe (2010, p. 26) “both embody and continue to perform the field”. Table 3 provides a list of 37 works which were cited 50 times or more.

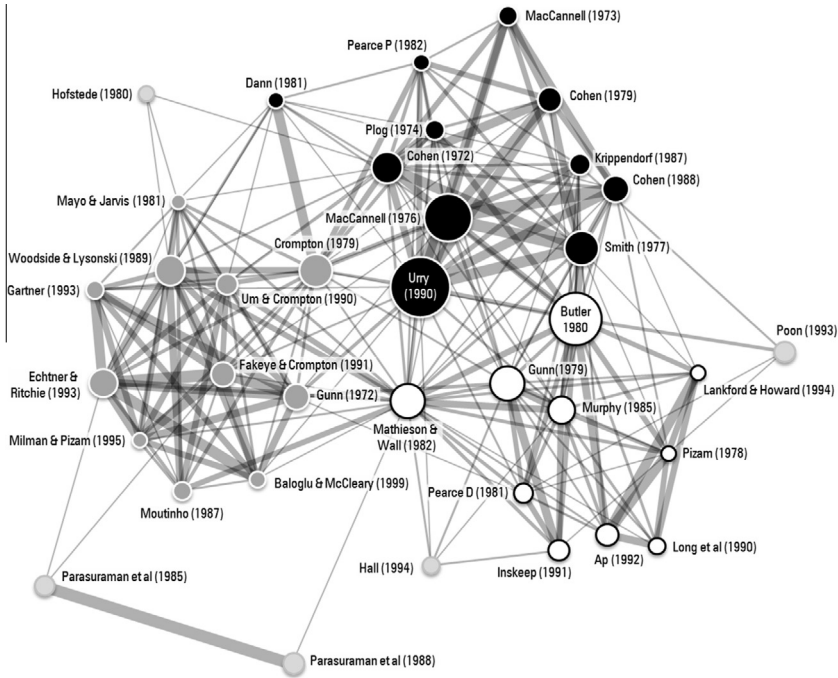


Figure 3. Co-citation/network analysis of most cited works

Table 4. Highly Cited Textbooks & Methodological Texts, *ATR*, *JTR* and *TM*, 1996-2010

Author	Title	Publication Source	Citations
Hair, Anderson, Tatham, and Black (1992)	<i>Multivariate data analysis</i>	Book	207
Nunnally (1967)	<i>Psychometric theory</i>	Book	125
Anderson and Gerbing (1988)	<i>Structural equation modeling in practice: a review and recommended two-step approach</i>	Psychological Bulletin	81
Fornell and Larcker (1981)	<i>Evaluating structural equation models with unobservable variables and measurement error</i>	J of Marketing Res	74
Mill and Morrison (1985)	<i>The tourism system</i>	Textbook	65
Dillman (1978)	<i>Mail and telephone surveys</i>	Book	58
McIntosh (1977)	<i>Tourism: Principles, practices, and philosophies</i>	Textbook	57

Seven titles were not included in the list of most cited works because they were either general methodological references, which are regarded as additional, but not core references or introductory textbooks which usually reiterate influential inscriptions rather than producing their own insights (Tribe, 2010). Table 4 lists these items separately.

Veteran tourism researchers will not be surprised by many of the works on this list. Indeed, several of the titles are identified in the qualitative approach used by Tribe (2010). The present study both confirms and adds to this list of key inscriptions and provides new researchers and those from other fields and disciplines with a better indication of the sources influencing tourism researchers publishing in the leading journals. The findings also support the work of Dann (2005) who highlighted many of the same social science works as important theoretical contributions in the field of tourism. The most cited works in tourism include a mix of both books and journals. *ATR* and *JTR* have been particularly influential in this regard. It is noteworthy that several of these works were published between 1975 and 1985, a period which has been associated with the emergence of the field (Graburn & Jafari, 1991). However, the list includes a good distribution of works across three decades. The influence of several authors is amplified by the fact that their works appear more than once.

Co-Citation Network of Most Influential Works

Following the same approach described earlier, the citation information in Table 3 can be used to construct a co-citation network to better understand the relationships between the most cited works. This analysis identifies pairs of works that are frequently cited together in the same paper. Figure 3 shows the pattern of citations for the most influential works.

This network provides a diagrammatical representation of the relative distances between works, and illustrates structural patterns and differing positions within the network. The figure shows only those links with more than five co-citations in order to keep the diagram relatively uncluttered and easier to interpret. The thickness of the links represents the strength of co-citation ties, while the size of each node indicates the number of citations for each work.

Faction analysis identified three clear clusters of work that are frequently cited together. The *first cluster* (black nodes at the top right of the network) represents a strong sociology, anthropology and psychology theme, and is concerned with tourism as a modern social and cultural phenomenon. The works to the right are concerned with anthropology, authenticity and the tourist experience while the left is more concerned with sociology and social psychology. This cluster revolves around the work of MacCannell (1976) and Smith (1977) and Urry's (1990) more recent work on the *Tourist Gaze*. MacCannell's work is frequently cited along with Urry and Cohen's works on authenticity

and the sociology of tourism. The postmodern emphasis of Urry's work and its attempt to present tourism as part of a broader pattern of social and economic interactions makes it widely applicable to a range of research topics. This suggests a collective body of sociology and anthropology work with a strong postmodern emphasis as a major cluster of influence for tourism researchers.

The *second cluster* is the loose network of works at the right of the network (white nodes). This cluster includes works with geography and planning orientation and is clearly focused on destinations and the supply side rather than tourists. Like the first cluster, this cluster draws on Butler's work on the tourism area lifecycle, but it also includes the seminal works of Gunn (1979) and Mathieson and Wall (1982). At the far right of this cluster is a group of four works with a very clear focus on resident perceptions. The centre of the cluster is concerned with planning and development while the work of Mathieson and Wall (1982) on the left is focused on impacts.

The *third cluster* at the left of the network (grey circles) is focused on consumer behavior, particularly destination image and choice. The strong consumer behavior emphasis supports previous studies which have demonstrated the growing importance of marketing in tourism research (Ballantyne, Packer, & Axelsen, 2009). Crompton's (1979) work on tourist motivation is included in this cluster and forms an important bridge to the sociology/anthropology cluster. Dann's (1981) work plays a somewhat similar role. Likewise the destination image cluster is linked to the geography and planning cluster through Mathieson and Wall's (1982) analysis of impacts.

Several other works act as important bridges between the three clusters. These works are relevant to more than one cluster, suggesting that they have broad application. Butler's seminal work in applying the product lifecycle to destinations has been one of the most influential and forms an important hub. This is at least partly due to the intuitive nature of his destination lifecycle model, and partly because the model can be linked with a variety of topics including social, environmental and economic impacts, sustainability, demand and tourist characteristics such as motivation and satisfaction. Urry's (1990) work is positioned in the centre of the network and is frequently co-cited with other works from all three clusters.

While these three clusters represent 'dominant clans' (Tribe, 2010), several important works can be found on the periphery of the network. Poon's (1993) concept of the 'new tourist' is linked with the planning and development literature. Similarly, Hall's (1994) work on tourism, politics and power has been the most influential of the many publications produced by this author. Outside the field, Parasuraman, Zeithaml and Berry's (1985, 1988) SERVQUAL framework is frequently cited in both the tourism and hospitality literature. Likewise, Hofstede's (1980) framework of cross-cultural differences has been applied to both the consumer behavior and social psychology literature in tourism.

CONCLUSIONS

The purpose of this paper was to explore the disciplinary structure of tourism research using co-citation analysis. By analyzing what Tribe (2010) describes as key elders and inscriptions the paper provides a window into the tribes and territories of tourism research. The results extend past bibliometric studies of tourism research by making a number of new contributions. Firstly, the results contribute to the broader discourse about the epistemology of tourism research by using bibliometric techniques to offer insights into the disciplinary structure of the tourism field. Secondly, the study is the first international attempt to apply co-citation analysis and network analysis to explore and visualize the relationships between highly cited scholars and works in leading tourism journals. Thirdly, the analysis goes beyond the ranking of individuals and institutions and identifies the seminal individual works which have influenced recent papers in leading journals. Lastly, the networks of scholars and works illuminate ‘invisible colleges’ and networks, tribes and territories in tourism research. These networks identify scholars and works which are within specific disciplinary domains as well as works which have inter-disciplinary and post-disciplinary influence. This finding highlights that tourism research integrates distinctive components of other disciplines in the creation of new knowledge. The relational analysis also adds to previous evaluative studies and qualitative review articles relying largely on observations and reflections. To conclude, the authors would like to highlight the study’s outcomes with regard to the research questions posed in the introduction to this paper.

Research question 1 aimed to identify the most influential scholars (elders) in tourism research. The results identify a number of prominent international scholars in the tourism field including many members of the International Academy for the Study of Tourism (IAST). The social dimensions which have influenced these co-citation patterns are particularly interesting. Many of the scholars are from a similar generation of scholars who worked initially in isolation before coming together to build the institutional foundations for the emergence of tourism as an established field of research. These individuals have worked together and have built strong personal relationships through the IAST and other academic conferences. The analysis in this paper corroborates the rich personal histories documented in recent attempts to provide an ethnographic account of the emergence of tourism (Dwyer, 2011; Nash, 2007; Pearce, 2011; Smith, 2010).

Faction analysis identified three clear clusters of work that are frequently cited together—works that represent a strong sociology, anthropology and psychology theme, works that represent a geography and planning background and works that have a consumer behavior focus. The faction analysis therefore also highlights the inter-disciplinary nature of tourism research. Evident in the author analysis are therefore three clear themes: tourism as a social phenomenon; tourism planning and resident perceptions; and consumer behavior and tourist perceptions of destinations. A post-disciplinary interpretation of the results

might suggest that one theme focuses on tourists, another on the supply side and destination planning and the third on destination image and marketing. Of course there is a great deal of research not associated with these themes, but these three areas are major clusters of research activity. While the findings support the presence of disciplinary clusters the analysis also hints at the inter-disciplinary and post-disciplinary application of knowledge being produced by authors and works which provide bridges between the clusters. It is not claimed that these scholars or works have an inter-disciplinary or post-disciplinary emphasis, but rather that they are cited together with scholars and works across a number of disciplines. This integration of disciplines leads to new perspectives in the identification, formulation and resolution of shared research problems and dissolves institutional boundaries to create new knowledge.

Research question 2 dealt with the most influential journals and seminal works in tourism research. The analysis of the most influential publication outlets has highlighted several interesting points. Firstly, many of the most influential works have been books or papers appearing in ATR and JTR, although this may be partly due to the incidence of self-citation in these journals. Secondly, all of the major book titles continue to be actively cited but many of these books are now 20–30 years old. Thirdly, it is interesting that several marketing journals have been more influential than many tourism journals. This observation should not detract from the fact that researchers have drawn on a wide variety of reference sources across a range of disciplines, illustrating the inter-disciplinary nature of tourism. The key inscriptions identified by the present study both confirm and add to the list of important inscriptions identified by Tribe (2010). Moreover, results indicate that scholars and works from the social sciences have been the most influential in the past but that citations in the areas of marketing and consumer behavior are increasing.

Research question 3 was concerned with the relationships between influential authors and works and the invisible colleges, networks and tribes in tourism research. The network analysis of co-citations indicates that tourism research continues to be inter-disciplinary (Graburn & Jafari, 1991; Xiao & Smith, 2006a, 2006b; Xiao & Smith, 2007) but is largely being driven by sociology, anthropology, psychology, geography and consumer behavior perspectives. The networks expose a tension between the *institutional* and *intellectual* positioning of tourism studies. From an institutional perspective many tourism departments and programs are located in business faculties, or in the North American tradition in leisure and recreation faculties. This reinforces a dominant discourse which is focused on the business of tourism (Belhassen & Caton, 2009; Tribe, 2010). While the networks do include some economists, marketers and consumer behaviorists, the intellectual orientation of the field is weighted toward the other social sciences—the sociologists, social psychologists, anthropologists and geographers. Ultimately the marketing and consumer behavior focus is also heavily influenced by psychology. This observation highlights the distinction between the production of knowledge and the

curriculum (Tribe, 2000) but results in somewhat of an identity crisis for many tourism academics who deliver a business-oriented curriculum while at the same time engaging in non-business, social science-focused research.

Another approach to analyzing the networks is to consider those areas that remain silent. Humanities disciplines such as philosophy, literature, history, religion and linguistics have enormous potential to contribute to the tourism field but are not well represented amongst the most influential authors. Likewise, social sciences such as education and cultural studies are not associated with the work of the most cited authors while political science is only represented by the work of Colin Michael Hall. In the professional and applied sciences areas like media studies, communication, business strategy, accounting and law are conspicuously absent while the role of economics is not nearly as dominant as might be expected. The natural sciences have received increasing attention in the recent literature but apart from the focus on planning and impacts the work of ecologists and earth scientists is not well represented. A growing body of recent literature has been produced by tourism researchers at the social science-science interface. Authors such as Stefan Gössling, Paul Peeters, Daniel Scott and Susanne Becken are building on the foundations of geographers like Dick Butler, Colin Michael Hall and Geoffrey Wall by applying their interdisciplinary expertise to the study of post-disciplinary problems like climate change and biodiversity. Looking forward, perhaps a decade from now we might find that these authors will form an important bridge between the social science clusters and an emerging natural science cluster.

The paper adds further support to Tribe's (2010) conclusion that the network of social science is strong and with the exception of the consumer behavior cluster there is a lack of evidence of a substantial body of work focused on the 'business of tourism' in the scholarly literature. Consumer behavior is ultimately concerned with understanding consumers in order to extract further economic value for hosts. Like the retail literature, the most highly cited consumer behavior papers in tourism show a disposition towards outcomes that support a profit motive. While social science remains influential, there is increasing interest in understanding tourists and their behavioral intentions. Belhassen and Caton (2009) have argued that the business-oriented nature of tourism curricula will influence the trajectory of a significant portion of tourism scholarship and one might predict that as more members of the 'new guard' graduate from business schools new research frontiers might expand in this direction.

Despite the contribution this paper has made, there are several limitations which need to be noted. The first, perhaps not very obvious shortcoming refers to the cost of conducting a large scale project of co-citation and network analyses over a 15-year time period. Collecting and cleaning data involves significant amounts of time and resources. This limits the breadth and scope of source journals and papers which can be included in the analysis. Given these challenges, it is common for co-citation studies of this nature to limit their analyses to a small

number of leading journals in a field. For the reasons discussed in the methodology, the source data for this study was limited to more recent papers which appeared in *ATR*, *JTR* and *TM* between 1996 and 2010. The research is concerned with relatively recent research themes evident in the most influential tourism journals and does not profess to provide a definitive view of tourism research. The analysis of more recent papers allows for more recent references to be captured, providing a more complete picture of tourism research over a period which has seen unequivocal and unprecedented growth in tourism scholarship.

While examining the citations provided in reference lists, the research does not account for the nuances of how many times particular authors and works are cited throughout the same paper. It also does not provide an indication of the sentiment attached to the cited works. Some works may be heavily cited because they are insightful and expand the frontiers of knowledge while others are cited because they warrant critical appraisal. As noted in the methodology, self-citation may also impact on the results. The bibliometric approach also provides an incomplete analysis of the role of elders in the tourism academy. It may be useful to differentiate between intellectual elders (research leaders), administrative elders (editorial and organizational leaders) and institutional elders (educational leaders). The networks identify many intellectual elders but do not capture the leadership of administrative or institutional pioneers like Rik Medlik, Robert McIntosh, Dennison Nash, Nelson Graburn, Charles Goeldner, Jafar Jafari and Tej Vir Singh.

These shortcomings provide direction for future studies and highlight a number of opportunities. It would be interesting to explore whether different citation patterns exist between the top three journals. This would highlight whether different journals have particular disciplinary emphases. A geographic comparison of key research emphases in different parts of the world may also highlight interesting regional patterns. The analysis does not examine more recent emerging seminal works and scholars but bibliometric techniques could be used to identify the 'new guard' of influential tourism scholars. Given the time lag associated with publishing journal articles, future research might also include papers from leading conferences in an attempt to provide further insights into emerging trends. As the coverage of databases improves, further analysis might use larger datasets to build on the work of Racherla and Hu (2010), Benckendorff (2010) and Ye et al. (2013) by using co-author analysis to examine the collaborative networks between tourism scholars. An analysis of the location of authors could be extended to examine the geographical or organizational distance between co-authors. Cross-institutional collaborations could also be explored. **A**

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