

Mapping expatriate literature: A bibliometric review of the field from 1998 to 2017 and identification of current research fronts

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Abstract

As expatriate literature continues to grow, this review presents a quantitative analysis of the expatriate field, utilizing advances in bibliometric science mapping and social network analysis to examine 1650 articles published from 1998 to 2017. This approach offers a conceptual, relational and analytic framework for examining the foundations, structure, and interconnections of the expatriate field. The results of a co-occurrence keyword analysis show four interconnected clusters: 'strategic management of international organizations', 'expatriates' context', 'managing expatriates', and 'adapting to the local environment'. A bibliometric coupling analysis of articles published from 2015–2017 identifies the current research fronts, which centre on the topics of: 'expatriate adjustment', 'expatriates and multinational companies', 'careers', and 'methodological advances'. Using social network metrics, central keywords and articles are identified. Each cluster and research front is discussed. Three downloadable, searchable maps are provided, enabling further examination. The results offer a visual and structured overview of the field, and indicate both areas of research concentration and areas that are neglected.

Keywords: Bibliometric, Science mapping, Expatriate, Research fronts, Keyword map, Review

Introduction

Research on expatriates is central to the IHRM field and encompasses a wide range of topics and perspectives (Markoulli, Lee, Byington, & Felps, 2017). However, the themes and topics are not independent; some are examined directly in relation to each other, while others focus on different perspectives and levels of analysis in the expatriate field. The diversity of topics is illustrated in recent reviews of the literature: in an extensive literature review, Selmer (2017) identified 27 major and 22 minor topics, and in a review of highly cited articles, Kraimer, Bolino and Mead (2016) identified 12 core themes that have prevailed over the past four decades. How the various topics are connected, grouped, and related to each other remains unclear. This highlights a compelling need to take a broader view of the field and “empirically capture the relationships between multiple topic areas” (Lee, Felps, & Baruch, 2014, p. 340).

The aim of this study is to provide a structural overview of topics examined in the expatriate field, to aid researchers in navigating the field and identifying promising avenues of research. There are three specific goals. The first is to map the structural landscape of topics in expatriate research. This extends existing systematic and meta-analytical reviews by capturing the breadth of the field, as well as the clusters of topics within it; thus scholars will be enabled to work across the different “topic areas to see which flowers are blooming where – outside of their own particular topic area” (Byington, Felps, & Baruch, 2019, p. 230). A second goal is to provide an overview of topics and areas that have been examined and published in a wide range of journals in the past 20 years; this will frame the different perspectives for each of the identified clusters of topics. A third goal is to provide an overview of the academic conversations that received significant attention between 2015 and 2017. This complements the general structural overview by illustrating which topics in expatriate research are receiving the most attention.

To achieve these goals, I employ science mapping, the quantitative tool of bibliometric analysis, which is well suited to large bodies of research. Science mapping combines analysis, classification and visualization (Boyack & Klavans, 2014) to reveal the structures and relationships between bibliographic objects, and shows the dynamics of a field of research (White & Griffith, 1981; Zupic & Čater, 2015). The bibliographic objects examined are article keywords and reference lists drawn from 1649 journal articles on the topic of expatriates, published between 1998 and 2017. A bibliometric review has advantages in three areas that enable it to complement other types of review studies. First, the broader scope of bibliometric analysis offers a wider context for other types of literature reviews, which tend to be focused or limited in scope, and are often based on only 100–200 articles. For example, Caligiuri and Bonache (2016) focused their review only on organizational assignees, and Kraimer et al. (2016) limited their review to 100 highly cited articles. Other reviews that examine topics in depth, such as systematic reviews, are limited to relevant studies on the given phenomenon. Meta-analyses are often even narrower, being limited to studies with available and comparable data analyses. Second, the higher-order patterns of science mapping offer context and placement in the literature for other, more focused and detailed reviews. Lastly, while traditional reviews benefit from the authors’ experience in the field, they are also susceptible to bias — that of the review author’s specialization in the field (Vogel & Güttel, 2013), and that of the citation bias

towards work that is central (eg. Kraimer et al., 2016). The present study extends past bibliometric studies that have examined prominent scholars and journals (López-Duarte, Vidal-Suárez, & González-Díaz, 2017) and keyword analyses (Dabic, González-Loureiro, & Harvey, 2015), both of which are based on more focused bodies of work: 222 and 438 articles respectively. The corpus in the present study includes articles from a broad set of journals, ranging from the most prestigious to niche and regional titles, offering a view of prevalent research interest and focus. An implication is that the analysis does not offer insight into the quality of the work, the rigor of the study, or its conceptual precision.

This study contributes to expatriate literature in several ways. First, a bibliometric analysis of the expatriate field supports the central topics proposed in earlier reviews, and extends the findings by identifying how they are grouped and connected, as well as showing the overarching structure of the field. This may help researchers, both experienced ones and those entering the field, to navigate the different perspectives. Second, a bibliometric analysis identifies the current intellectual conversations receiving the most attention in the field, based on articles published between 2015 and 2017; this may suggest to scholars areas where the field is developing, and possible ideas for topics that deserve more attention. Lastly, the results are presented both tabularly and visually, the latter in the form of interactive maps. Visualization of large volumes of data and complex sets of connections can support the discovery of patterns and connections which might otherwise be difficult to discern (Meyer, Höllerer, Jancsary, & van Leeuwen, 2013; Wise et al., 1995), and because they may inspire novel research ideas, can be particularly valuable in the early stages of research projects (Thudt, Hinrichs, & Carpendale, 2012). With the burgeoning production of published academic research on expatriates, few researchers are likely to have a complete overview of the field, making such visualizations all the more valuable.

This article is organized into four sections. The first section explains the bibliometric methods that underpin the review. The second section presents the structure of topics in the field: first at the overarching level, then contextualized, with a brief description of each cluster of topics, including the most central research they encompass. In addition, the boundary spanning topics, those that connect the clusters, are discussed. The third section presents the current research fronts, with brief descriptions of the central conversations. The last section provides a discussion of the main findings and future research considerations.

Methodology

Bibliometric analysis methods enable research on large sets of aggregated bibliographic data, such as published journal articles and associated citations. The method includes article keyword co-occurrence and co-citation analyses to show the structure of topics and the intellectual basis for the expatriate field, and bibliometric coupling analysis to show the current research fronts. The author adopts these methods in this study. The results show how topics cluster and relate to each other, and are subsequently mapped visually (van Eck & Waltman, 2010). The process of conducting a 'science mapping' using bibliometric methods requires several distinct steps, including identifying the research question and choosing corresponding methods, compiling and filtering the appropriate data, cleaning and analyzing the data, and visualizing and interpreting the results (Zupic & Čater, 2015).

The primary data source for this study is Elsevier's Scopus database. This database was selected as it has approximately 30 percent more relevant articles than the more popular The Social Sciences Citation Index® (SSCI), which is available online through the Web of Science (WoS). Unlike WoS, Scopus includes a key journal in the expatriate field, the *Journal of Global Mobility*, which has been published since 2013 and is central to our field of inquiry. Further, a comparison between the two databases showed that none of the central journal titles are missing from Scopus. Based on these results, and records identified in past reviews (Selmer, 2017), a rough estimate indicates that the sample represents 85–95% of the full population of published articles, which is within an acceptable rate for full network analysis (Burt, 1983).

Search Strategy

The selection of search terms was informed by previous reviews, and included the words: expatriate(s), repatriate(s), international assignment (assignee), and global assignment (assignee) (Kraimer et al., 2016; López-Duarte et al., 2017; Selmer, 2017), as they appeared in the title, abstract or article keywords. As these terms are used in a wide range of subjects, the search was limited to the categories: Management, Business, Psychology applied, Sociology, Psychology social and Economics, and excluded the topics of tax repatriation and refugees. Further, the search was limited to research articles in journals indexed by Scopus. While journals differ greatly in the required rigor of research and quality for publication, all journals are included in the study. The results show the topics that received the most research attention, and the context in which they are studied, irrespective of the underlying quality of the studies. We excluded books and book chapters on the basis that while there are many excellent manuscripts that deal with expatriates, they tend to review and integrate past findings, rather than presenting new and original research (Selmer, 2017).

Research on the evolution of trends in the field of global mobility indicates it can be divided into: that which utilizes the traditional approach from the 1960s to the late 1980s, and is focused on senior managers in multi-national companies (MNCs) relocating abroad to manage a subsidiary; and that which utilizes a modern approach, from the 1990s to the present, and which reflects a diverse group of globally mobile workforces (Caligiuri & Bonache, 2016). As the focus of the present study is to examine the current landscape, and because journal entries in the databases are unreliable before 1998, this year was set as the starting point.

The search yielded 1650 articles for the period from 1998 to 2017. The volume of research is organized by time period. From 1998 to 2001, there were 178 articles; from 2002 to 2005, 224 articles; from 2006 to 2009, 287 articles; from 2010 to 2013, 418 articles; from 2014 to 2017, 543 articles. A subsection of this corpus, namely the 409 articles published between 2015 and 2017, was cleaned before the bibliometric coupling analysis. That is, ten articles that lacked author or bibliography were removed, as were a further 20 articles related to topics such as financial tax planning for multinational enterprises. In the analysis, a further 19 articles were excluded due to lack of links to other reference lists, indicating that they are on unrelated topics. This left 361 articles in the corpus for 2015–2017. The data cleaning was done only for the bibliometric coupling analysis, which relies on reference lists. The three-year window used in this analysis (2015–2017) balances the risk of bias from events such as a special issue in a journal dealing with a specific topic, which will attract a relatively high number of articles on that topic in a given year, with the benefit of the articles being based on the same set of historical references. For keyword and co-citation analysis, topics and keywords which were not naturally related to expatriates were washed out by the large

sample size. Because the methods employed in the VOSviewer 1.6.8 software (Waltman, van Eck, & Noyons, 2010) are generally considered best practice in the science mapping literature (Lee et al., 2014), this software was used to extract keywords, create clusters, and visually map the results. Prior to clustering, Microsoft Excel was used to clean the data. This included identifying entries with empty author or reference list fields, and, subsequent to the VOS analysis, creating a thesaurus used by VOSviewer to aggregate authors whose names have variant spellings (e.g., assigning 'J.S. Black' to be the same as 'J. Stewart Black' and 'John Stewart Black'); and doing the same for keywords. The Pajek 5.01 and Gephi 0.9.2 software were used to estimate and analyze the various social network statistics.

Analytical strategy

Keyword co-occurrence analysis (Callon, Courtial, Turner, & Bauin, 1983) is based on the idea that when a given set of words appears in different documents, it likely means that the concepts behind these words are closely related. Analyzing the content of a set of documents thus establishes the relationships between the documents, and enables one to build and understand a conceptual network structure of the field (Börner, Chen, & Boyack, 2003). This study used a combination of author and indexed keywords. The resulting set of keywords was cleaned for generic terms, such as the word 'method', and words that do not denote a concept, such as names of journals, countries and research methods. Next, plural words were converted into their singulars, British spelling variations into American, abbreviations into the full spelling, and synonyms into single terms. For example, 'expatriates' was converted to 'expatriate', 'organisation' into 'organization', 'FDI' into 'foreign direct investment' and 'cross-cultural adaption' to 'cross-cultural adjustment' (van Eck & Waltman, 2011). Although the words: 'expatriate', 'expatriates' and 'expatriation' strictly refer to different concepts, in practice their uses overlap, so any distinctions seen in quantitative analyses are incidental (Dabic et al., 2015). Further, as these words are included in the search terms and thus, with few exceptions, occur in each article, they co-occur with the other keywords and therefore visually clutter the map and would arbitrarily be assigned to a cluster. It should be noted that only recently has attention been given to how the concept of 'expatriate' is defined (McNulty & Brewster, 2017), and because of this, the relationship between keywords can be based on very different underlying populations and even meanings. The words in the search string, with the exception of 'repatriation', are excluded from the analysis, a common practice for such networks in social network analysis (Perry, Pescosolido, & Borgatti, 2018). The keyword co-occurrence analysis yielded 3194 keywords. For the analysis, only keywords that appeared in seven or more articles are included, yielding 95 keywords; this method thus removes keywords not central to the field.

The resulting network of keywords (n=95) was used to construct a two-dimensional term-map, where the layout was determined by a unified framework for mapping and clustering, implemented in the VOSviewer software (Waltman et al., 2010). Terms were mapped approximately such that the distance between them indicated relatedness. In general, the more related two terms are, the smaller the distance between them on the map. Figure 1 presents an example where the size of the circle reflects the frequency of a term. The weight of a connecting line indicates the number of articles where the keywords co-occur. The keywords are clustered using a technique closely related to modularity-based clustering (Waltman et al., 2010), where terms that frequently co-occur are assigned to the same cluster, signified by color. The resulting map can serve as an overview of the

field, with topics of interest being located in relation to others, and can show possible gaps in the body of available research.

Bibliographic coupling analyses the bibliographies of documents in the corpus, searching for common references and using the degree of overlap to measure the strength of the connection between them (Kessler, 1963). In order to enable comparison of articles based on their bibliographies in a meaningful way, the articles need to have been published within a relatively short timeframe so that they draw from the same pool of research. As citations are necessarily retrospective, newer articles have a wider range of possible sources to cite. This method is well suited to identifying research fronts, as it does not depend on article citations for analysis, which are retrospective and require time to accrue (Boyack & Klavans, 2010). The bibliometric coupling method has two benefits: 1) it indicates the topics that have recently been investigated; and 2) it complements the results obtained from the keyword co-occurrence analysis. It should be noted that the bibliometric coupling method identifies articles on similar topics and the associated researchers, but does not determine the quality of the underlying studies.

Co-citation analysis (McCain, 1990) examines the frequency with which two documents are cited together. The method is based on the assumption that the more often sources appear in the same reference list, the more likely it is that the content of the cited articles is related. Unlike co-occurrence analysis and bibliographic coupling, the unit of analysis is the documents cited in the reference lists, rather than the documents themselves; as such, the method is well suited to identifying the intellectual foundation of a given field (Pasadeos, Phelps, & Kim, 1998). A co-citation analysis of recent studies will show the theoretical base of newer research, which in turn can highlight topics that warrant a thorough review and re-examination.

Network metrics. As noted above, citation scores are a common metric used to identify central articles. However, the metric is ill-suited for analyses in this study. As there are no citation scores associated with keywords, it follows they cannot play a role in the keyword co-occurrence analysis. In the case of bibliographic coupling, citation scores would add bias stemming both from the journal source and its recency; articles published in prestigious journals get more attention, as do older articles that have had more time to accumulate citations. Network metrics offer solutions. Eigenvector centrality (hereafter referred to as 'eigencentality') is a measure of the influence of a given node in a network and is calculated by the range and importance of other nodes it connects to (Bonacich, 1972). For the keyword co-occurrence analysis, a high eigencentality score indicates that a keyword is connected in some combination with a significant number of other keywords or other important keywords. Conversely, keywords with a low score are likely to be peripheral to the field, being either studied in a narrow context and thus not connected to many other keywords, or rarely examined. A second measure, degree, refers to the number of nodes a given node connects to, indicating the range of different keywords or articles connected to it. The degree of a given keyword indicates the range of other keywords associated with it; for example, 'adjustment' has a degree of 60, meaning it is associated with 60 other keywords, while the related term 'psychological well-being' is only associated with 17 other keywords, indicating a narrower use in the field. To illustrate,

in Figure 1b, which is a section of Figure 1, the term 'psychological well-being' is highlighted, and the 17 lines to other keywords represent the degree. For analysis at the cluster level, the number of degrees of each node within the cluster are aggregated by what clusters they link to, which indicates the extent to which a cluster is interconnected with other clusters. As a result, it is possible to determine the keywords that act as bridges between clusters, and how connected a cluster is to other clusters. The same logic holds for articles in the bibliometric coupling analysis, where the eigencentrality of an article reflects how many other central articles it connects to, and the degree reflects the range of other articles that have a set of references in common.

Results

Structure of topics in the expatriate field

This section presents the structure of topics in the expatriate field, identified by co-occurrence analysis of keywords in published articles from 1998–2017. The results are shown in a network diagram in Figure 1, with the most prominent keywords and associated metrics in each cluster shown in Table 1. The results indicate some predictable topics that dominate the field, such as 'adjustment' and 'multinational companies' (MNCs). The topic of 'self-initiated expatriates' (SIE) has developed rapidly in the past decade and is now a major topic, on par with that of the more traditional topic of 'repatriation'. The keywords cluster into four thematic groups that relate to: 'strategic management of international organizations' (cluster 1); 'adapting to the local environment' (cluster 2); 'managing expatriates' (cluster 3); and 'expatriates' context' (cluster 4).

Some topics act as domains, such as 'MNCs', 'adjustment', 'cross-cultural training' and 'career', which dominate their clusters: each has a high number of occurrences (122, 108, 64 and 123, respectively), and each has many ties to a range of other topics (59, 57, 64 and 54, respectively) both within the same cluster and to other clusters. Other keywords represent satellite topics, such as 'international joint ventures', 'hostile environments', 'control', 'motivation' and 'innovation', which seem to be studied in a narrower context within their cluster.

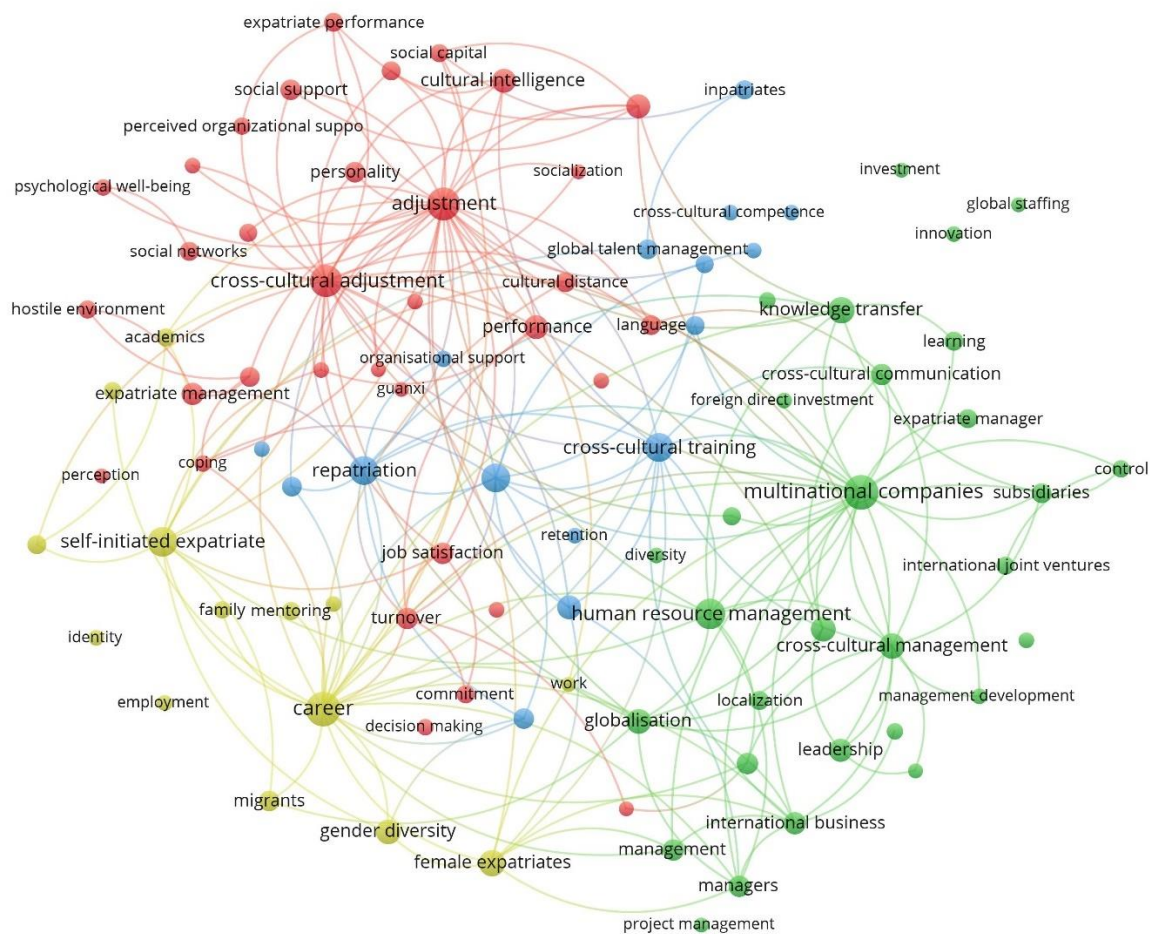


Figure 1a: Static image of the Network visualization of keywords in the Expatriate field of research from 1998–2017. Size of circle shows relative number of occurrences of a keyword, weight of line indicates the frequency of keywords are linked (set minimum to 2 for clarity). Cluster 1: Red, cluster 2: Green, cluster 3: Blue and cluster 4: Purple. To examine how individual keywords interlink, and adjust the resolution (to get a higher degree of clustering), please access the searchable and interactive version of this map, at <http://bit.ly/ExpatKeyword>, and allow Java to run. For instructions on how to navigate the map, please see the VOSViewer manual: <http://www.vosviewer.com/getting-started#VOSviewer>

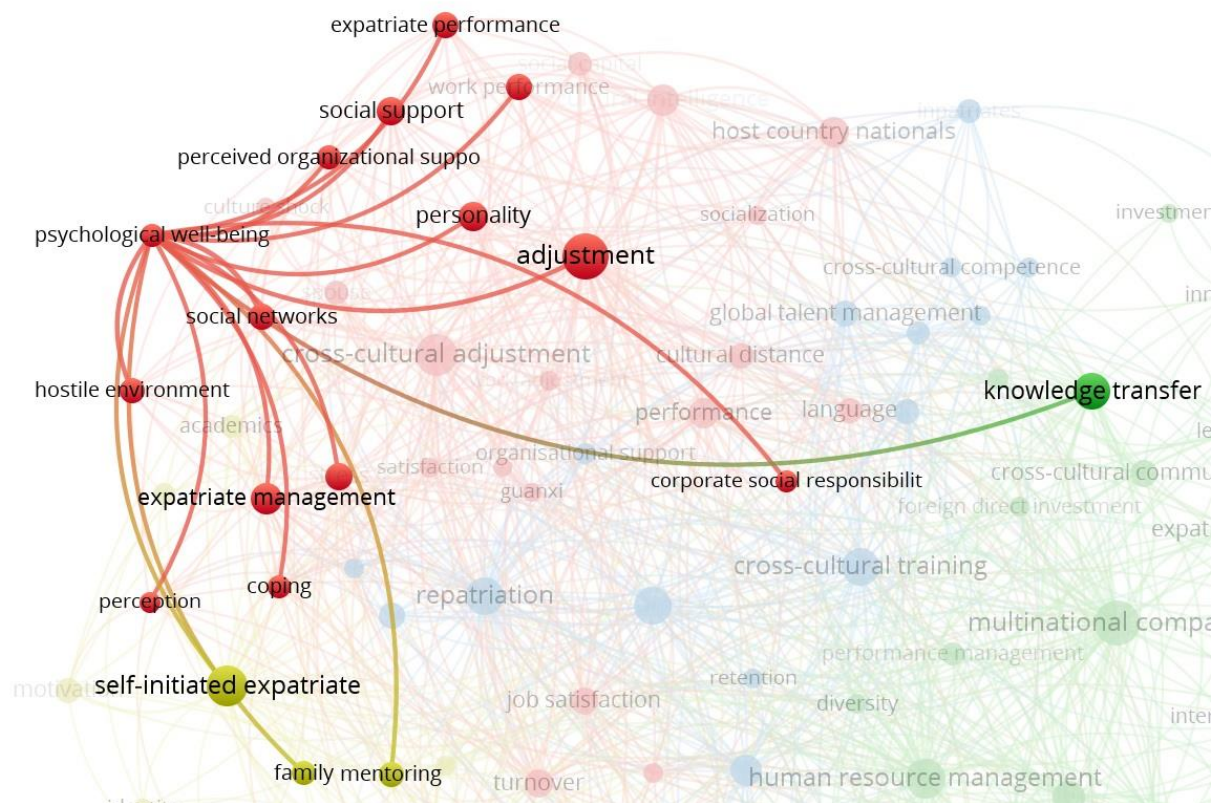


Figure 1b: An enlarged section of Figure 1a, where the keyword 'psychological well-being' is highlighted, showing a degree of 17, represented by the lines emanating from the term. Please note the number of lines in Figures 1a, 2 and 3 have been reduced for legibility in the print edition. To view all the links from each node, please access the online, interactive maps.

Table 1: Keywords by cluster

Keyword	DE ¹	OC ²	EC ³	PO ⁴	Keyword	DE ¹	OC ²	EC ³	PO ⁴
Cluster 1: Adapting to the local environment					Cluster 2: Strategic Management of International Organization				
Adjustment	57	108	1.00	0.57	Multinational companies	59	122	1.00	0.59
Cross-cultural adjustment	40	93	0.73	0.54	HRM	57	81	0.95	0.55
Cultural intelligence	28	35	0.52	0.71	Knowledge transfer	36	49	0.66	0.54
Host country nationals	23	34	0.48	0.54	Cross-cultural management	35	44	0.68	0.59
Performance	31	34	0.62	0.53	Culture	31	40	0.63	0.62
Expatriate management	32	28	0.59	0.51	Globalization	33	40	0.68	0.50
Turnover	24	25	0.53	0.46	Leadership	24	31	0.50	0.71
Job satisfaction	23	23	0.48	0.62	International business	31	28	0.62	0.60
Personality	19	22	0.36	0.70	National culture	24	26	0.53	0.54
Social support	21	21	0.42	0.71	Management	24	24	0.49	0.53
Cultural distance	19	18	0.37	0.38	Cross-cultural communication	16	23	0.35	0.52
Language	18	18	0.38	0.42	Managers	23	23	0.48	0.61
Stress	21	18	0.43	0.68	Subsidiaries	22	20	0.40	0.81
Expatriate performance	16	16	0.30	0.80	Expatriate manager	15	17	0.32	0.63
Social networks	17	16	0.35	0.63	Localization	15	17	0.31	0.47
Work performance	13	16	0.27	0.73	Learning	15	16	0.32	0.65
Social capital	18	15	0.36	0.52	International joint ventures	15	13	0.32	0.78
Spouse	15	15	0.33	0.64	Performance management	11	13	0.32	0.56
Commitment	17	13	0.37	0.47	Control	8	11	0.16	0.93
Hostile environment	14	13	0.31	0.77	Employees	8	10	0.19	0.73

Perceived organizational support	19	11	0.36	0.74	Internationalization	8	10	0.17	0.50
Coping	16	10	0.35	0.40					
Decision making	15	10	0.29	0.31					
Psychological well-being	17	10	0.27	0.82					

Cluster 3: Managing expatriates

Repatriation	44	66	0.78	0.36
Cross-cultural training	43	64	0.83	0.25
IHRM	46	64	0.82	0.37
Recruitment and selection	30	36	0.59	0.46
International management	22	21	0.43	0.33
Psychological contract	14	20	0.35	0.43
Global talent management	17	19	0.32	0.38
Staffing	18	17	0.41	0.44
Inpatriates	14	16	0.22	0.38
International experience	16	14	0.32	0.25
Organizational support	12	10	0.26	0.29

Cluster 4: Expatriates' context

Career	54	123	0.97	0.38
Self-initiated expatriate	38	76	0.68	0.46
Female expatriates	24	48	0.52	0.40
Gender diversity	35	41	0.66	0.47
Migrants	17	22	0.37	0.50
Motivation	12	17	0.22	0.67
Academics	13	14	0.27	0.42
Mentoring	18	13	0.40	0.39
Non-traditional expatriates	9	12	0.22	0.36
Family	12	11	0.27	0.36

Table 1: Keywords by cluster. Notes: 1: DE=Degree, 2: OC = Occurrence, 3: EC = Eigencentality 4: PO = Proportion of links to own cluster. Only keywords with 10 or more occurrences appear in the table.

Observations on the expatriate field

The volume of research is not spread equally between the keyword clusters. While 31% of all keyword instances are in cluster 1, and 33% in cluster 2, only 17% occur in cluster 3 and 18% in cluster 4. As shown in Table 2, by the very nature of clustering, there are more links between keywords in each cluster than to keywords in any of the other three clusters. However, there are significant numbers of links between the clusters; for example, 24% of links from keywords in cluster four, ('expatriates' context') link to cluster 1, ('adapting to the local environment').

Table 2
The proportion of ties between the clusters

From \ To	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Cluster 1	0.57	0.16	0.14	0.13
Cluster 2	0.17	0.60	0.13	0.10
Cluster 3	0.25	0.24	0.37	0.14
Cluster 4	0.24	0.18	0.15	0.43
Proportion of all links	0.33	0.32	0.18	0.17
keywords	0.36	0.32	0.17	0.15

Note: cluster 1: Strategic Management of International Organizations; cluster 2: Adapting to local environment; cluster 3: Managing expatriates; cluster 4: Expatriates' context. The diagonal values refer to the proportion of links within the cluster. The proportion links column refers to how many of all ties stem from the cluster; proportion of keywords refer to the proportion of keyword instances of all instances.

A co-citation analysis of the corpus yields a map of the articles cited most centrally in the field, grouped in five clusters, as shown in Figure 2. When viewing the map online, there are clear overlaps between the keyword clusters and the co-citation clusters; for example, articles in the red and yellow

clusters generally correspond to keyword cluster 2 (adapting to the local environment); those in the blue cluster to keyword cluster 1 (strategic management of international organizations); articles in the green cluster to keyword cluster 3 (the expatriates' context); and those in the purple cluster to keyword cluster 4 (managing expatriates). The keyword clusters are described in the following section, together with the foundational articles identified by a co-citation analysis and by their high eigencentrality measures.

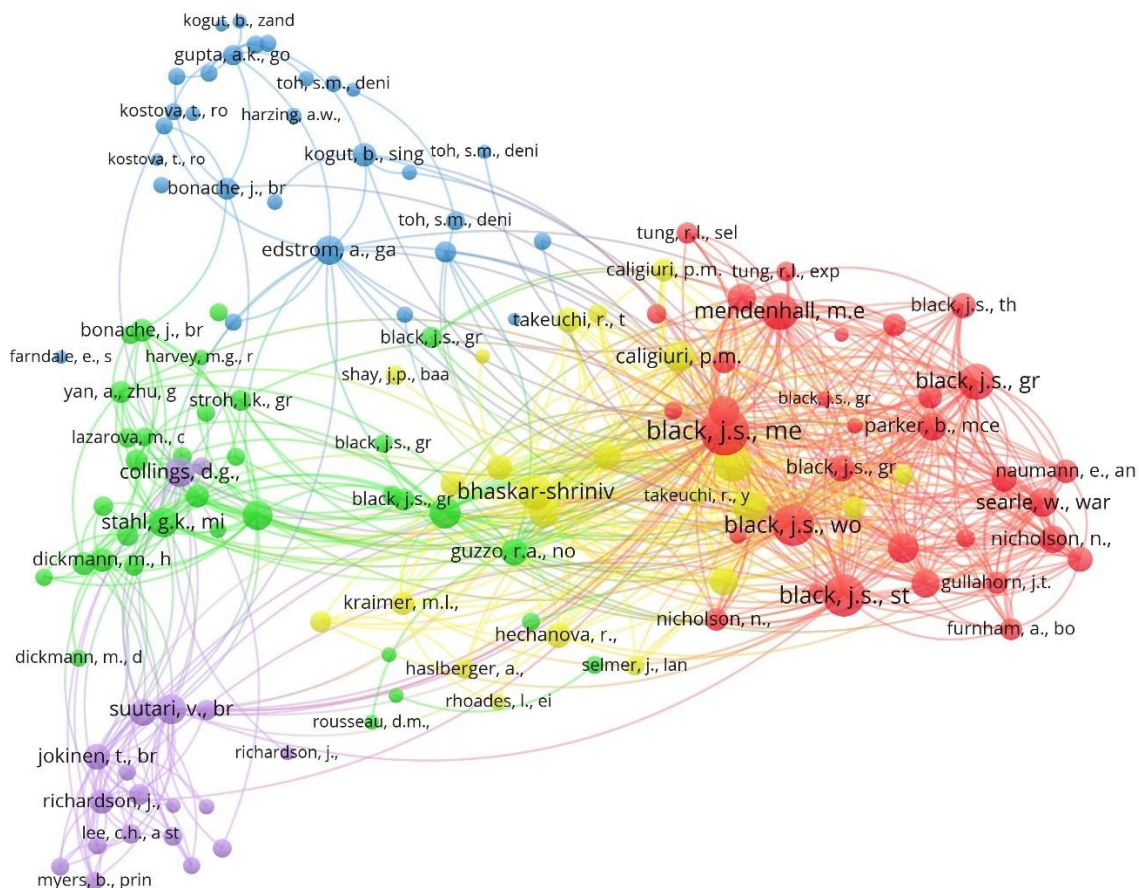


Figure 2: A static image of the Network visualization of co-citation analysis in the Expatriate field of research from 1998–2017. A minimum of 20 co-citations is set as the lower limit. The size of the circle shows the relative number of citations; the weight of lines indicates how often the articles are co-cited. To examine how individual articles link to other articles, and adjust the resolution (to get a higher degree of clustering), please access the searchable and interactive version of this map, at <http://bit.ly/ExpatCoCite>, and allow Java to run. For instructions on how to navigate the map, please see the VOSviewer manual: <http://www.vosviewer.com/getting-started#VOSviewer>

Cluster 1: Strategic management of international organizations

The 'strategic management of international organizations' is one of the two dominant clusters, with 33% of the keywords in the map, and covering organization-level topics in the expatriate field. The keyword 'multinational companies' is dominant in terms of occurrences (122) and eigencentrality (1.00), and is linked to three-quarters of the other keywords in the cluster. Highly related keywords include 'subsidiaries' and 'international joint ventures', which illustrate other themes within the cluster.

A group of keywords in the cluster relates to expatriates and the management of international operations, and includes 'human resource management', 'subsidiaries' and 'control'. This cluster fits with the stream of research emanating from the seminal article by Edstrom and Galbraith (1977). In their article, the authors argued that in addition to developing managerial talent, expatriation could be used in a control capacity through expatriates' socialization with host country employees and links to headquarters. These topics have been expanded, for example, by examining the underlying mechanisms (Harzing, 2001) and the management of the uncertainty inherent in international operations (Gong, 2003).

The keyword 'knowledge transfer' has a high level of occurrence, links to other keywords, and eigencentrality (49, 36 and 0.54 respectively) and relates to the topic of managing the stock and flow of knowledge across international units. Related keywords include 'competence' and 'learning', as well as 'inpatiates' in cluster 3, which is dominant. The use of expatriates can be seen as a form of knowledge transfer, where knowledge can have a range of characteristics, such as tacit or explicit, specific or generalizable, and residing in the individual or collective. These differences, in turn, explain the wider range of expatriates being deployed at different levels by an organization (Bonache & Brewster, 2001). The example of transferring human resource policies and practices to foreign subsidiaries (Gamble, 2003) serves to illustrate the links between these keywords and the keyword 'human resource management', described above.

Another group of keywords in cluster 1 relates to managing organizations in a foreign cultural setting, with the most central keywords being 'cross-cultural management', 'culture', 'management', 'national culture', and 'cross-cultural communication'. Central to these topics are the cultural dimensions presented by Hofstede (1980), whereby differences between national business cultures are examined. The quantitative results presented in Hofstede's research have been used as the cultural element in many other studies, which have used statistical analysis to test hypotheses. Culture may in part explain the high centrality and number of links of these keywords, as culture represents a key difference between domestic and international studies in its effects, such as its influence on entry mode (Kogut & Singh, 1988), and work attitudes (Ronen & Shenkar, 1985).

The keywords in cluster 1 with the highest occurrence and the highest eigencentrality are 'human resource management' and 'leadership', which also have many links to keywords in other clusters, indicating that the keywords act as bridges between this and other clusters. Similarly, the keywords 'localization', 'internationalization', 'developing countries' and 'emerging markets' indicate a geographic domain and a more localized setting for the associated keywords.

One group of keywords prominent to cluster 1 includes 'foreign direct investment', 'innovation' and 'investment'. Articles in this group relate to research on how multinational firms can organize so as to benefit from the creation, adoption, and diffusion of knowledge and innovation across their units (Ghoshal & Bartlett, 1988). The keywords have a medium number of occurrences (9, 9 and 7 respectively), low eigencentrality scores (0.20, 0.16 and 0.04 respectively), and a high degree of links within the cluster (0.67, 0.78 and 0.67 respectively), indicating that it is a satellite subtheme within the expatriate literature.

Cluster 2: Expatriates and adapting to the local environment

With 33% of the keywords in the map, cluster 2 is the other dominant cluster and relates to expatriates at the individual unit of analysis, and how they cope, adapt, and interact with their environment. 'Adjustment' and 'cross-cultural adjustment' are the most researched topics in the expatriate field and dominate cluster 2, occurring in 108 and 93 articles respectively, and have been the focus of two meta-analyses (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005; Hechanova, Beehr, & Christiansen, 2003). The high eigencentrality scores (1.00 and 0.73 respectively) indicate that the adjustment measures are central with regard to a range of other topics, which suggests that they act as both antecedents and outcomes, both within this cluster and in each of the other clusters. Other keywords in cluster 2, such as 'psychological well-being', 'stress', 'satisfaction', 'turnover', and 'work performance' are measures of how well an expatriate has adapted to their new environment (Bader & Schuster, 2015; Law, Wong, & Wang, 2004). The content of cluster 2 is in line with the multiple stakeholder view (Bjorkman & Welch, 2015; Takeuchi, 2010), which highlights the importance of acknowledging the multifaceted situation in which expatriates are embedded.

The keywords 'host country nationals', 'social support', 'social capital', 'social networks', 'language', and 'socialization' in cluster 2 refer to how expatriates interact with locals both on and off the job (Schuster & Bader, 2017; Toh & Denisi, 2003, 2007; van Bakel, 2018; Wu & Ang, 2011). Each keyword has medium scores on both occurrence and eigencentrality. Individual differences such as 'cultural intelligence', 'emotional intelligence', and 'personality' are examined in relation to adjustment variables (Caligiuri, 2000; Mol, Born, Willemsen, & Van Der Molen, 2005; Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). The above keywords are predominantly linked to other keywords in the same cluster, especially 'adjustment', 'cross-cultural adjustment', and 'performance'.

Other keywords in the cluster, such as 'cultural distance', 'culture shock', and 'perceived organizational support', refer to how the expatriates may perceive their situation. For expatriates who relocate to take up a position in an organization, employees and their spouses often expect the organization to offer support during the time abroad, such as financial, career and adjustment support (Kraimer & Wayne, 2004).

Cluster 3: Managing expatriates

One of the smaller clusters, representing 18% of all the keywords in the map, relates to expatriates at the individual level as examined from an organizational viewpoint. The bridging aspect of the topics in this cluster may explain why 25% of the keywords in cluster 3 are linked to cluster 2 (individual expatriate), and 24% to cluster 1 (MNCs).

The most central keywords in cluster 3, in terms of occurrence and eigencentrality, are 'international human resource management' and 'cross-cultural training', which, together with the keywords 'recruitment and selection', 'staffing', and 'organizational support', generally refer to the organizational process of recruiting a suitable candidate for an international assignment, and preparing him or her to meet the challenges associated with the relocation (Morris & Robie, 2001; Tung, 1981). A second group of keywords, 'global talent management', 'inpatriates', and 'international experience' are 'HRM practices' related to the development of key employees. These

keywords are also linked to keywords in cluster 1 relating to MNCs, which reflects the organizational dimension of these topics.

‘Repatriation’ is one of the central keywords in cluster 3, in terms of its occurrence and eigencentality. Together with the keywords ‘retention’ and ‘expatriate failure’, they refer to the process of ending an international assignment or with keeping the returned expatriate in the organization and leveraging the value they bring back with them (Baruch & Altman, 2002; Black, Gregersen, & Mendenhall, 1992; Stahl, Chua, Caligiuri, Cerdin, & Taniguchi, 2009). However, what constitutes expatriate success, and thus also failure, does not have a simple answer, as it depends on which stakeholder is examined, on the motivation of the given actor (Brewster, Bonache, Cerdin, & Suutari, 2014), and indeed, on whether failure rates are correctly estimated (Harzing, 2002).

Cluster 4: Expatriates’ context

Containing only 17% of all keywords, cluster 4 relates to the different types of expatriates and the driving force behind their expatriation. Cluster 4 is highly integrated with other clusters: 57% of all links are to keywords outside the cluster, with 24% of the links to cluster 1, ‘adapting to the local environment’.

The past decade has seen an examination of what the term ‘expatriate’ refers to, clarifying differences between groups of the globally mobile. A central focus of this work has been to distinguish expatriates who relocate for a limited period of time to take up a position within the same organization in a foreign country, now known as assigned expatriates (AE), from a range of other types of international employees (McNulty & Brewster, 2017; Tharenou, 2015). One such type refers to individuals who relocate on their own initiative and motivation to work abroad, and are known as self-initiated expatriates (SIEs) (Suutari & Brewster, 2001); this keyword has high occurrence and eigencentality scores in cluster 4, indicating that it is a widely researched topic. ‘Academics’, ‘migrants’, ‘female expatriates’, and ‘non-traditional expatriates’ are other keywords in cluster 4, which also refers to other types of expatriates distinct from AEs. Common to these keywords in cluster 4 is their high proportion of links to keywords in cluster 2, (how expatriates adapt to their new environment), which indicates that much of the research still centers on the individual rather than the organizations.

Another keyword in cluster 4 with high occurrence and centrality scores is ‘career’, which, together with ‘mentoring’, ‘motivation’, and ‘human capital’, illustrates core reasons behind the choice to take up an expatriation (Feldman & Thomas, 1992; Stahl, Miller, & Tung, 2002). These keywords have strong links to both cluster 1 and cluster 2, which reflects the nature of careers in relation to individuals, frequently in an organizational context.

Bibliometric coupling and clusters of current research fronts

A bibliometric coupling analysis of 361 studies published in the period 2015 to 2017 offers insights into the current research conversations in the expatriate field. Figure 3 provides a network diagram. As some topics are examined from different perspectives, and therefore do not necessarily share the same sets of references, a keyword co-occurrence analysis of this set of articles complements the coupling results, helping to identify popular topics which may not have a unified conversation; the results are shown in Table 3. An example of this is the keyword ‘social capital’, which has a relatively low number of occurrences, (8), though a relatively high degree of 10, indicating that social capital is studied in a variety of contexts.

Table 3: Central Keywords in articles published 2015 - 2017

Keyword	DE	OC	EC
Adjustment	20	32	1.00
Self-Initiated Expatriate	22	28	0.98
IHRM	15	18	0.76
Multinational Companies	15	31	0.74
Cross-Cultural Adjustment	15	29	0.74
Cultural Intelligence	13	16	0.68
Social Support	13	9	0.68
Knowledge Transfer	11	14	0.62
Host Country Nationals	10	14	0.59
Staffing	11	6	0.59
Perceived Organizational Support	12	5	0.58
Social Capital	10	8	0.54
Expatriate Performance	9	8	0.53
Language	10	6	0.53
Career	12	16	0.53
Psychological Well-Being	10	7	0.52
Repatriation	12	15	0.52
Work Performance	8	5	0.50
Female Expatriates	9	8	0.47
Performance	9	8	0.45

Note: DE=Degree, OC = Occurrence EC = Eigencentrality. The 20 keywords with highest eigencentrality are included in the table.

The bibliometric coupling analysis yielded four clusters, which in part correspond to the keyword clusters discussed above. Viewing the online map, articles in cluster one (green) are on the topic of expatriate adaption to their environment; cluster two (red) on the topics of the strategic management of international organizations and on expatriates' role in MNCs; and cluster three (yellow) on managing expatriates. In general, articles in cluster four (blue) focus on construct clarification, and examination of specific types of expatriates, predominantly SIEs; as such, the cluster does not directly correspond to the other three clusters discussed above. Articles with high eigencentrality scores indicate they are closely associated with a group of articles, and thus identify the central themes in the literature. These articles form the base to summarize a shared topic. It is beyond the scope of this article to offer an exhaustive and detailed discussion of all topics discussed in the articles, so the discussions are limited to those with the most predominant clusters in the map.

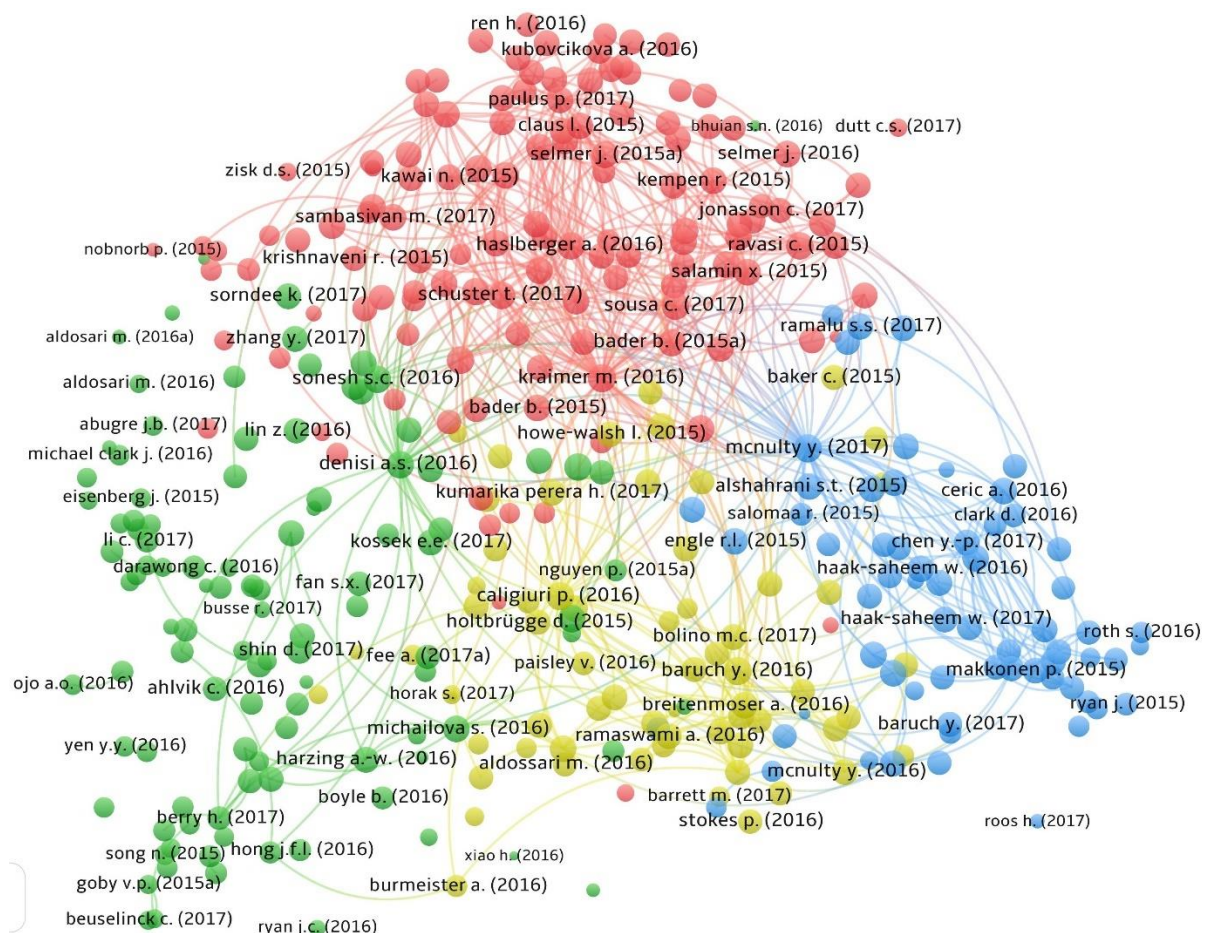


Figure 3: A static image of the Network visualization of bibliometric coupling in the Expatriate field of research from 2015–2017. Size of the circle shows the relative number of total links to other articles, the proximity between circles indicate similarity, as gauged by how many references they share, and the weight of the line indicates the number of shared references (set minimum to 10 for clarity). To examine how individual articles link to other articles, and adjust the resolution (to get a higher degree of clustering), please access the searchable and interactive version of this map, at <http://bit.ly/ExpatriateCoupling>, and allow Java to run. For instructions on how to navigate the map, please see the VOSviewer manual: <http://www.vosviewer.com/getting-started#VOSviewer>

Research front 1: Expatriate adjustment

As noted earlier, expatriate adjustment is the most common research topic in the field, with approximately one in six of the articles published between 2015 and 2017 having this as a keyword, indicating continued attention by academics. The high occurrence and eigencentrality scores for ‘adjustment’ (32 and 1, respectively) and ‘cross-cultural adjustment’ (29 and 0.74, respectively) underscore this dominance (See Table 3 for the values of other keywords).

In the past decade, the traditional expatriate adjustment concept proposed by Black et al. (1991) has come under scrutiny (e.g. Kubovcikova, 2016), spawning articles that propose more theoretically grounded and robust ideas. These include conceptualizations of adjustment as: 1) a process rather than a state (Maertz Jr, Takeuchi, & Chen, 2016); 2) as a model rooted in the Person-Environment fit theory (Haslberger & Dickmann, 2016); 3) as a multi-dimensional scale for success at work, based on both ability and adjustment (DeNisi & Sonesh, 2016); and 4) explicitly including the issue of time (Hippler, Brewster, & Haslberger, 2015). New adjustment scales have also been proposed, including one based on Person-Environment fit theory (Hippler, Caligiuri, Johnson, & Baytalskaya, 2014), and a

multidimensional scale of work-and-family-role adjustment (Shaffer et al., 2016). But despite the growing body of literature critical of the adjustment scale proposed by Black et al. (1991), most of the empirical research reported in the last three years still uses their original scale.

There is one stream of the adjustment literature that examines individual characteristics as antecedents to adjustment, with several researchers examining the positive association of cultural intelligence (Chen, 2015; Guðmundsdóttir, 2015; Jyoti & Kour, 2015) and of sociability (Salgado & Bastida, 2017) with adjustment, and differences in various personality measures between employees who relocate and those who do not (Furnham, 2017). Similarly, the positive effects on adjustment of speaking the local language are also examined (Paulus & Muehlfeld, 2017; Ravasi, Salamin, & Davoine, 2015; Selmer & Luring, 2015a; Zhang & Harzing, 2016).

Continuing the tradition of examining how external factors such as social support and perceived organizational support influence expatriates (e.g., Kraimer & Wayne, 2004; Wang, 2002), there has recently been renewed interest in this topic. Specific forms of social support, such as affective support (Horak & Yang, 2015), advice-seeking (Mahajan & Toh, 2014), and positive contact with host country nationals (van Bakel et al., 2015) are shown to affect adjustment. Other studies have examined how embeddedness in social networks influences identity (Mao & Shen, 2015) and adjustment (Ravasi et al., 2015; Varma et al., 2016). Social support for employees in the NGO sector has been explored in the context of high-risk countries, where network size and frequency of contact are associated (Claus, Maletz, Casoinic, & Pierson, 2015) with higher levels of adjustment on a related measure, psychological well-being (Bader & Schuster, 2015).

The extent to which accompanying family influences expatriates' adjustment continues to be a topic of some interest, including the suggestion that given the interaction between life-domains (Kempen, Pangert, Hattrup, Mueller, & Joens, 2015), the accompanying family should be seen as a stakeholder (Lämsä, Heikkinen, Smith, & Tornikoski, 2017). Other research examines the extent to which 'where' the spouse comes from acts as a burden or facilitates adjustment (Davies, Kraeh, & Froese, 2015). Being an expatriate spouse has its challenges, for example, that of a threatened identity (Collins & Bertone, 2017), which can lead to divorce, and consequently, a host of adverse outcomes (McNulty, 2015).

Research Front 2: Expatriates and multinational corporations

Research on MNCs continues to spawn a considerable body of research, with 31 keyword occurrences out of 361 articles, and an eigencentality score of 0.74, as shown in Table 3. One common theme is knowledge transfer and how different types of international assignees, such as expatriates and inpatriates, can influence it; both types are found to increase knowledge flows to subsidiaries, while former inpatriates currently employed in the subsidiary are associated with higher flows back to headquarters (Harzing, Pudelko, & Reiche, 2016). Similarly, a repatriate's dissemination capacity mediates the flow back to the parent company of knowledge learned abroad (Sanchez-Vidal, Sanz-Valle, & Barba-Aragon, 2016). Further, in countries with weak intellectual property rights, expatriates who are used as conduits of knowledge can mitigate the associated risk (Berry, 2017).

Another central theme examines how different types of expatriates and host country nationals may have varying allegiances to the subsidiary and parent company (Michailova, Mustaffa, & Barner-Rasmussen, 2016), or may have a more valuable dual organizational identification that is beneficial at both the organizational and individual level (Smale et al., 2015). Further, more expatriates at the

subsidiary and tighter control exerted by the parent company are negatively associated with HCN organizational identification (Lee, You, & Bae, 2017). The number of expatriates from the parent company is convexly associated with the cultural distance between the host country and the parent country, a relationship which is moderated by cultural tightness, where the greater the distance, the higher the number of expatriates (Shin, Hasse, & Schotter, 2017). This may influence the flow of information back to the parent company, as expatriate managers perceive and report more and ambiguous problems than do local managers (Nielsen, 2015). Different values of cultural tightness-looseness also mean that cultural distance is asymmetrical, and thus influences the attractiveness of a country, which in turn is positively associated with higher levels of foreign direct investment (Li, Brodbeck, Shenkar, Ponzi, & Fisch, 2016).

Research Front 3: Methodological rigor and expatriate categories

A topic that has gained increasing attention is that of methodological rigor, representing articles that specifically address the question of to whom the term 'expatriate' applies, and the associated boundary conditions, distinguishing 'business expatriate' from others who relocate internationally, such as migrants, students, and SIEs (McNulty & Brewster, 2017; Tharenou, 2015). While many categories of expatriate have been identified, one that has gained significant attention is SIEs, whose keyword has, as shown in Table 3, 28 occurrences out of the 361 articles analyzed in this section. The main difference between AEs and SIEs is that the latter initiates the process of seeking and gaining employment in a foreign country (Tharenou, 2015), and thus does not receive the same support and benefits packages as those often associated with AEs. One stream of recent research on SIEs examines the role of employers, including the initial organizational socialization process and how it facilitates learning and integration (Guðmundsdóttir & Lundbergsdóttir, 2016; Hsu, Shaffer, & Ren, 2017), and the influence that perceived organizational support has on motivation and embeddedness (Chen & Shaffer, 2017). Other studies examine how career-oriented HRM practices and work engagement are positively associated with adjustment (Rita, Nele, Steve, & Peter, 2017; Selmer & Luring, 2016), and how SIEs are more prone to psychological contract breach than AEs (Zhang & Rienties, 2017). Another stream of research compares SIEs to AEs on dimensions such as mobility patterns, where SIEs are found to have a higher degree of non-work motivation for relocating (Alshahrani & Morley, 2015), and to be younger, female, and with higher career mobility preferences (Andresen, Biemann, & Pattie, 2015). Further, a location's specific brand will attract different types of SIEs (Ceric & Crawford, 2016).

The definition of the term 'SIE' enables it to encompass a wide range of expatriates, who may differ greatly on a range of dimensions; as such, studies of more specific and bounded types of expatriates have emerged, examining aspects central to them. One prominent example is academics, with a clear construct definition of 'expatriate academic' (Trembath, 2016); studies find that a positive association with students leads to higher job satisfaction (Jonasson, Luring, Selmer, & Trembath, 2017), and that various forms of job engagement are associated with different work outcomes (Selmer & Luring, 2015b). A second example examines female expatriates, and gender-specific issues that influence the decision to undertake expatriation (Fischlmayr & Puchmüller, 2016; Shortland, 2015); and the relative importance of perceived organizational support in relation to increased interest and performance (Varma & Russell, 2016), and reduced turnover intentions (Lee, Chua, Miska, & Stahl, 2017). One type of expatriate that has recently attracted attention is lesbian and gay (LGBT) expatriates, in relation to identity management (Paisley & Tayar, 2016), opportunities

and barriers accruing from social capital abroad (McPhail, McNulty, & Hutchings, 2016), and the use of social networks and social media to mitigate some of the challenges (McPhail & Fisher, 2015).

Research Front 4: Expatriates and career

The keyword 'career' has a relatively high occurrence score of 16, but a medium eigencentrality score of 0.53, indicating that it is not a unified topic, but is somewhat fragmented, in that it is examined from different lenses and perspectives. These include the MNC's perspective and individual perspectives, as well as a comparison between expatriate types. Within the domain of MNCs, the topic of careers and expatriates is not new: indeed, it warranted an extensive review in 2016 (Baruch, Altman, & Tung, 2016). Current topics include how expatriation influences career capital as an intense developmental experience, and one whose benefits accrue primarily to those whose perceived knowledge gains are leveraged after repatriation (Ramaswami, Carter, & Dreher, 2016); however, increased career capital may be valued more highly in the external market than by the current employer (Mäkelä, Suutari, Brewster, Dickmann, & Tornikoski, 2016). Other research showing asymmetric career benefits includes that on managers in subsidiaries who have spent some time as an inpatriate at headquarters and see an accelerated career path; on the other hand, managers who were expatriates at other locations did not see a corresponding benefit (Sarabi, Froese, & Hamori, 2017). In MNCs, international work experience is often a stated requirement for advancing to the upper management echelons, but there may be boundary conditions: the relationship seems to be curvilinear, in that spending too little or too much time abroad dampens career advancement, as do periods spent in countries that have high cultural and geographic distance away from the head office (Schmid & Wurster, 2017).

A recent conceptual paper examines the idea that SIEs are less desirable employees than AEs, in that they have not shown the same loyalty or commitment; the paper concludes that as SIEs' careers unfold, they become more dynamic and non-linear, and respond to the same organizational factors, such as remuneration and organizational support, as do AEs (McNulty & Vance, 2017). As noted above, the personal initiative to relocate abroad is a distinguishing feature of SIEs, and from a career perspective, the intention to have an international career is positively associated with career adaptability and cultural intelligence (Presbitero & Quita, 2017). The approach to career self-management also depends on the motivation, be it in relation to labor market entry, employability maintenance, or career advancement. Unexpected cultural differences require a flexible and dynamic approach, using available support resources to succeed (Makkonen, 2016). The heterogeneity of SIEs is underscored in a study that showed that Western expatriates who relocated to the Arab Gulf were primarily motivated by career opportunities and attractive remuneration packages, while Muslim expatriates were motivated by cultural fit; this raises the question of the generalizability of results from one group or location (Baruch & Forstenlechner, 2017). Research into career factors for expatriates working in hostile environments is conducted at the individual, organizational and locational levels of analysis, and compares the results with other career literature. The results support and extend past results and show that many of the key drivers are the same, irrespective of environmental factors, demonstrating both the generalizability and the differences of the findings (Dickmann & Watson, 2017). A rare longitudinal study on how career capital develops shows that all three types of career capital benefit from an international relocation, though AEs tend to learn more and the benefits increase over time (Dickmann et al., 2016). However, the mechanisms underpinning

these findings are less clear, as they may be caused by repatriates selecting positions where their unique competencies are the most valuable, or because they reflect differently on what they have learned and mobilize their resources differently (Dickmann et al., 2016).

Discussion

The keyword clusters identified in this study are consistent with the three clusters identified by Dabic et al. (2015) and with the micro-macro divide discussed by Caligiuri et al. (2016). Keywords associated with the macro level are in the clusters: 'strategic management of international organization' (cluster 2) and 'expatriates' context' (cluster 4); while micro-level topics are represented in the clusters 'managing expatriates' (cluster 3) and 'adapting to the local environment' (cluster 1). These consistencies indicate the robustness of the findings. It is also worth noting that far from being an isolated field, the expatriate literature analyzed in this study belongs to a larger ecosystem, with links to other fields such as the HRM field, as shown graphically in a recent bibliometric study (Markoulli et al., 2017). While providing an exhaustive list is outside the scope of this article, one illustrative example is provided by the keywords 'foreign direct investment', 'innovation', 'investment', 'joint venture' and 'subsidiaries', which are relatively peripheral in the expatriate literature, but more central in the strategic management literature. Similarly, the keywords 'job satisfaction', 'turnover', and 'embeddedness' are central in the organizational behavior literature. For scholars interested in these, or other topics, it may be valuable to replicate the analysis presented in this article by extending the search to include the key terms of interest, and examining how the expatriate literature fits with research on the topic in a domestic setting. While such studies are not yet common, one such study examined the taxonomy of career studies (Lee et al., 2014).

Interacting and engaging with the results – initial reflections

Using the interactive (online) maps, there are several ways the interested reader can explore the interactive bibliometric coupling map. One is to identify an article of interest, hold the cursor on the article and see what other articles it is connected to, as the map will highlight the links, thus identifying the various topics and conversations that are associated. For example, hovering over the article, 'Expatriate contact with a local host: an intervention to increase social support' (van Bakel, van Oudenhoven, & Gerritsen, 2017), the links are highlighted and show that the article is linked to clusters of associated articles with different foci. In this example, the links point to articles that examine social support in hostile environments, social networks in MNCs, social support and adjustment, and social support and networks of SIEs. By clicking on any of these nodes, the article will load in the web browser, based on the associated DOI (assuming an internet connection).

Taking the results presented above as a starting point, there are myriad possible reflections and discoveries that can be made by exploring these maps. This article aims to enable readers to explore and identify new connections, or the absence of such connections, on topics they are interested in. Following this method, I have identified some issues that engage me, which I discuss in the following paragraphs. They are intended as examples of possible findings and as perspectives on how the field is developing.

The proximity of keywords in Figure 1 is a function of relatedness, so that the closer they are, the more closely they are related. The keywords 'spouse', 'family', and 'expatriate failure' are all located at the top of the map, close together, indicating they are often studied together. All three keywords

are also linked to 'repatriation', indicating a view that spouse and accompanying family are often researched in a 'challenge' lens, such as those of stressor-strain and work-family spillover effects (Takeuchi, 2010). The fact that there is no keyword for 'children' may indicate challenges researchers have with their review boards to get studies with children approved, rather than a belief that children do not matter in expatriation. Further, the placement of these keywords is far from cluster 3, relating to how firms manage expatriates, with no links to keywords in the cluster such as 'recruitment and selection', 'cross-cultural training' and 'job satisfaction'. These missing links may indicate an opportunity to explore what firms can do to support the accompanying family, and the effect this has on the employee.

The prominence of the keywords 'adjustment' and 'cross-cultural adjustment' in Figure 1 indicates that it is one of the more popular constructs in the field, and while the dominant measure (Black, Mendenhall, & Oddou, 1991) is heavily criticized, recent scholarly work has attempted to rejuvenate the construct (Haslberger & Dickmann, 2016; Hippler et al., 2014; Shaffer et al., 2016). However, while a valid and robust adjustment measure is welcome, the prominence of the keyword raises the question of whether it deserves to be the 'Rosetta Stone' measure in the field. In their introduction to a special issue, Brewster et al. (2014) discuss the complexities of, and propose a typology for, expatriate outcome measures. Similarly, in a proposed framework for IHRM research, Björkman and Welch (2015) list 14 different proximal and distant outcome measures, of which adjustment is but one. The choice of outcome measures is further complicated by the range of expatriate types identified in the literature, as the same outcome measure may be unequally relevant for different types. For example, the adjustment measure may be well suited to an 'expat-preneur' (Vance, McNulty, Paik, & D'Mello, 2016), while job performance may be better for a technical specialist sent abroad to solve a problem, with psychological well-being being better for a heterogeneous sample. Looking forward, one may hope to see a wider range of outcome measures applied, and in the cases where adjustment is used, an explicit argument should be made for its use, and for why it is the best choice.

Examining the list of keywords in the analysis offers an opportunity to consider interesting topics and issues that seem not to have received sufficient attention. One such topic is that of domestic control and comparison groups, where results from expatriate samples are compared to equivalent domestic ones. Including this aspect is not without precedent; the adjustment scale proposed by Black et al. (1991) was, in part, developed based on the domestic relocation literature. In a rare example, Hippler (2010) noted that by including a domestic relocation group in the sample, it was possible to tease out factors that related to the international dimension from those relating to all relocations. Studies with outcome measures equally valid for domestic employees, such as work performance, commitment, and retention, can also benefit from including a domestic control group, which could help distinguish factors relating to the international dimension from other factors such as climate (Naumann, 1993). Drawing a control group from peers in the same company as the expatriates also means that the expatriate is compared to other employees in a very similar work context. The point is underscored in a meta-analysis that examined the associations between the Big Five personality factors and job performance. The results were near-equivalent to those in domestic contexts (Mol et al., 2005), indicating that the underlying mechanisms are not primarily related to the international context, but can probably be better explained by the domestic organizational behavior literature.

The results also indicate that there may be some issues relating to the methodologies prevalent in the field, of which common method variance (CMV) may be the biggest. Two of the fifty most central articles, as identified in the co-citation analysis, measured by total degree and citation metrics, are methodological articles discussing CMV and self-reported data (Podsakoff, MacKenzie, & Podsakoff, 2016; Podsakoff & Organ, 1986). The prominence and placement of these articles in the map indicate that it is particularly prevalent in adjustment research, and at the individual level of analysis. It also raises the question of whether it has become so commonplace that we have come to accept a reference to the critique, and assume that suitable tests have been conducted; and that we have forgotten to demand multiple sources of data, and/or data from several points in time, as required for robust and valid findings. Exceptions exist, such as a recent longitudinal study identifying four change patterns for expatriate work performance (Takeuchi, Li, & Wang, 2018).

A second issue relating to methodology is that of construct definitions and clarity, an issue first raised by John Stuart Mill (1884), and one which is still highly relevant in the social sciences today (Podsakoff et al., 2016). Poor construct clarity leads to a range of problems, including reduced validity, robustness, and generalizability, as different implementations of the same construct yield different results as a consequence of the study design, rather than reflecting differences in the phenomenon examined. As noted above, research on developing better adjustment measures (Haslberger & Dickmann, 2016; Hippler et al., 2014; Shaffer et al., 2016), and on defining the terms 'business expatriate' (McNulty & Brewster, 2017) and SIE (Andresen, Bergdolt, Margenfeld, & Dickmann, 2014; Cerdin & Selmer, 2013) are important and welcome steps towards this goal. While concept definitions are developed and refined both within the expatriate field and elsewhere, such concepts are not always implemented with care. For example, in the bibliometric coupling analysis above, a review of articles relating to SIEs indicates that the term is used to describe a wide variety of samples, where the single common trait is that SIEs have initiated the move themselves. SIEs have a range of motivations for relocating, ranging from career and remuneration to moving to be with loved ones (Doherty, Dickmann, & Mills, 2011). The failure to take such differences into account when studying factors such as embeddedness seems to open the field of study to gross confounding effects. In such cases, it may be better to identify a categorization that reflects the relevant characteristic for the question under investigation, and to use a narrowly defined concept rather than a convenient general term.

Limitations

It must be noted that there is no single formula for literature reviews, and that while bibliometric analysis can organize and produce valid and robust results on a large set of bibliographic data, it has several limitations and boundary conditions. The bibliometric approach is no substitute for extensive reading in the field, and should only be seen as a complement to traditional reviews, offering an overview of the field, as well as to show how topics and articles may relate to each other. In-depth reviews with a rigorous examination are needed for any given topic, to identify specific mechanisms and evaluate the quality of each individual piece of research.

There are also several limitations to this study, some caused by the chosen design and the use of the bibliometric method; others by the implementation. Two limitations of any bibliometric study are the flip side of the unbiased property of the analysis, namely that it is independent of context. Accordingly, one limitation is that articles cited for notoriety may get undue prominence in the results, which may influence the results in the co-citation analysis in the present study. The second

weakness relates to the absence of context and the lack of any quality measure for the journals the research is drawn from, or for the articles themselves, apart from measures required by Scopus to index a given journal. This means that a host of poorly designed articles may influence the results at the expense of more rigorous work. However, the results indicate that prominent researchers' articles still dominate the various topics through publication of influential articles and setting trends. A final limitation to the method stems from the tendency of scientists to cite the same sources with which they are familiar in different articles, and to cite friends and colleagues more often (Cole & Cole, 1974): this may influence the bibliometric coupling results, leading to established networks of researchers gaining more central positions.

There are also weaknesses resulting from the implementation of the method. The first of these is that despite my best efforts, the data used for the analysis represents only a sample, rather than the full population, of all published articles. There are several reasons for this. First, the search terms may not be sufficiently comprehensive and may, therefore, have missed some articles; second, no database has complete coverage; and third, there are errors in records.

Due to the intention to include a high proportion of all relevant articles, some that are not relevant are likely to have been included, and these represent noise in the data. One possible example is the keyword map in Figure 1, where the term 'migrants' is found. Consideration of the list of keywords suggests that this is a limited problem and that most of the irrelevant keywords were washed out by the rest of the sample.

One weakness stems from a characteristic of the expatriate field itself, namely that the term 'expatriate' has been used to describe a diverse set of samples, such as students, organizational assignees, and self-initiated expatriates. A consequence for the analyses in this study is that there is no way of determining the sample characteristics of each article, and thus, whether some forms of expatriates are more prevalent in some topics than in others. Further, the terms 'expatriate', which should refer to the person, and 'expatriation', which should refer to the process, have not always been applied correctly. This implies that links between topics may not apply to all types of expatriates and their situations.

Conclusion

Applying bibliometric analysis to the field of expatriate research, the present study contributes to the field in a number of ways. The first is to identify the structure of topics in the field. The structure includes a range of topics that generally cluster into four main groups: 'strategic management of international organizations', 'expatriate's role in the organization', 'managing expatriates', and 'adapting to the local environment'. Familiar topics, such as 'adjustment', 'MNC', and 'career' are central in their respective clusters. Other topics that have received recent attention, and have some prominence in the analysis, indicate there is a shift in the literature. One example is identified in the keywords 'non-traditional expatriates' and 'self-initiated expatriates' that indicate a shift towards more precise definitions in the application of the term 'expatriate'. A second example lies in attention to resources in the host environment which relate to expatriate adjustment, as seen in the rise of terms such as 'social capital' and 'perceived social support'. Although these topics are clustered, there is significant interconnectivity between them, indicating an integrated research field, with keywords such as 'cross-cultural training', 'leadership', 'career', and 'knowledge transfer' acting as bridges between the clusters. This structural overview may orient new scholars to the field and

may offer more seasoned scholars the opportunity to identify new research possibilities that may integrate findings across the clusters, and between the underlying levels of analysis.

The second contribution lies in examining the current intellectual conversations, also known as research fronts, in the literature. The research fronts are clustered into four topics: 'expatriate adjustment', 'expatriates and MNCs', 'methodological rigor and expatriate categorization', and 'expatriate careers'. Identifying the various intellectual conversations may inspire researchers to consider where to take a given discourse forward, or, alternatively, to identify the lack of a conversation, and broach a new issue.

The third contribution lies in providing the visual representations of the analysis and making them available for download as interactive maps. By doing this, I hope to make it easier for scholars to leverage the first two contributions. The review offers myriad inferences that can be drawn from the analysis, but only a small set of examples that particularly interest me are presented in this review. The findings are meant both to provoke the reader's thoughts and to show how to interact with the results, and hopefully inspire other scholars to identify, examine and explore novel and valuable ways to advance the field.

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