Exploring the landscape of HRM-firm performance debate domains: A co-citation analysis

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INTRODUCTION

The debate about HRM-firm performance relationship now has more than 25 years of tradition. It has evolved around the HR context, HR practices, HR outcomes, firm performance and the way in which these concepts are linked (Guest, 1997). From modest starts in mid 1980s the debate has grown into a mature research stream within the HRM field which attracts researchers from all over the world and produces yearly roughly between 50 and 80 papers in ISI Web of Knowledge.

At this a stage of development of a scholarly debate it is highly appropriate to look at what has been done so far and suggest how to move forward. Indeed, there has been considerable interest in reflecting on the “HRM – performance debate” among researchers interested in HRM. Recent commentaries in Human Resource Management Journal (Blackwell) and Human resource Management (Wiley) while celebrating their 20 and 50 years, respectively, Point-Counterpoint discussion about the Progress and Prospect of HRM in Journal of Management Studies (Janssens & Steyaert, 2009; Paauwe, 2009) and numerous state-of the art literature reviews and edited books in the last five years addressing the issue support this observation. Most of these acknowledge that HRM-firm performance debate has come a long way since its inception, but they also note that the stream has reached a point where it will have to look for new ideas and directions to avoid stagnation or even decline.

If the debate is to keep its momentum, it will have to integrate new domains of knowledge, either from inside or outside the HRM field. We aim to investigate extant domains of knowledge of the HRM-firm performance debate to see how they were changing over time and how they were integrated to facilitate development of the debate. By studying these patterns and current domains of knowledge we intend to provide suggestions for further development of the debate.

Instead of traditional qualitative (narrative) review a bibliometric quantitative technique co-citation analysis (White, 2003) will be used. This technique puts emphasis on the papers that are cited by the (primary) articles constituting the focal debate and examines if they are cited together by multiple primary articles. To our knowledge this is the most comprehensive study of relevant articles covering HRM-firm performance debate to date. The sample or primary articles includes 743 articles from the ISI Web of Knowledge from the 1985-2010 period that fit the keywords relevant for HRM-firm performance debate. Therefore, close to 43,495 citations (or on average 58.5 citations per paper) and a set of 20,019 papers that were cocited at least once served as our input for analyses.

The remainder of the paper is organized in the following way. We first briefly look at existing contributions that examined the HRM-firm performance debate and address their idiosyncrasies/contributions. We then continue by explaining the analytical approaches used: co-citation analysis and islands algorithm. Afterwards, we analyze the use and emergence of knowledge domains over time. Finally, we discuss our results and provide guidelines for evaluation and future directions of the debate.
EXISTING REFLECTIONS ON HRM-FIRM PERFORMANCE DEBATE

It is a commonly accepted rule in the research community that a scholarly debate becomes an interesting topic for a review when “a number of conceptual and empirical articles have amassed without previous review efforts or a synthesis of past works” (Short, 2009, p. 1312). Although there has been some previous review work on the HRM-firm performance debate, it seems that the number of conceptual and empirical articles reached an important tipping point around the year 2005 that triggered several traditional and also some more innovative reviews of the literature. After 2005 researchers interested in HRM-firm performance debate have produced an unusually large number of review articles and “research on research”. However, a closer look reveals that most of these reviews feature idiosyncratic elements that provide original perspectives on the debate and a variety of implications/suggestions for further development of the research stream.

The review surge started with traditional reviews of empirical research examining the linkages between HRM and performance by Boselie, Dietz and Boon (2005) and Wall and Wood (2005). Boselie et al. (2005) investigated a wider range of empirical research articles from major international journals between 1994 and 2003, while Wall and Wood (2005) decided to examine only highly-cited milestone studies in the same time period. They both evaluated the studies across a range of criteria such as: 1) the research design of the study, 2) the dominant theoretical framework(s) used, and 3) operationalization of HRM practices and outcomes. Thus, the emphasis of their work has been on the content of specific dimensions highly relevant for the debate and not on the evolution of the debate. These studies tried to fulfill different goals, though. While Boselie et al. (2005) built on the review to facilitate better insight into the black box (i.e., understanding the processes that link HRM and firm performance), Wall and Wood (2005) used the evaluation of the extant empirical research to justify the investment in “big science” research designs.

Among the reflections on HRM-firm performance we can also find highly critical ones. Specifically, Fleetwood and Hesketh (2008) focused on another specific aspect of extant empirical research – the soundness of their theoretical underpinnings. Their review of different empirical approaches to examining the HRM – firm performance links revealed that these studies were strongly under-theorized and therefore not able to resolve the why and how questions. One of the their strongest messages was that theoretical underpinnings would not emerge and develop simply by doing more/better empirical work, which was a frequent suggestion by other commentators of the debate, but rather by strengthening theoretical development. A related interesting observation was that the attempt to borrow theories from other disciplines did not resolve the problem either.

Some reviews addressed the HRM-firm performance debate as a part of a bigger picture within the field. For example, Schuler and Jackson (2005) in a quarter century review of research and practice of managing human resources in the US discussed HRM-performance link within the strategic human resource management area. Similarly, Lengnick-Hall, Lengnick-Hall, Andrade and Drake (2009) discussed the HRM-performance link while examining the development of strategic human resource management literature. They used an evolutionary
perspective to identify seven themes that constitute SHRM and discussed the pattern of evolution along with the current state of these themes.

Some reviews went beyond traditional (narrative) techniques and used various analytical approaches to support their reflections of the debate/field. For example, Martín-Alcázar, Romero-Fernández and Sánchez-Gardey (2008) explored state of the art in HRM research by conducting a survey among HRM scholars around the world about the theoretical and methodological approaches they used in their research. Furthermore, Combs, Yongmei, Hall, and Ketchen (2006) conducted a comprehensive meta-analysis of 92 studies examining the effect of high performance work practices (HPWP) on organizational performance to offer reliable quantitative evidence for the positive overall HRM-firm performance relationship. A recent study by Rabl, Jayasinghe, Gerhart & Kuhlmann (2011) followed up using both meta-analysis and multilevel analysis to examine the relationship between HRWP and business performance in 53 studies across 20 countries. They not only confirmed the positive effect between HPWP and business performance found by Combs et al. (2006), but also established that the magnitude of these positive effects differed substantially by country and region and that national culture and institutional flexibility did not help to explain country differences in effect sizes.

Next, Henneberg, Swart, Naudé, Jiang, & Mouzas (2009) were the first to use social network analysis to study the HRM as a field of research. They examined coauthorship networks in the HRM academic community to get an insight into the social structure of scholars that contributed to the field of HRM between 1990 and 2005 (including the HRM-firm performance debate) and how this community developed over time. Surprisingly, the authors report that the HRM community is sparser than comparable academic networks.

While Henneberg et al. (2009) studied connections between authors in the HRM community, there has also been an initial attempt to study connections between knowledge that comprises HRM as an academic discipline. Fernandez-Alles & Ramos-Rodriguez (2009) were the first to perform a bibliometric study to examine the intellectual structure of the HRM field. The paper examines a sample of citations (based on articles published in Human Resource Management (Wiley) from 1985 to 2005) to identify the most frequently cited studies and key research topics that inform the HRM field and how they are interrelated. Our study builds on their work to examine development of the HRM-firm performance knowledge domains through time.

**ANALYTICAL APPROACH**

The analytical approach that we used to examine the development of HRM-firm performance knowledge domains is based on bibliometric analysis, specifically document co-citation analysis. Document co-citation analysis was introduced by Small (1973) and later developed by Small and Griffith (1974). It builds on citations/references, which are used by authors to establish relationships among scientific papers. A co-citation is a tie between two references that occurs when two references are cited together in the same document. The strength of a co-citation is enhanced if references are cited together in multiple documents.
Co-citation analysis identifies relationships between papers which are regarded as important by authors in the specialty, but which are not identified by such technique as direct citation (the citing of an earlier paper by a later paper) or bibliographic coupling (when two papers cite one or more papers in common). If we assume that frequently cited papers represent the key concepts, methods, or experiments in a research field, then co-citation patterns can be used to map out in great detail the relationships between these key ideas. This may lead to a more objective way of modeling the intellectual structure of scientific debates. Moreover, changes in the co-citation patterns, when viewed over a period of years, may provide clues to understanding the mechanism of specialty development (Small, 1973).

The co-citation analysis was done following all critical steps that were suggested by previous research (Fernandez-Alles & Ramos-Rodriguez, 2009; McCain, 1990). First, we determined our sample of source (primary) literature. Based on research on quality of different bibliographic databases we opted for ISI Web of Knowledge due to its reliability, comprehensiveness and wide adoption in bibliometric studies (Jacso, 2005; Leydesdorff, 2009). Consistent with our preference to include primary literature starting from the roots of the HRM-firm performance debate (cf. Paauwe, 2004) to the latest contributions we decided to include papers that were published between (including) 1985 and 2010. The primary articles were selected if they included one of the following 11 keywords that in our opinion most robustly represent the HRM-firm performance debate: HRM (human resource management), HRM systems, HR systems, HR activity, HRM activity, performance, firm performance, firm effectiveness, effectiveness, outcomes, and firm outcomes. We carefully reviewed abstracts of 1,049 source papers that matched the criteria and excluded papers than did not address the HRM-firm performance debate. This process resulted in a collection of 743 primary papers, which went through another round of checking for other minor inconsistencies and errors (e.g., mixing up authors’ names) before further analysis (Eom, 2008). Figure 1 shows the distribution of source papers by the publishing year for the 1985-2010 period.

Figure 1: Number of source papers in the sample by publishing year of the source paper
The main characteristic of cocitation analysis is its emphasis on secondary (cited) papers. Selected primary papers from the period 1985-2010 cited almost 44,000 articles from the period between 1776 to 2010. In Figure 2 we can see the number of papers cited by primary articles within the 1985-2010 period by their publication year. Alternatively, Figure 3 shows how many papers primary articles cited in a specific year within the 1985-2010 period. As we can see the number of cited papers follows the rising number of primary papers, almost doubling in 2010.

Figure 2: Number of secondary papers cited in the whole 1985-2010 period by publishing year of the secondary paper

Figure 3: Number of secondary papers cited by source papers in a specific year within the 1985-2010 period
In Tables 1 and 2 we show the most highly cited references and the strongest co-occurrences in the HRM-firm performance debate in our sample.

Table 1: The most frequently cited articles in the sample

<table>
<thead>
<tr>
<th>Citation frequency</th>
<th>Cited reference</th>
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<tbody>
<tr>
<td>348</td>
<td>Huselid M, 1995</td>
</tr>
<tr>
<td>220</td>
<td>Macduffie J, 1995</td>
</tr>
<tr>
<td>217</td>
<td>Delery J, 1996</td>
</tr>
<tr>
<td>210</td>
<td>Becker B, 1996</td>
</tr>
<tr>
<td>201</td>
<td>Arthur J, 1994</td>
</tr>
<tr>
<td>170</td>
<td>Delaney J, 1996</td>
</tr>
<tr>
<td>162</td>
<td>Barney J, 1991</td>
</tr>
<tr>
<td>153</td>
<td>Younkt M, 1996</td>
</tr>
<tr>
<td>150</td>
<td>Pfeffer J, 1994</td>
</tr>
<tr>
<td>128</td>
<td>Schuler R, 1987</td>
</tr>
<tr>
<td>125</td>
<td>Huselid M, 1997</td>
</tr>
<tr>
<td>123</td>
<td>Guest D, 1997</td>
</tr>
<tr>
<td>115</td>
<td>Wright P, 1992</td>
</tr>
<tr>
<td>112</td>
<td>Pfeffer J, 1998</td>
</tr>
<tr>
<td>101</td>
<td>Becker B, 1998</td>
</tr>
<tr>
<td>98</td>
<td>Wright P, 2001</td>
</tr>
<tr>
<td>95</td>
<td>Ichniowski C, 1997</td>
</tr>
<tr>
<td>86</td>
<td>Wright P, 1998</td>
</tr>
<tr>
<td>83</td>
<td>Ulrich D, 1997</td>
</tr>
<tr>
<td>75</td>
<td>Guthrie J, 2001</td>
</tr>
<tr>
<td>74</td>
<td>Lepak D, 1999</td>
</tr>
</tbody>
</table>

Table 2: The strongest co-citations of articles in the sample

<table>
<thead>
<tr>
<th>Number of co-occurrences</th>
<th>Cited reference 1</th>
<th>Cited reference 2</th>
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<tbody>
<tr>
<td>192</td>
<td>Huselid M, 1995</td>
<td>Macduffie J, 1995</td>
</tr>
<tr>
<td>139</td>
<td>Huselid M, 1995</td>
<td>Younkt M, 1996</td>
</tr>
</tbody>
</table>
Because of the high number of citations in a mature debate such as HRM-firm performance and the nature of their interdependence (i.e., citation co-occurrences tend to quickly integrate into larger strongly interlinked co-citations components forming very dense networks) cocitation patterns and their development are very difficult to examine. These characteristics cause problems with processing power/times and visualization possibilities of available software and difficulties in teasing out interpretations of more subtle patterns. Therefore, cocitation data is usually subject to various filtering procedures featuring ex-ante thresholds\(^1\) set by problematic subjective judgment and experimentation (Fernandez-Alles & Ramos-Rodriguez, 2009, p. 162). To avoid this problem we used the Island procedure, which was specifically designed for analyzing dense networks with overlapping valued networks. In this way, we were able to proceed with the analyses without having to make subjective judgments about citation thresholds for secondary papers to be included in the analysis.

Islands technique is a very general and efficient approach to determine important subnetworks in a given network (V. Batagelj, 2004, 2008). An island is defined as a maximal subnetwork of vertices connected directly or indirectly by lines with a value higher than the lines outside (De Nooy, Mrvar, & Batagelj, 2011). In our case, islands are clusters of interconnected secondary papers that have been cited together at least \(n\) times or more. If we think of the value of ties (in our case the number of co-citations) as the height of the island, the number and their size of islands depend on the level of water that surrounds them. By changing the level of water we could get different cocitation landscapes – archipelagoes. Another metaphor that could be used for this procedure is mountain landscape. By varying the entry parameters of the procedure one can identify plains, elevated plains, plateaus, ridges, and summits. The algorithm in Pajek SNA software (Vladimir Batagelj & Mrvar, 1998), that we used, allows to set restrictions for the size of islands (i.e., the minimum and maximum number of actors constituting an island). While we set the minimum number of cocited papers to form and island to 2, the highest numbers were allowed to vary from 2 to the number of actors in the larger component less one. By setting low number of maximum actors forming an island, we were able to identify summits, while gradually increasing the number of actors allowed us to identify plateaus and mountain groups corresponding to identified summits.

To more thoroughly examine the development of the HRM-firm performance domain landscape, we introduced time stamps to secondary papers. Two series of time stamps were used. Firstly, secondary papers were examined by the time stamp of primary papers that cited them, thus allowing us to study how the knowledge domains of primary articles developed over the 1985-2010 period to result in current (cumulative) state the HRM-firm performance knowledge domain. In addition, we reversed time stamps so that we could establish what the relevant domains of knowledge of primary documents from the whole 1985-2010 period were by the time intervals when the secondary papers were published. The time period was divided in multiple time intervals (approximately 5 years long) to examine development over time in manageable portions.

\(^1\) Citation frequency was chosen as a criterion for threshold because for two secondary papers to be frequently co-cited, they also have to be frequently cited individually.
DEVELOPMENT OF HRM-FIRM PERFORMANCE DOMAINS 

THE USE OF HRM-FIRM PERFORMANCE DOMAINS OVER TIME

The primary papers in the early years of the HRM-firm performance debate (between 1985 and 1999) developed the basis of the main domain of knowledge which has dominated the discussion ever since. In Figure 4 you can see the network representing the dominant domain, which accounted for roughly 95% of the cocitation space (the island included 417 of 437 papers that were cocited in this period). At the heart of this domain (and at a higher height) are seminal papers by Schuler & Jackson [1987], Jackson & Schuler [1989], Legnick-Hall & Legnick-Hall [1989], and the classic book by March and Simon [1958], which laid the foundations for strategic HRM knowledge domain. At the time the main emphasis of this domain was the fit between HRM practices, company strategy and organizational environment. In these early days the main knowledge domain consisted of both contributions coming from within the field (endogenous knowledge) and knowledge integrated from the outside of the main field (exogenous knowledge) – see and contrast, for example, work by Lawler [1992], Dyer [1988], and Snell with that of Weick [1979], Williamson [1975], and Miles & Snow [1984]. Later, the composition of the main knowledge domain was not balanced anymore and featured far more endogenous knowledge.

Figure 4: The formation of the dominant knowledge domain

In the following years (between 1995 and 1999) the dominant domain continued to consolidate new cocitations into the main island, which at the time already occupied more than 99% of the cocitation space. The configuration of the main island saw some changes in the composition. Specifically, MacDuffie [1995], Pfeffer [1994], Huselid [1995] and Delery [1996] were added to the domain and some of them relatively quickly became highly central. In this

2 Due to space limitations and for parsimony reasons, only most important islands are interpreted. The basis for interpretation of islands was consideration of title, keywords, dominant research domains and methodological approach of all papers forming an island. We plan to perform inter-rater reliability test among HRM scholars.
In the time period **between 2000 and 2004** the dominant island retained its position and became even more endogenous and consolidating. For example, the only exogenous knowledge added to the domain in this time interval was Porter’s [1980, 1985] *competitive advantage model*. At the same time the *critical/contextual view of HRM* (see above) was consolidated into the dominant domain. As far as the composition of the main domain is concerned it is worth noting that Guest, [1987] and Tsui et al, [1997] only then become a part of at the heart of the dominant domain. In addition, Youndt et al. [1996] becomes more central in this time interval.

There was far more going on the periphery of the cocitation space. The landscape in this period features several other summits that can be seen as separate knowledge domains. Between 2000 and 2004 the debate became truly international which can be observed by the following research domains that were considered by researchers: *HRM in India* (Budhwar, [2000, 2001], *HRM in Africa* (Kamoche, [1992] and Blunt and Popoola, [1985], *HRM in Europe* (Sparrow and Hiltrop, [1994] and Brewster and Hegewisch, [1994]) and *HRM in China* (Warner, [1995, 1996] and Ding [1997], *HRM of Western MNCs in China* (Adler [1991], Luo & Peng [1998], Child [1994], Bjorkman & Fan [1999]). In additions, researchers draw from domains of *organizational fairness and justice* (Moorman [1991], Greenberg [1986], Konovsky [1991], and Leventhal & Karuza [1980]) and *psychological/relational contracts* (Macneil [1985] and Rousseau [1989]). The second domain is especially interesting as it spin off from the dominant domain of which it was part from the very start (see 1985-1994 period). This is a good example for arguing that knowledge domains it the HRM-firm performance domain are usually consolidated into domain but under specific conditions can also spin off from the dominant domain.

Finally, we explored the current (cumulative) view of the HRM-firm performance domains. In Figure 5 we show identifiable knowledge domains represented as islands (mountain summits) including the core of the dominant knowledge domain (its summit). The main domain is still prevalent and seems to more than before emphasize *best practices and the HPWPs* approach. If we use a landscape metaphor, it closely resembles a large, high, steep mountain, which dominates the cocitation landscape. In the last observed time period (**between 2005-2010**) highly influential literature reviews such as Boselie et al. [2005] and Wall & Wood [2005] have been integrated into the core of the dominant domain by relatively quickly accumulating a high number of cocitations. Furthermore, the contributions by Gutrie [1991] examining HIWP and performance, Lepak and Snell [1999, 2002] defining and exploring the human capital architecture, and Datta et al., [2005] analyzing contingencies of HRM-firm performance in different industries also quickly joined the core of the main knowledge domain. Interestingly,
Baron and Kenny [1986] became a part of the dominant knowledge domain in this period. This could be explained by increased interest in empirically studying the mediating mechanisms in HRM-firm performance, which are usually assessed with Baron & Kenny’s procedure. Figure 6 depicts the core 98 papers that constitute the main knowledge domain of the HRM-firm performance debate in some more detail.

Apart the dominant domain the current domain landscape features numerous weak niche domains represented as small low islands/mountains (usually composed of a cocitation dyad with 2-3 cocitations). Examples include: HRM in Eastern Europe, HRIS, selection in organizations, motivation & job preferences, stakeholder theory, assessment of performance, diversity management, innovation, national culture, knowledge creation, IHRM, cross-cultural issues, multi-source feedback, line management & stakeholders, employee benefits and work-life balance, and creativity at work. These knowledge domains appear highly specific and seem to be unable to attract a higher number of scholars and might remain peripheral.

However, this is not the case with some of the other domains which feature higher cocitations/members and have more potential to revitalize the HRM-firm performance debate. Among these we can find: cross-country approach (Drost et al. [2002], Huo et al. [2002] and Lowe et al. [2002]), management buyouts (Wright et al. [2000], Wright & Coyne [1985], Wright et al. [1990], Robbie & Wright [1996], Pendleton et al. [1998]), HR competencies (Yeung et al. [1996], Kochanski & Ruse, [1996], Lawson and Limbrick [1996], Hernez-Broome et al. [2004]), industrial relations (Kaufman, [2004 and 2010]), organizational justice (Niehoff & Moorman [1993], Leventhal, [1980]), devolution of HRM (Whittaker and Marchington [2003], Cunningham and Hyman, 1999], Renwick, 2003)), varieties of capitalism (Hall and Soskice [2001], Whitley, [1999]), consistency modeling (Tsui [1987, 1990]), organizational commitment (Meyer & Allen [1997, 1990]), and social capital (Adler & Kwon [2002], Nahapiet & Ghoshal [1998]). Some of them have recently strengthened their position as a self-standing domain, others have become important in the last five years, again other have spin off from the dominant domain.
Figure 5: Current (cumulative) knowledge domains in HRM-firm performance debate
Figure 6: The core of the currently dominant research domain
THE EMERGENCE OF HRM-FIRM PERFORMANCE DOMAINS IN TIME

The emergence of earliest HRM firm performance domains, that were cited throughout the 1985-2010 period, goes back to times before 1985, to as early as 1776. As can be observed in the previous section the development of the main domain of knowledge that researchers used as foundations for their contributions to the debate become so dominant that it overran other subtle developments within the main component and made them difficult to observe. Therefore, we introduced a secondary time stamp to examine domains that were cited in the 1985-2010 period by the time when they emerged and not when they were cited by HR scholars. The most interesting are comparisons between the landscapes using different time stamps and the analysis is of landscapes in more recent periods (e.g., 2000-2004 and 2005-2010). The latter shows which (if any) newly emerging knowledge domains (vis-à-vis classical ones) are informing the development of the debate.

Examining the 1985 to 1989 time period we identified the following research domains that originate in this time period but have not constituted a relevant knowledge domain for the debate in the time when they emerged but later. They include service quality, transaction costs, management buyouts, creativity & innovation and structural equation modeling. A similar observation can be made for the 1990-1994 and 1995-1999 periods, where one can identify additional domains such as organizational politics, power & influence, knowledge creation & innovation, and utility analysis, but also some several domains that have been identified in the previous section (e.g., organizational commitment, HRM in China, diversity, devolution to the line). The 2000-2004 time period brings three fresh perspectives that also have potential to revitalize the debate: knowledge transfer in MNCs, HRM and SME, and HR outsourcing.

The most recent period shows a different sight from what we have seen before. The cocitation space is much sparser and the height of the landscape is significantly lower in the last interval because, newly emerging domains need time to develop (Fernandez-Alles & Ramos-Rodriguez, 2009). Firstly, the dominant domain differs significantly from previous periods. The central part of the most recently emerging domain of knowledge of the debate includes Wright et al. [2005], Boselie et al. [2005], and Wall & Wood [2005]. While Wright et al. [2005] start introducing longitudinal perspectives into the HRM-firm performance debate; the remaining two papers are representatives of recent comprehensive literature reviews. A closer look at the dominant knowledge domains reversals that more than half of the items within the domain are either literature reviews or critical evaluations of the HRM-firm performance literature. Fortunately, there are also some novel approaches in the dominant domain such as social structure and relational approaches in HRM (Evans & Davis, [2005]; Kang, Morris & Snell, [2007]) and outside: institutional embeddedness and positive organizational behavior. However, the large share of review studies representing the most recent knowledge domain of the HRM-firm performance domains should sound some alarms.
DISCUSSION AND CONCLUSION

In this paper we considered an immense amount of debate relevant information consisting of close to 44,000 references which informed 743 primary articles discussing HRM-firm performance debate during the 1985-2010 period to identify the main knowledge domains of the debate and examine their pattern of development. We established that the HRM-firm performance debate has been strongly dominated by the main knowledge domain originating in strategic HRM, resource based view and high performance work practices and mostly progresses organically without strong influxes of exogenous knowledge. We also found that in the most recent period (2005-2010) the emergence of new domains of knowledge has been stagnating, which can be observed in the high proportion of review studies in the dominant knowledge domain and very limited exogenous knowledge in other domains. The course of the development of the cocitation landscape suggests that although there seems to be substantial activity at the margins of the cocitation landscape, the dominant domain quickly overrides or integrates new promising knowledge domains.

By adopting bibliometric and social network analysis we join several recent studies that used quantitative methods to strengthen their reflections on the debate. In comparison to Fernandez-Alles & Ramos-Rodriguez (2009) who also conducted a cocitation analysis we examine a far more comprehensive sample of literature and emphasize the chronological development of relevant knowledge domains. Our study can also be compared with the work of Lengnick-Hall et al. (2009) who adopted an evolutionary perspective. A major difference between their study and ours is that they examined evolution of the themes in the HRM field (primary papers), while we examined the pattern of development of knowledge domains that informed the development of the HRM-firm performance debate. Other logical links between our study and extant literature reviews can be found: 1) in the finding that HRM-performance debate has a very dominating main knowledge domain is consistent with observation that the field rests on consensus building instead of critical reflection, which prevents further/faster development (Janssens & Steyaert, 2009), 2) by observing that “international HRM” domain seems to be the strongest competition in informing HRM-firm performance debate (Schuler & Jackson, 2005).

Our analysis provides interesting cues for discussing the future of HRM-firm performance debate offering suggestions for how to revitalize the HRM-firm performance debate. It is highly unlikely that after being dominated by review studies the dominant domain will continue to develop from there. One way to revitalize the field is by introducing exogenous knowledge domains. Our analysis suggests that knowledge domains from the outside are brought to the HRM-performance debate by the members of their community. Apart from the starting days of the debate, HR scholars do not cite original knowledge from outside of the field but rather their colleagues from the field that brought it to their attention (maybe this is why Fleetwood & Hesketh (2008) claimed that importing theories from other fields was not very successful). We should also ask the question if we need to revitalize the debate at all or has it reached the point where HR researchers should let this debate stagnate and invest their energy in other important and relevant emerging debates (e.g., greening and HRM). This thinking could be facilitated by the fact that despite almost doubling the number of papers in 2010, there has not been significant progress in understanding the HRM-firm performance path. Finally, multilevel research (e.g., Snape & Redman, 2010) that has attracted a lot of interest and excitement among
HRM scholars and could be a suitable candidate for the next powerful domain of knowledge may still be outside the radar of co-citation analysis.

Our work is not without limitations. One limitation could be the number of time intervals as well as critical time points separating them that had to be determined subjectively from our experience and by considering extant literature reviews. By considering both time stamps we believe that this should be highly problematic. A stronger limitation is that some contributions that constitute HRM-performance debate do not fit the examined keywords and were thus excluded from analysis (even though qualitative analysis showed no big discrepancies between our sample of primary articles and samples of other review studies). Similarly, considerable amount of the debate has been going on outside the ISI World of science radar, since HRM-firm performance debate produced numerous edited books and handbooks, that may not be included in citation counts.
REFERENCES


Appendix: The domains of knowledge used in 1985-1994 (cumulative, primary paper time stamp)
Appendix: The domains of knowledge used in 1985-1999 (cumulative, primary paper time stamp)
Appendix: The domains of knowledge used in 1985-2004 (cumulative, primary paper time stamp)
Appendix: The domains of knowledge emerging in 1985-1989 (secondary paper time stamp)
Appendix: The domains of knowledge emerging in 1989-1994 (secondary paper time stamp)
Appendix: The domains of knowledge emerging in 1994-1999 (secondary paper time stamp)
Appendix: The domains of knowledge emerging in 2000-2004 (secondary paper time stamp)
Appendix: The domains of knowledge emerging in 2005-2010 (secondary paper time stamp)