Exploring Knowledge Domain and Evolution of Human Resource Management Research: A Bibliometric Analysis

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Abstract. The main purpose of this study is to reveal the current status and future development trends of the researches on human resource management (HRM) by adopting bibliometric techniques and information visualization technology. The research data are based on 5380 published documents which were retrieved from the three famous retrieval systems SCI-EXPANDED, SSCI and A&HCI with the topic search of “human resource management”. Based on CiteSpace and bibliometric techniques, we construct the document co-citation network to screen out the highly representative document and explore the popular topics on HRM. The research results of this study can undoubtedly provide help for future works on HRM.

1. Introduction

Human resource management (HRM) is one of the important activities for any organization. It has attracted widespread interest since the mid-1990s. At present, 478000 documents can be found when “human resource management” was used for searching on Google Scholar. Due to the rapid developments in HRM field, some scholars have made comprehensive review on this field.

The review conducted by Medsker et al. [1] is one of the most interesting structural evaluation models and it has received 389 and 827 citation counts from Web of Science and Google Scholar respectively. The selection criteria of indices are analyzed in detail, and the useful comments on improving the existing structural evaluation model are also presented in this paper. Wright and Boswell [2] paid attention on reviewing HRM researches integrated micro and macro problems. They argued that the macro HRM research could benefit from the studies on micro field. Conversely, micro HRM research would benefit from the systemic, macro level of HRM theories. Cunningham and Rowley [3] extensively reviewed the HRM problems in Chinese small and medium enterprises (SMEs). In this review, the full comparison and analysis are conducted from different characteristics and cultural background of western and Chinese SMEs. The authors also summarized the influence factors on SMEs from China. In addition, they suggested that the Chinese SEMs should consider both western practice and Chinese characteristics for better development. Marler and Fisher [4] reviewed 40 documents to examine the electronic HRM studies. They claimed that more empirical studies about electronic HRM and strategic HRM should be taken from a macro point of view. Hohenstein et al. [5] mainly made synthesized review on the HRM problems in supply chain management (SCM) area. Based on the 109 documents retrieved from the top journals in SCM area, they identified the critical issues, explored the research streams and forwarded the future research direction in HRM/SCM area. Recently, some other scholars have made review on HRM studies from different perspectives.

However, the above reviews on HRM studies are all based on a small section of the published documents. Furthermore, the selection criteria are not considered seriously for collecting the documents to review. In this paper, we intend to make a comprehensive review on HRM studies and it is different from existing reviews in the following two aspects. The first is that the range of the documents to be reviewed is much wider than existing ones. The documents to be reviewed are 5380 published articles which were retrieved from the three famous retrieval systems SCI-EXPANDED,
SSCI and A&HCI with the topic search of “human resource management”. The second is that the review results of this paper obtained are all based on the analysis of the data and they are objective and impartial while the existing ones are based on subject analysis on some representative articles. In other words, the research results of this paper are less affected by subjective thinking and they are more stable and persuasive.

2. Analysis Tools and Data

As one of the effective scientometric softwares, CiteSpace is mainly used for constructing and analyzing the co-citation network of references [6,7]. The required input information for CiteSpace is the representative documents in the specified research domain. Based on CiteSpace, the knowledge structure and development trend can be explored and presented in a visual way [8]. At present, the CiteSpace has been applied to many fields [9,10]. The existing researches indicated that CiteSpace has very strong practicability. In this paper, CiteSpace is used as an analytical tool to support this research.

The research data of this study are all downloaded from Web of Science. The keyword “human resource management” was used for topic search. During the search process, the time rang was not restricted and the three important index databases SCI-EXPANDED, SSCI and A&HCI are designated. In addition, the category of Web of Science was limited to management and business for reducing irrelevant literatures to be retrieved. In total of 5380 documents are retrieved based on search strategy described above.

3. Document Co-citation Network Analysis

By conducting the document co-citation network analysis, the most cited and high-impact documents in HRM area can be detected, based on which, the intellectual base of this area can be explored. In Figure 1, the nodes represented the cited documents and the lines connected different nodes represented the co-cited relationship. The bigger circle of the node indicates the larger number of citation. From Figure 1, we also found that the most cited document is Huselid [11].

![Figure 1. The document co-citation network in HRM area.](image)

Table 1 shows the top 5 papers according to their citation burst. The indicator of citation burst is used to measure degree of variability of citations in a short period of time [12]. We have reasons to believe that the papers with citation burst are important for the development of this area since they have received special attention from scholars.

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Table 1. Top 5 documents with citation burst.

<table>
<thead>
<tr>
<th>References</th>
<th>Strength</th>
<th>Begin</th>
<th>End</th>
<th>1970 - 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nishii et al. [16]</td>
<td>23.3475</td>
<td>2011</td>
<td>2015</td>
<td></td>
</tr>
</tbody>
</table>

In terms of the indicator of citation burst, Podsakoff et al. [13] and Guest [14] are standing in the front of the two positions and with the values of 36.2607 and 29.7129 respectively. And they are followed by Combs et al. [15], Nishii et al. [16] and Bowen and Ostroff [17]. Figure 2 illustrates the citation history of Podsakoff et al. [13] and it abruptly declined from 2012 to 2015.

Figure 2. The citation history of Podsakoff et al. [13].

One of the important functions of the CiteSpace is cluster analysis which is an effective quantitative analysis technique. Based on cluster analysis, the development path and knowledge structure of a given subject area can be detected effectively.

Figure 3. Co-citation cluster visualization.
Figure 3 clearly demonstrates the co-citation clusters in HRM research area. The names of the clusters are from their cited references. By using the CiteSpace, a total of 13 clusters are divided. The five largest clusters are represented in Table 2.

Table 2. Representation of the five largest clusters.

<table>
<thead>
<tr>
<th>Cluster ID</th>
<th>Size</th>
<th>Silhouette</th>
<th>Label (LLR)</th>
<th>Mean (Citee Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>88</td>
<td>0.739</td>
<td>Management-practices</td>
<td>1986</td>
</tr>
<tr>
<td>1</td>
<td>79</td>
<td>0.891</td>
<td>Management-practices</td>
<td>1996</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>1</td>
<td>Organizational characteristics</td>
<td>1986</td>
</tr>
<tr>
<td>3</td>
<td>28</td>
<td>0.912</td>
<td>Quantitative</td>
<td>1997</td>
</tr>
<tr>
<td>4</td>
<td>28</td>
<td>0.912</td>
<td>MIS Management</td>
<td>1976</td>
</tr>
</tbody>
</table>

The size of the cluster (#0) is 88 means there are 88 documents composed of this cluster and it was signed as Management-practices by LLR. The second largest cluster is cluster (#1) and it was also marked as Management-practices. Following are the cluster (#2), cluster (#3) and cluster (#4), they are labeled as Organizational characteristics, Quantitative and MIS Management respectively.

Generally speaking, the most popular research area about HRM is Management-practices and the research focus in HRM is becoming more widespread.

4. Conclusions

This paper has taken a bibliometric investigation on HRM by using the CiteSpace which is the effective information visualization software. Co-citation map has been constructed to explore the internal structure and evolution process of HRM research area. The research results of this study can undoubtedly provide help for future works on HRM. In the future, we will apply the methods to other fields such as decision making [18, 19], fuzzy set [20, 21, 22], natural hazards [23] and scientometrics [24, 25].

References


