

Research Overview of Job Crafting Based on Knowledge Graph

Hui Liu^{1,a}, Fang Jiarui^{1,b*}

¹International Business School Shaanxi Normal University Xi'an, Shaanxi

Abstract. Based on the relevant theories of social network research, this research uses CiteSpace software, taking the literature on job crafting research published in the web of science core corpus database 2000-2019 as the research object. Word analysis, cluster analysis and other analysis methods study and interpret 441 documents and data, draw a cooperative map of authors in the field of job crafting, knowledge maps of high-yielding countries, knowledge maps of co-word analysis, and cluster analysis knowledge map to reflect current status and development trends in the research field, so that future research can find a suitable research direction and promote the further research of job crafting.

1 Introduction

In the current knowledge economy, the external environment is developing rapidly, and the definition of job roles is more ambiguous than in the past[1]. As a result, organizations are increasingly relying on their employees to fill the gap between the existing job requirements and the work that the organization must complete to remain competitive. Job crafting is also valued by managers and researchers. Job crafting refers to the redesign of employees' work from the bottom up, emphasizing employees' initiative to change themselves[2]. Job crafting can meet the needs of people today who pay more attention to the meaning and purpose of work, allow employees to better display their talents and characteristics in work, connect their work, life and spiritual experience, and get a better job experience[3]. At present, there are few literature measurement analysis of knowledge graphs of existing research on Job crafting. Therefore, this article uses Citespace software to analyze the literature of current job crafting topics, summarize the existing results of the research, and analyze frontier hot spots and development trends, and provide references for future research under this theme.

2 Data Sources

The data in this article comes from the Web of Science Core Collection database, and the search topic is "job crafting" from 2000 to 2019. A total of 569 articles were obtained. Then we use citespace software to remove duplicate documents and get 441 articles.

3 Research Methods

This study adopts bibliometrics and visual analysis methods, and uses citespace literature analysis and

visualization software to sort out from various dimensions such as the country of publication, the cooperative network of researchers, and highly cited authors. The analysis reshapes the basic status of the research; through high cited Article cluster analysis, combined with keyword co-occurrence analysis, reflects the research hot topics of job crafting.

4 Research analysis

4.1 Geographical distribution

The statistical analysis of the literature on the topic of job crafting shows (Table 1 below) that the United States has the highest number of articles, ranking first with 129 articles; the Netherlands ranks second with 94 articles published; China and the United Kingdom rank third together. 37 articles were published. It can be seen that the research on job crafting in various countries is very hot. The top ten countries have more than 15 articles, which proves that job crafting has been paid attention by researchers in various cultural backgrounds.

Table1. National statistics

Num	Freq	Centrality	Author
1	129	0.42	USA
2	94	0.39	NETHERLANDS
3	37	0.1	CHINA
4	37	0.3	ENGLAND
5	30	0.13	AUSTRALIA
6	24	0.01	GERMANY
7	21	0.06	SOUTH AFRICA
8	20	0.08	ITALY
9	19	0.02	CANADA

^ae-mail: liuhui.ibs@snnu.edu.cn

^b*Corresponding author's e-mail: 2412645862@qq.com

10	15	0.02	BELGIUM
----	----	------	---------

4.2 Author cooperation analysis

For the distribution of scholars in the field of research job crafting, this article analyzes the author's cooperative network, and the results are shown in Figure 1. Under the theme of job crafting, the researchers formed two major research circles, one radiating outwards with Bakker as the center, and the other radiating outwards with Demerouti as the center. It can be seen that researchers have formed a relatively mature research circle in the field of job crafting. Scholars have formed a perfect and close cooperation network before, which provides a channel basis for the rapid transmission of information and knowledge in the field of job crafting. Scholars can conduct cross-disciplinary horizontal research and vertical in-depth research on the subject.



Fig1. Job crafting author cooperation network

4.3 Highly cited authors

Price first proposed the concept of "research frontiers", believing that the research frontiers in a certain field can be reflected in a large number of cited documents. The co-citation analysis of the data in this study results in the following Table 2. From the results, we can see that the five researchers of Wrzesniewski, TIMS, Bakker, Demerouti, and Petrou are ranked in the top five in literature citations, which is important in the field of research job crafting. After further searching, we can see that these five scholars are all authors who have made outstanding contributions to the theory of job crafting, which shows that the theoretical construction is the basis of all research in the field of job crafting. Scholars in future research At the same time, we should also pay attention to theoretical research.

Table2. Highly cited top 20 authors

Num	Author	Freq	Num	Author	Freq
1	259	Wrzesniewski A	2009	12	94
2	214	TIMS M	2011	13	89
3	184	Bakker AB	2011	14	85
4	162	Demerouti E	2011	15	79
5	148	Petrou P	2013	16	68
6	134	Berg JM	2010	17	61
7	114	Schaufeli WB	2011	18	60
8	113	Podsakoff PM	2012	19	59
9	111	Grant AM	2010	20	56
10	107	Leana C	2012	20	54

5 Research hotspot analysis

As the core and entry point of an article, keywords are a high degree of conciseness and summary of the research content of the article[4]. By sorting out the key word frequency changes of key documents in a certain field, the research hotspots in this field can be analyzed. Through the co-word analysis and cluster analysis of keywords in this field, the measurement of intermediary centrality can further reveal the research in this field and mutual transformation between hot spots[5].

5.1 Keyword co-occurrence

Through the keyword co-occurrence analysis of citespace software, we can draw research hotspots in the field of job crafting[6]. The results of keyword co-occurrence analysis are shown in the following table 3. The five keywords of performance (125 times), work engagement (104 times), jd-r model (103 times), burnout (78 times), engagement (73 times) are Research hotspots in the field of job crafting. It can be seen from the table that researchers' research on job crafting mainly focuses on the exploration of dependent variables and outcome variables before job crafting, that is, under what circumstances will employees perform job crafting and what the job crafting will bring.

Table3. Turnover intention high frequency keywords

Num	Keyword	Centrality	Freq
1	performance	125	0.03
2	work engagement	104	0
3	jd-r model	103	0.02
4	burnout	78	0.03
5	engagement	73	0.02
6	satisfaction	50	0.02
7	antecedent	32	0.08
8	motivation	31	0.12
9	job satisfaction	30	0.04
10	personality	27	0.02

11	stress	23	0.02
12	proactive behavior	19	0.08
13	commitment	19	0.08
14	proactive personality	18	0.03
15	transformational leadership	17	0.04
16	attitude	17	0.02
17	job performance	16	0.03
18	self efficacy	15	0.01
19	organizational strategy	14	0.05
20	proactivity	14	0.01

5.2 Cluster analysis

Coexistence means that two articles are co-cited by the same article. Frequent co-citations indicate that they have common related research topics[7]. Therefore, co-citation analysis can group related references according to the similarity of the content. Then, by analyzing the literature in each cluster [8], the core themes in the research area can be determined. The research firstly conducted a co-citation analysis of the 441 selected documents, and on this basis, the LLR clustering analysis of the citespace software was used to obtain the following results. It can be seen from the figure that under the theme of job crafting, it can be divided into eleven subcategories: motivation, discrete HR practice, job performance, engagement, future time perspective, servant leadership, JD-R theory, turnover intention scale, Over-qualification, meaningfulness, these are popular research factors in the field of job crafting. These eleven subsets can be further divided into two major categories, which are the basic theoretical research direction of job crafting and the influencing factors of job crafting.

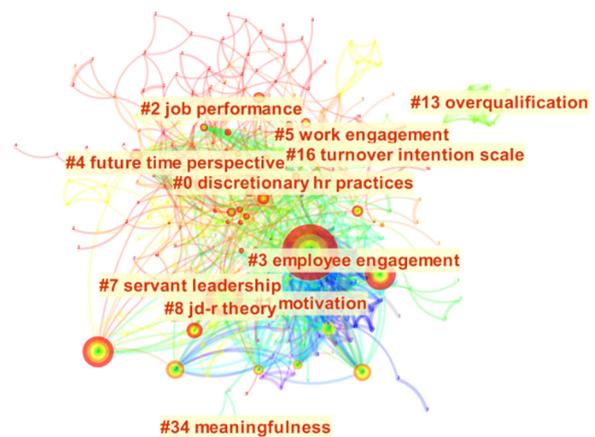


Fig2. Job crafting Cluster analysis

5.3 Trend analysis

The cumulative citation frequency of the literature can measure the cumulative influence of the literature over the years, but it cannot explain the influence of the literature in a certain period of time. The burst term refers to a variable value that fluctuates greatly in a certain period of time. The burst node represents a new trend of research. Therefore, this paper uses the emergence analysis knowledge graph co-cited in Figure 3 to show the research frontier in the field of job crafting. As shown in the figure, a total of 23 documents have been mutated, including two documents with a sudden intensity greater than 10, which are "The Job Demands-Resources model: state of the art" published by Bakker in 2007 and Leana in 2009. Published article "Work Process and Quality of Care in Early Childhood Education: The Role of Job Crafting", two articles respectively studied the basic theory of job crafting and the impact of job crafting in the education industry on teacher performance. It can be seen from this that the research on job crafting is further refined, and the research on job crafting is becoming more and more important under different professional backgrounds and cultural backgrounds.

Top 23 References with the Strongest Citation Bursts



Fig3. Turnover intention burst term map

Hospitality Management, 2018, 30(3): 1863-1881.

6 Research hotspot analysis

This article takes the literature in the field of job crafting in the Web of Science core collection database as the research object. Through literature measurement analysis, it shows the publication of literature in the past 20 years of job crafting, including country analysis, author analysis, keyword co-occurrence and Cluster analysis and draw the following conclusions.

First of all, the research on job crafting is relatively rich, and scholars from many countries such as the United States, the Netherlands, and China have conducted extensive research on this topic. At the same time, a relatively close and stable research circle has been formed, and different research circles have conducted in-depth research on job crafting. Secondly, we can see from the research hotspots that the research on job crafting has developed in depth with the needs of employees for work experience. Job crafting can improve the current work experience for employees. Finally, in the research of job crafting, we need to pay more attention to the role of the organization, that is, how the organization can intervene in the job crafting, so that the job crafting of employees can meet the expectations of the organization and play a greater value in the organization.

References

- Demerouti, E., A. B. Bakker and J. M. P. Gevers (2015). "Job crafting and extra-role behavior: the role of work engagement and flourishing." journal of vocational behavior **91**: 87-96.
- Wrzesniewski A, Dutton J E. Crafting a Job: Revisioning Employees as Active Crafters of Their Work[J]. Academy of Management Review, 2001, 26(2): 179-201.
- Kim H, Im J, Qu H, et al. Antecedent and consequences of job crafting: an organizational level approach[J]. International Journal of Contemporary

- Zhang Lu, Evergreen, Qi Ershi. A comparative study of China's technological innovation and management innovation in the perspective of bibliometrics [J]. Science and Technology Progress and Countermeasures, 2015 (6).
- R. Nicole, "Title of paper with only first word capitalized," J. Name Stand. Abbrev., in press.
- Chen Yue, Chen Chaomei, Liu Zeyuan, et al. Methodological function of CiteSpace knowledge graph[J]. Research in Science, 2015, 033(002):242-253.
- Small H. Co - citation in the scientific literature: A new measure of the relationship between two documents[J]. Journal of the Association for Information Science and Technology, 1973, 24(4): 265-269.
- Alan, Pilkington, and, et al. The evolution of the intellectual structure of operations management—1980–2006: A citation/co-citation analysis[J]. Journal of Operations Management, 2009.