

Knowledge-Based HRM: A Systematic Literature Review and Research Agenda

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Abstract: This study aims to conduct a systematic literature review on Knowledge-Based HRM (KBHRM) by exploring the development of research, implementation, key variables related to antecedents, mediation, moderation, and outcomes, as well as providing directions for future research. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The data analyzed are sourced from Scopus and Google Scholar databases. The findings indicate that empirical research on KBHRM began to develop in 2009, focusing on strategic human resource management. However, subsequent developments have been more influenced by studies in knowledge management. The most common KBHRM implementations include knowledge-based recruitment and selection, training and development, knowledge-based compensation, and performance appraisal. Further analysis reveals that none of the articles reviewed specifically addressed the determinants of KBHRM. However, there is evidence that KBHRM implementation positively impacts both individual and organizational levels. Regarding methodology, most existing studies use surveys as the primary approach, with a scarcity of alternative methods. Additionally, we identify that most KBHRM-related research adopts a single-level approach at the organizational level, while research at the individual level or using perceived approaches is still rare. There is also debate regarding conceptualizing KBHRM as a unidimensional or multidimensional construct. In the final section, this study provides directions for future research, including recommendations related to antecedents, research methods, levels of analysis, and new approaches to develop the KBHRM concept further.

Keywords: Knowledge-based, HRM, Review, KBHRM

1. Introduction

The industrial world must be prepared to face the era of a knowledge-based economy (Kim and Ko, 2014). The consequence of this change is the increased use of information and communication technology and uncertainty (Bhardwaj, 2019). Organizations that fail to anticipate these changes will lose their competitive edge to more competitive newcomer companies (Idrees et al., 2022). One key to addressing this issue is effective knowledge management, which allows knowledge to drive innovation (Gupta, 2022).

One perspective that emphasizes the importance of knowledge in organizations is the knowledge-based view (KBV). KBV highlights the significance of knowledge as an important organizational resource that must be managed properly. The company's expertise and information will provide long-term and sustainable competitive advantages (Grant, 1996).

Given the central role of knowledge in supporting organizational competitiveness, efforts are needed to manage knowledge effectively. One such effort is through knowledge-based HRM (KBHRM). This concept emphasizes that organizations need to modify traditional HRM practices to enhance the creation and sharing of knowledge (Al-Tal and Emeagwali, 2019). This is because conventional HRM practices are considered to have not comprehensively incorporated knowledge elements into their various activities (Sáenz, Aramburu, and Kianto, 2017). KBHRM stresses the importance of changing the paradigm in managing human resources from being primarily focused on personnel administration; employee needs fulfillment, and compliance with regulations to HRM practices oriented towards utilizing knowledge as a strategic asset to create added value for the organization (Hussinki, Kianto, and Adibe, 2018).

In the KBHRM concept, HRM activities are already integrated with knowledge creation, sharing, and utilization (Kianto, Sáenz, and Aramburu, 2017). Companies can reward (financial/non-financial) employees willing and able to engage in knowledge-sharing (Singh et al., 2021). Additionally, companies can modify performance evaluations based on employees' contributions to knowledge-sharing activities.

Research findings show a positive influence of KBHRM on knowledge-sharing activities and innovation performance (Kianto, Sáenz, and Aramburu, 2017; Ouerdian et al., 2019). These findings confirm the important role of KBHRM in organizations. However, since KBHRM is a relatively new concept (Ahmad et al., 2020; Kianto

et al., 2017), there are still limited references available for study, making further research necessary to strengthen the theoretical foundation and broaden the conceptual understanding of this topic. Based on this explanation, the researcher has formulated the following research question:

RQ1: How has KBHRM research developed?

RQ2: How are the key variables related to the antecedents, mediation, moderation, and outcomes of KBHRM mapped?

RQ3: What is the direction for future research on KBHRM?

The researcher developed a systematic literature review on KBHRM to answer these research questions, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. The results of this study are expected to serve as a reference for researchers who will further explore the topic of KBHRM.

2. Method

2.1 Research Approach

This study uses a systematic literature review (SLR) approach. The literature review process follows the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The PRISMA approach ensures that all aspects of this research are reported accurately and transparently, helping the author better explain what has been done, what has been found, and what will be done (Sarkis-Onofre et al., 2021). Referring to the PRISMA model, several review stages are carried out, namely: (1) data collection, (2) inclusion criteria, (3) data extraction, and (4) sample analysis.

2.2 Data Collection

The research databases for this study are sourced from Scopus and Google Scholar. Scopus is the most comprehensive database of high-reputation journals (Mongeon and Paul-Hus, 2016), and Google Scholar is considered easier to use, offers a higher quality system, and provides greater user satisfaction, with the capacity to index more publications and academic citations (Harzing and Alakangas, 2016). In the initial search process, the researcher used the following search terms and keywords separately, combined using the "OR" operator: "knowledge-based HRM," "knowledge-based HR," "knowledge-based human resource management," "knowledge-based HR Practices," "KBHRM."

2.3 Description of Inclusion Criteria

In the systematic literature review process, the researcher searched for articles from January 1, 2000, to December 31, 2024. The decision to search for articles in the year 2000 is based on the development of the KBHRM topic, which is derived from the research by Lepak and Snell (2002) on the configuration of HRM practices emphasizing the importance of knowledge-based work. The criteria used to select articles include: (1) the article is written in English, (2) the article has clear relevance to the KBHRM topic, and (3) the article has a clear research methodology.

2.4 Data Extraction Procedure

In the data extraction process, the researcher screened the articles to eliminate those that were not relevant, so only the articles that met the criteria for analysis were retained at the discussion stage. In the initial stage, 2,510 articles were identified, consisting of 32 articles from Scopus and 2,478 from Google Scholar. In the next stage, the researcher reduced the number of articles by 32 due to duplication between the two databases. In the third stage, the titles and abstracts were checked, where it was found that 2,364 articles did not have a strong enough relevance to the research topic, so those articles were deleted, leaving only 151 articles for further analysis. In the fourth stage, the researcher read all 151 articles, and after a thorough evaluation, 43 articles were selected that met the criteria for in-depth analysis. Articles not included in the study did not adequately explain the KBHRM concept or provide sufficient clarity regarding the research methodology.

2.5 Description of Sample Analysis

The researcher rechecked the articles to ensure that the articles to be discussed were of high quality and that they had explained the KBHRM concept relevantly, had a clear research methodology, and offered meaningful research contributions. These articles were reviewed based on the following factors: research

questions/objectives, the theoretical framework adopted, KBHRM implementation, the sample used, research design and methodology, and key findings.

3. Result

3.1 Theoretical Development of KBHRM

The first empirical research on KBHRM was published in 2009 by Lopez-Cabrales et al. These researchers explained the influence of KBHRM in creating valuable knowledge. Additionally, KBHRM was found to significantly impact innovation activities. This study emphasized that HRM practices significantly influence innovation activities when considering knowledge aspects.

Although empirical research on KBHRM was first recorded in 2009, integrating HRM practices with knowledge began to be advocated in the early 2000s. Lepak and Snell (2002) proposed a configuration of HRM practices that could encourage knowledge-based work. Knowledge-based work is characterized by high demands on individuals to possess adequate knowledge to achieve innovation. This thinking was supported by Minbaeva et al. (2009), who emphasized that HRM practices should be revised from an administrative orientation to a more strategic HRM approach to foster innovation. They promoted the integration of HRM practices with knowledge. One expected outcome of this integration was HRM practices capable of promoting organizational knowledge behavior.

Lopez-Cabrales et al. published the empirical results of KBHRM in 2009. This study used the research instrument developed by Lepak and Snell (2002). It provided initial empirical evidence of the development of the integration between HRM and knowledge. However, the findings of Lopez-Cabrales et al. (2009) did not clearly define KBHRM nor explain the dimensions of KBHRM practices. The development of KBHRM research from the early 2000s to 2009 was rooted in HRM practices integrated with knowledge.

In subsequent developments, KBHRM research evolved from the research topic of knowledge management (KM). Andreeva and Kianto (2012) explained that there are two approaches to understanding KM: (1) the knowledge process, which includes knowledge creation, sharing, acquisition, transfer, and application, and (2) knowledge practices, which involve a set of infrastructure, capabilities, or management activities that support and enhance the knowledge process. In this study, Andreeva and Kianto (2012) introduced the terminology "HRM practices for KM," or HRM practices that support knowledge management. Their research findings demonstrated that HRM practices supporting knowledge management positively and significantly impact competitiveness and financial performance. In this study, Andreeva and Kianto (2012) used only one KBHRM dimension: knowledge-based compensation.

In later developments, Inkinen et al. (2015) developed 10 KM practices that can drive innovation, including job supervision, knowledge protection, strategic knowledge and competency management (strategic KM), learning mechanisms, information technology (IT) practices, work organization, and four HRM practices: recruitment, training and development, performance evaluation, and compensation practices. An important contribution of this research was the development of four dimensions of HRM practices that can drive knowledge management within organizations, where previous studies had not divided these dimensions. The findings of Inkinen et al. (2015) showed that knowledge-based compensation has the most dominant influence in driving innovation compared to the other three practices.

Two years after the publication of the research by Inkinen et al. (2015), Kianto et al. (2017) published an article on KBHRM that defined KBHRM and explained its dimensions. Kianto et al. (2017) defined KBHRM as HRM practices modified to encourage organizational knowledge behavior. They described four dimensions of KBHRM: recruitment and selection, training and development, performance evaluation, and knowledge-based compensation. These dimensions adopt four HRM practices for knowledge described by Inkinen et al. (2015). The research findings showed that KBHRM has a significant impact on innovation performance. To date, the findings of Kianto et al. (2017) remain a primary reference in KBHRM research.

3.2 Key Variables of KBHRM Using the AMO Framework (Antecedents, Mediation, Moderation, and Outcomes)

3.2.1 Mediation and moderation

The literature review results indicate that no studies explain the antecedents of KBHRM. Still, several variables link KBHRM practices and outcomes at the individual and organizational levels. Sarfraz et al. (2023) demonstrated that absorptive capacity mediates the impact of KBHRM on the business innovation process.

Other studies showed that the three dimensions of intellectual capital, including human capital, relational capital, and structural capital, act as links between KBHRM practices and innovation performance (Sáenz, Aramburu, and Kianto, 2017; Al-Tal and Emeagwali, 2019; Gupta, 2022). Three dimensions of dynamic capabilities, including entrepreneurial orientation, marketing capability, and technological capability, have also been shown to significantly mediate the impact of KBHRM on innovative service offerings (Ahmad, Imm, Yuhanis Abdul Aziz et al., 2020). Other variables used as mediators in KBHRM research include learning climate (Ouerdian et al., 2019), logistics capabilities (Evangelista et al., 2023), social capital (Singh et al., 2021), and knowledge sharing (Le and Ha, 2023). Regarding moderating variables, we identified that knowledge-oriented organizational culture moderates the four KBHRM practices regarding the organization's absorptive capacity (Sarfranz et al., 2023).

3.3 Outcomes of KBHRM Practices

KBHRM is an HRM practice modified to encourage knowledge behavior within organizations. The research findings of Ouerdian et al. (2019) confirm the positive impact of KBHRM in promoting knowledge-sharing behaviors among workers in knowledge-intensive firms in Tunisia. KBHRM was also found to play a vital role in company innovation. At the individual level, an increase in employees' innovative behavior can be explained through HRM policies focused on knowledge (Noopur and Dhar, 2020; Singh et al., 2021). At the organizational level, KBHRM was found to improve the provision of more innovative services (Ahmad, Imm, Yuhanis Abdul Aziz et al., 2020) and product improvements (Sarfranz et al., 2023). KBHRM has been shown to enhance innovation performance (Kianto, Sáenz, and Aramburu, 2017; Al-Tal and Emeagwali, 2019; Le and Son, 2024). KBHRM encourages companies to be more open with their business partners in building innovation projects (Shahin, Chong, and Ojo, 2023). Finally, KBHRM can improve company performance in both financial and non-financial aspects. KBHRM helped SMEs in Malaysia achieve better international performance (Ahmad et al., 2022). Based on the explanation of the implementation, mediation, moderation, and outcomes of KBHRM, we have formulated the conceptual framework of KBHRM in Figure 1.

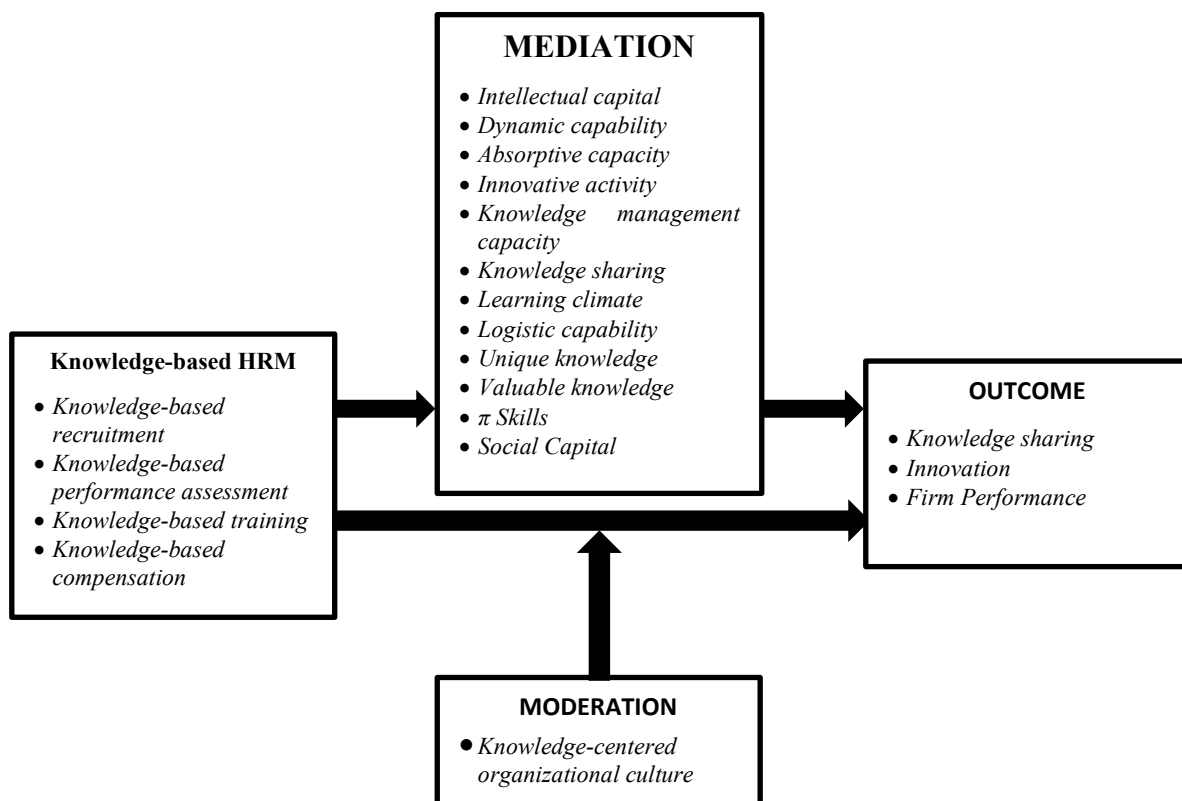


Figure 1: Conceptual framework on the dimensions, mediation, moderation, and outcomes of KBHRM practices

3.4 Theoretical Implications

The literature review on KBHRM provides information that can be used to develop future studies. First, based on the review of articles on KBHRM, there is no research discussing the antecedents of KBHRM. The research

results on KBHRM only explain the mediators, moderators, and outcomes of KBHRM at both the individual and organizational levels. Future research is expected to create a conceptual framework regarding the factors that influence the implementation of KBHRM and conduct empirical testing of that conceptual framework. Several variables, such as leadership style, organizational culture, and company orientation, can be considered as antecedents.

Second, the literature review results show that KBHRM is still limited to four dimensions: recruitment and selection, training and development, compensation, and knowledge-based performance appraisal. Future research is expected to develop other dimensions related to HRM activities that previous studies have not explored. Dimensions that could be developed as new components in KBHRM include knowledge-based career management or expanding the dimension of knowledge-based teamwork, which has been researched but not widely tested.

A further note regarding research methods: All the articles we reviewed used a quantitative approach with survey instruments. Future research could adopt a qualitative approach. Additionally, there has been no research using a longitudinal approach. Finally, previous studies focused on the micro level, such as innovation behavior, and the macro level, such as innovation and company performance. Future research is expected to conduct meso or group-level studies, such as the impact of KBHRM practices on team creativity. This issue becomes important as more work is done on a team or group basis.

3.5 Managerial Implications

The results of this study provide recommendations for management. First, management can consider implementing KBHRM by applying a reward system for employees who engage in knowledge-sharing processes within the organization. These rewards could be financial or recognition-based, such as praise. Management could also include knowledge-sharing activities as a performance appraisal indicator. Second, since the implementation of KBHRM is related to high levels of knowledge or expertise, the recruitment process should be designed to filter quality talent capable of adapting to this system.

3.6 Limitations

This study has several limitations. First, we only used data sources from Google Scholar and Scopus, excluding Web of Science due to access limitations to that database. However, most articles in Scopus are also generally available on the Web of Science. Second, we not only analyzed journal articles but also included conference proceedings. This was done due to the limited number of studies addressing the topic of KBHRM. However, the proceedings used in this research are those indexed in Scopus. Another limitation is that we only analyzed articles written in English, although high-quality articles may have been published in languages other than English.

4. Conclusion

Empirical research on KBHRM was first published by Lopez-Cabrales et al. (2009). This research evolved based on the stream of strategic HRM thought, although, in recent developments, KBHRM has been more dominated by the stream of knowledge management thinking. There are four dominant dimensions in KBHRM practices: knowledge-based recruitment and selection, knowledge-based training and development, knowledge-based compensation, and knowledge-based performance appraisal. The research findings also identify various mediating and moderating variables and the impact of KBHRM on knowledge sharing, innovation, and company performance.

Ethics Declaration: This study did not require ethical approval as it is based solely on a systematic review of existing literature and did not involve any human participants, personal data, or experimental procedures

Declaration of AI Use: This paper makes limited use of generative AI tools (e.g., ChatGPT by OpenAI) to support language refinement and clarity during the writing process. All intellectual content, conceptual development, data analysis, and argumentation were solely developed by the authors. The authors take full responsibility for the content and interpretation of the paper.

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