

Innovation-driven human resource management practices: A systematic review, integrative framework, and future research directions

Regina Lenart-Gansiniec¹ 
Barbara A. Sypniewska² 
Jin Chen³ 

Abstract

PURPOSE: It is increasingly emphasized that human resource management practices (HRMP), which refer to recruiting and selection, training and development, compensation and performance appraisal, are of great importance for creating innovation. However, the COVID-19 pandemic has shown that traditional HRMPs are already insufficient, which entails the need to rethink and reformulate them in the direction of more effective innovation while also allowing organizations to survive COVID-19-like crises. While there is an extensive literature on human resources management and innovation, there is still no consensus on innovation-driven HRMP. This study aims to identify and synthesize most significant and trustworthy research contributions of innovation-driven HRMP. In addition, to facilitate theory building in the field of HRMP, this article consolidates the existing knowledge into an integrative framework. This framework can be used by future researchers to identify gaps and ambiguities in the meaning of innovation-driven HRMP. **METHODOLOGY:** The article presents the results of a systematic literature review of 71 empirical research articles referring to innovation-driven HRMP from the Web of Science and Scopus databases. **FINDINGS:** The systematic literature review allowed us to identify innovation-driven HRMP, taking into account three levels of analysis: individual,

1 Regina Lenart-Gansiniec, Associate Professor, Faculty of Management and Social Communication, Jagiellonian University, Lojasiewicza 4, 30-348 Krakow, Poland, e-mail: regina.lenart-gansiniec@uj.edu.pl (ORCID ID: <https://orcid.org/0000-0002-9266-9638>), corresponding author.

2 Barbara A. Sypniewska, Assistant Professor, Faculty of Business, University of Economics and Human Sciences in Warsaw, Okopowa 59, 01-043 Warsaw, Poland, e-mail: b.sypniewska@vizja.pl (ORCID ID: <https://orcid.org/0000-0001-8846-1183>).

3 Jin Chen, Professor, Department of Innovation, Entrepreneurship and Strategy, School of Economics and Management, Tsinghua University, Beijing 100084, Beijing, China, e-mail: chenjin@sem.tsinghua.edu.cn (ORCID ID: <https://orcid.org/0000-0002-0156-9237>).

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group and organizational, with the latter level of analysis being dominant in previous publications. Recognition of innovation-driven HRMP, taking into account the levels in question, is included in an integrative framework, which is the theoretical basis for guiding future research. Our results confirmed the growing trend in the number of publications on the subject since 2010. Most researchers used a quantitative approach. Based on the first author's affiliation, authors from Great Britain contributed the largest number of publications. Articles are published in various journals, but mainly in those on human resources management. The research took into account a variety of organizational contexts, predominantly in dynamic and complex industries. Our findings show that the current state of research on innovation-driven HRMP confirms the need for further research in this area. Based on this, we provided thematic gaps and potential questions for future research divided into three levels of innovation-driven HRMP. **IMPLICATIONS:** Our systematic literature review allowed us to propose implications for future researchers planning to conduct research in the field of innovation-driven HRMP. **ORIGINALITY AND VALUE:** Our systematic literature review focuses on identifying innovation-driven HRMP along with determining the current state of knowledge and future research directions in this area. In addition, we developed an integrative framework that aims at organizing existing literature but also at identifying promising future research directions into innovation-driven HRMP. **Keywords:** human resources management, human resources management practices, innovation, innovation-driven, integrative framework, systematic literature review, thematic gaps, emerging research directions

INTRODUCTION

Innovations are perceived as a driving force for the development and growth of the organization (Olavarrieta & Villena, 2014; Vila et al., 2014). Innovations are a key driver of creating and maintaining a competitive advantage, performance, and delivering business value over the long term (Chen et al., 2019). There is a lot of evidence that an organization can speed up the process of creating an organization, that it should mobilize its employees and take care of their well-being (Bieńkowska et al., 2022). It is emphasized that "people, not products, are an innovative company's major assets" (Gupta & Singhal, 1993, p. 41). It is not surprising that human resource management (HRM) is becoming increasingly important in innovation (Seeck & Diehl, 2017). HRM refers to "the management of work and people towards desired ends, and is a fundamental activity in any organization in which human beings are employed" (Boxall et al., 2007, p. 1).

Recently, the discussion on the importance of HRM for innovation has been intensified (Easa & Orra, 2021), emphasizing the role of human resources management practices (HRMP) understood as "recruiting a selection, training and development, performance evaluation and compensation" (Kianto et

al., 2017, p. 12). Despite the importance of HRMP for innovation, there is little research in this area (Olavarrieta & Villena, 2014). So far, considerations have focused on high-performance work practices, particularly motivating and engaging employees to create innovations, the importance of employing staff, and their mobility and composition (Ng & Dastmalchian, 2011) for creating innovation. Moreover, innovation-driven HRMP is considered a black hole (Seeck & Diehl, 2017) and one of the least explained organizational phenomena, and the need to support future research is postulated (Easa & Orra, 2021; Jotaba et al., 2022).

Apart from the above, one has to remember that although systematic reviews and meta-analyses of innovation-driven HRMP are published (Easa & Orra, 2021; Jotaba et al., 2022), they have limitations in terms of knowledge consolidation and integration. For example, Seeck and Diehl (2017) reviewed the empirical evidence on the impact of human resources management practices on innovation that was published between 1990 and 2015. However, the researchers focused on systematizing previous empirical research results, but did not propose future research directions. In turn, Koster's review (2019) concerned innovative HRM. Its limitation referred to the literature on the subject that was selected on the basis of only one database, such as the Web of Science. In addition, it was a traditional literature review that lacked accuracy and verifiability (Tranfield et al., 2003). In turn, Easa and Orra (2021) reviewed 31 empirical publications published from January 2003 to December 2018 in 18 highly rated journals with a documented history and impact on human resources management research using the following databases: Academy of Management, Sage, Wiley, Taylor and Francis, Science Direct, Oxford Academic and Emerald. The authors focused on checking how human resources management and innovation are related to each other. In turn, using bibliometric analysis, Jotaba et al. (2022) determined the current state of knowledge and research trends in HRM adopting innovative practices. At the same time, the researchers used only one Web of Science database, while the searched keywords were "innovation" and "human resources management." That narrowing resulted in omitting potentially significant publications in other databases and involving HRMP.

Therefore, an additional argument for providing further findings in the innovation-driven HRMP seems evident. The COVID-19 pandemic unleashed and intensified new and enormous challenges for management in terms of the need to go beyond traditional HRM practices (Ngoc Su et al., 2021) and redefining trends in those practices (Przytuła et al., 2020) towards more creativity, flexibility, and agility (Hamouche, 2021). Which is more "due to the COVID-19 pandemic and its destructive effects on communities and limited organizational resources, sustainable human resource management

with the long-term development of human resources from consumption to development is important and the concept of human resource management, organizational value, and organizational strategies should be reviewed with a focus on the health of employee and workplace, employees' participation, collaboration and development, flexibility, compliance with labor regulations, justice and equality" (Azizi et al., 2021, p. 7).

Overall, while reviews of research on innovation-driven HRMP are available, a complete review of previous research in this area is still insufficient. In addition, the COVID-19 pandemic intensified the need for organizations to look for new ways to maintain business continuity and create innovations based on HRMP (Bieńkowska et al., 2022). In response to the identified gaps, this literature review offers an extended and comprehensive summary of existing knowledge in the field of innovation-driven HRMP. The aim of the current research is to identify and synthesize the most significant and trustworthy research contributions of innovation-driven HRMP. "Drivers" in this article are understood as antecedents, outcomes, and other mechanisms like moderators and mediators (Dani & Gandhi, 2022). We focus on answering the following three questions:

RQ1. What are innovation-driven HRMP?

RQ2. What is the current state of research on innovation-driven HRMP?

RQ3. What are the emerging research directions on innovation-driven HRMP?

This systematic review of the literature differs from the previous ones in several respects, which at the same time contribute to the existing literature in the field of HRM and innovations. Firstly, the literature on innovation-driven HRMP was collected through the two credible databases, Web of Science and Scopus, based on comprehensive journal coverage for the business field (Kumpulainen & Seppänen, 2022). This made it possible to organize existing knowledge and identify cognitive gaps in the field of innovation-driven HRMP. Secondly, the review of the literature allowed for obtaining a deductively developed integrative framework that synthesizes and organizes existing knowledge about innovation-driven HRMP. In particular, the framework integrates the identified innovation-driven HRMP into a comprehensive approach that takes into account the link between HRMP and innovation, antecedents, mediators, moderators, and outcomes in this relationship. In addition, this framework will prove useful in identifying research directions into innovation-driven human resource management practices. Taken together, our findings provide recommendations and pathways for future

research to gain a more comprehensive understanding of innovation-oriented human resource management practices.

The remaining part of the article is organized as follows. The second section presents the theoretical background. The third section describes steps taken to perform a systematic review of the literature. Section four presents the results of our review. Section five focuses on discussing the results. The last section in this article contains final considerations and directions for future research.

THEORETICAL BACKGROUND

Innovations have been the subject of lively debate in the academic literature for several years (Chen et al., 2019; Volberda et al., 2013). Scholars have studied innovation from different perspectives, resulting in multiple definitions (Chen et al., 2019). However, despite this, there is some confusion in terms of conceptualization. In particular, there are attempts to combine innovation with creativity (Tang, 2017). In this approach, creativity is a source of innovation, which in practice means that the organization's use of the ideas and suggestions of its employees can contribute to generating new ideas or improving existing ones.

The innovation findings so far focus mainly on drivers of innovation. It is emphasized that creating innovation requires various factors. In particular, attention was paid to, *inter alia*, investments in research and development, government institution involvement, social capital, intra-organizational networking of employees, civic culture, interpersonal trustworthiness, control, organizational ethical code, organizational support, co-decision and risk-taking by employees, employee motivation, information and communication technologies (Kraśnicka et al., 2016). It is increasingly emphasized in the literature that drivers of innovation should be considered from the micro perspective (Weiss et al., 2022). Moreover, it is stressed that human resources management significantly contributes not only to the development of skills, motivation, commitment, employee satisfaction, compatibility of employees, organizational identification, civic behavior, organizational justice, a decrease in employee turnover, and an increase in organizational flexibility and performance, but also to creating innovations (Weiss et al., 2022).

Recent findings also point to the importance of HRMP for innovation (Ferrarini & Curzi, 2022). Generally, HRMP focus on four strategic organizational activities such as (1) recruiting and selection, (2) training and development, (3) compensation, and (4) performance appraisal (Kianto et al., 2017):

- recruitment refers to the act of finding a pool of candidates who are willing and able to be hired by an organization. Selection, on the other hand, is the process of the organization selecting the most suitable and qualified candidate from a group of candidates for a specific position;
- training refers to a systematic and planned instructional activity that promotes employee learning towards improving their knowledge, skills and competences. Development, on the other hand, is related to activities related to the provision of training or other forms of education that can contribute to stimulating, growing or realizing the potential of a given person;
- compensation refers to the remuneration given by an organization to a person in return for their work;
- performance appraisal refers to the systematic evaluation of employee performance and performance.

Despite the intensity of research on the importance of HRMP for innovation (Easa & Orra, 2021; Jotabá et al., 2022), it is still postulated to provide further findings in this regard, in particular in the context of new HRMPs, antecedents, moderators and mediators relevant to innovation-driven HRMP (Seeck & Diehl, 2017). This is important because the creation of innovations is related to various decisions made by the management staff, which in particular should be directed at the “human side of innovation management” (Weiss et al., 2022, p. 238), i.e., all activities which could stimulate employees to search for and generate ideas for improving existing or generating new products and services.

METHODOLOGY

In order to identify the current state of knowledge and future research direction, we decided to use the methodology of a systematic literature review (Tranfield et al., 2003). The choice of this methodology was dictated by the fact that it offers robust tools to be used while identifying, selecting, critically evaluating and synthesizing the existing literature in a rigorous, transparent, and repeatable way. Furthermore, a systematic literature review provides opportunities to draw robust conclusions about what is known and what is unknown in a given research area. Moreover, the transparency of the procedure allows for reducing bias and potential errors resulting from the subjectivity of researchers and it enables comprehensive, objective identification and evaluation of a variety of literature. It also allows for evolving knowledge on a given topic through the analysis, collecting and

synthesizing information, and determining research directions. In addition, a systematic literature review is recommended when researchers want to provide a framework that integrates existing knowledge in a given field. Finally, systematic literature reviews are not only recommended (Kraus et al., 2022), but also used in the latest research published in leading and significant management journals in various research areas, also related to innovation and human resources management (Belte, 2022).

Our systematic literature review consists of the following three steps: (1) formulation of research questions and development of the review protocol, (2) conducting a systematic literature review through the identification of the most significant and trustworthy research contributions of innovation-driven HRMP, assessment of their significance, analysis and synthesis, and (3) reporting of results (Kraus et al., 2022).

Search strategy

According to the methodology of a systematic literature review, it is necessary to develop clear research questions at the beginning. During their development, we focused on existing literature reviews on innovation-driven human resources management practices (Easa & Orra, 2021; Jotaba et al., 2022; Seeck & Diehl, 2017). Therefore, the purpose of our systematic literature review is to identify and synthesize the most significant and trustworthy research contributions of innovation-driven HRMP. The approach we adopted resulted from the desire to complement the findings of other researchers, not to copy them. The questions were formulated through a dialogue between the authors and recognition of the current state of knowledge in the field of HRMP. Based on this process, we proposed three research questions (Table 1).

Table 1. Research questions of a systematic literature review

Research question	Justification
RQ1. What are innovation-driven HRMP?	Determining the most common innovation-driven HRMP in the literature
RQ2. What is the current state of research on innovation-driven HRMP?	Determining the current state of knowledge on innovation-driven HRMP. Understanding of conceptual and methodological considerations. The main findings from the literature were collected using an integration framework.
RQ3. What are the emerging research directions on innovation-driven HRMP?	Establishing recommendations for future researchers in the field of innovation-driven HRMP

Selection of studies

In accordance with the systematic literature review procedure, inclusion criteria that allowed us to determine and identify all the potentially relevant publications to answer our research questions were proposed. We considered the works of Easa and Orra (2021), Jotaba et al. (2022), Seek and Diehl (2017), and established search boundaries, search strings, and timeframes for searches. Firstly, within the scope of the search, we chose two international electronic databases, Web of Science and Scopus. The choice of those databases was dictated by their robustness, extensiveness, and convenient interface (Singh et al., 2021). Google Scholar was not used for searches. This approach resulted from the fact that “Google Scholar does not support many of the features required for systematic searches (...) Google Scholar’s coverage and recall is an inadequate reason to use it as principal search system in systematic searches” (Gusenbauer & Haddaway, 2020, p. 211). Secondly, with regard to search strings, we assumed that our searches would be aimed at full-text, English-language, peer-reviewed empirical articles to confirm methodological rigor, avoid double counting of existing literature reviews, and maintain the level of internationalization. In addition, English is the academic *lingua franca* and the language in which 75-90% of publications in the field of management science are published (Rhaiem & Amara, 2021). Thirdly, in order to capture all the literature, we did not limit our search to a specific period, while the stopping point of our review is November 2022.

In order to identify the most relevant publications for our research questions, we imposed several exclusion criteria. Firstly, existing literature reviews, books, book chapters, conference proceedings, reviews, and editorial introductions were excluded. This approach results from the recommended practices used in systematic literature reviews (Klang et al., 2014). Secondly, we excluded articles that were not available in English, which resulted from the desire to create shared scholarly knowledge and existing practices in systematic literature reviews (Kraus et al., 2022). Thirdly, we limited our searches to the following category “business, economy, and management,” which results from the challenges of researchers to supplement knowledge in the field of innovation-driven human resource management practices in the context of management science. Fourthly, we eliminated duplicate articles in individual databases.

Before starting the search, a search strategy was developed to identify the maximum number of relevant publications important to the research questions. Firstly, we formulated keywords related to the topic. While selecting them, the need to strike a balance between the degree of exhaustion and

precision was taken into account. Then, like Easa and Orra (2021), Jotaba et al. (2022), Seeck and Diehl (2017), we assumed that the search would cover the “terms” fields. We assumed the following search string using the “AND” and “OR” search operators:

TITLE-ABS-KEY ((“innovation” AND “human resource management practices”). An initial search based on inclusion criteria and taking into account this search string resulted in 3,361 hits (Web of Science – 184; 3,177 – Scopus).

In accordance with the methodology of a systematic literature review (Tranfield et al., 2003) we imposed the adopted inclusion and exclusion criteria on the obtained initial search results. This way, we excluded 2,477 articles. Then we proceeded to evaluate the titles and abstracts of the collected articles. This step was carried out independently by two independent researchers in order to mitigate the potential effects of researcher subjectivity. After the analyses, the researchers met to compare the search results and reconcile any differences or concerns (Papaioannou et al., 2010). The goal here was to identify all possible studies that could shed light on the topic under discussion. That way, we excluded 1,765 articles that did not concern the issues of innovation-driven HRMP. We then identified duplicates, which allowed us to exclude a further 68 articles. Finally, in order to identify all possible relevant studies that were strictly related to the research topic, we read the full text of all the collected articles. On this basis, we excluded 3 concept articles and 2 articles that were not published in English. Only a thorough reading showed that they were of a theoretical nature and were published in Spanish. This resulted in 71 articles that met all the inclusion criteria. In addition, we performed a manual literature search using the Google Scholar search engine to ensure that we did not exclude any relevant articles. This step did not result in the delivery of additional articles. Figure 1 illustrates the detailed results of the subsequent selection steps.

Data extraction is designed to identify the relevant information that needs to be extracted from each article to answer research questions. At this stage, the obtained articles were distributed between two researchers. Each of them separately performed a manual analysis of the content using an extraction form taking into account the following points: authors’ data, year of publication, country, journal, keywords, purpose, research methods, levels of analysis, subject areas, key findings, and recommendations. This allowed us to establish the general nature of the existing literature and to synthesize the most significant and trustworthy research contributions of innovation-driven HRMP.

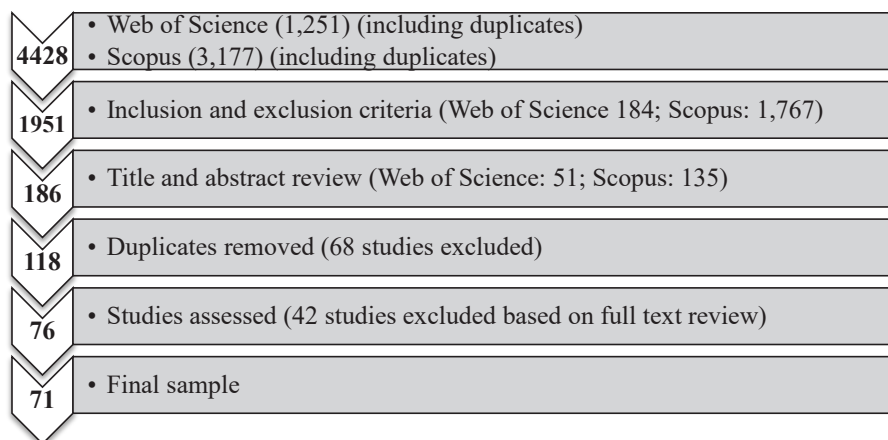


Figure 1. Literature search strategy

Data analysis

The analysis of the collected material was carried out in two ways. In order to reveal the structure and dynamics of a specific issue in the literature and to determine the frequency of occurrence of specific features in publications, one of the bibliometric techniques, i.e., frequency analysis, is used. Bibliometric techniques, like a frequency analysis, are one of the most commonly used methods of measuring the occurrence of specific features (Zupic & Čater, 2015). In order to identify recurring themes in the literature, a thematic analysis with deductive coding was carried out. The topic was understood as HRMP involving (1) recruiting and selection, (2) training and development, (3) compensation, and (4) performance appraisal (Kianto et al., 2017). With regard to deductive coding, all 71 identified publications were analyzed and grouped according to the innovation-driven HRMPs indicated in the literature. Thematic analysis is a method often used to analyze qualitative data and, due to structured approaches to data processing, it allows you to summarize key features of a large data set (Braun & Clarke, 2006; Nowell et al., 2017).

FINDINGS

This section presents the systematic review's results, which are divided into two parts. Firstly, the findings of the frequency analysis were presented particularly including the general characteristics of the selected studies (publication trend, geographic localization of authorship, place of publication,

research methods, and industry concentration). Then, the results of the theme analysis related to the current state of knowledge about innovation-driven HRMP were presented. On this basis, an integrative framework was developed, the purpose of which is to synthesize and organize existing knowledge about innovation-driven human resource management practices.

Frequency analysis

The time horizon of the research

As shown in Figure 2, the number of HRMP publications is relatively small. It is worth noting that the first publications in this field began to appear in 2010. We noticed that the number of articles in this area has been increasing since 2015. In 2021, however, we see a slight decrease in publication (10 articles). Although research on innovation-driven human resources management practices has been carried out for 12 years, the issues are still up to date. As the results show, the output is constantly growing exponentially: in 2010 – 1 publication, and 10 years later – 16 (2020). It can be considered that the analyzed area of research is at the so-called “maturing” stage, which means that researchers supplemented their knowledge with new contexts and levels of analysis, but it is still important to conduct further research in this area.

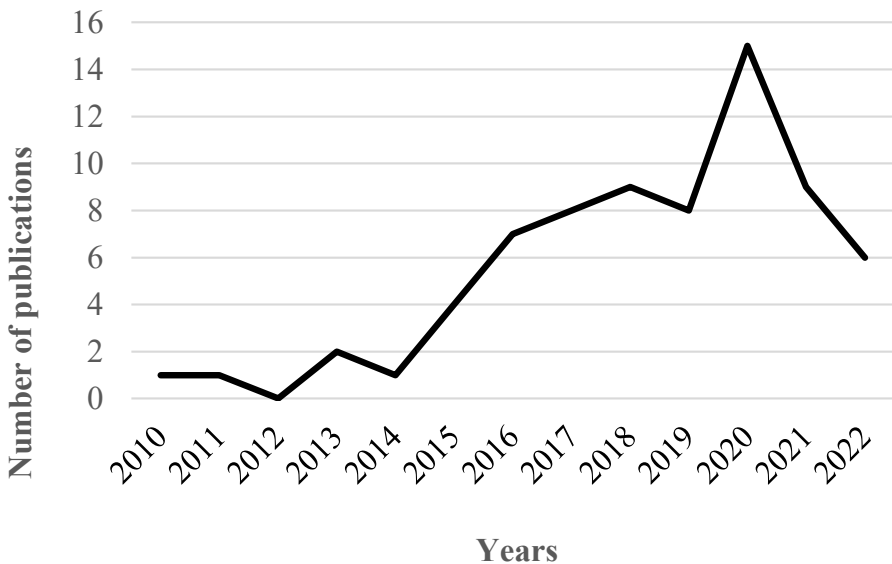


Figure 2. Publication trend

Place of publication

Our results show that the articles were published in different journals. In total, the articles were published in 55 different journals. However, only in five cases were 2 to 6 articles published. Table 2 presents a list of journals in which more than 1 article was published.

Table 2. List of journals in which more than 1 article was published

No.	Journal name	Number of articles	Publication date	Impact Factor	H-index
1.	Employee Relations: The International Journal	6	2014, 2015, 2018, 2020	2.688	57
2.	Personnel Review	3	2017	3.228	77
3.	Strategic Management Journal	3	2017, 2018, 2019	8.641	300
4.	Problems and Perspectives in Management	3	2016, 2019, 2021	b/d	23
5.	Human Resource Management, Advancing Human Resource Research and Practice	2	2016, 2019	6.235	100

Place of publication analysis shows that the vast majority of them are published in high-ranking journals. More precisely, 66.19% (47 articles) of the analyzed publications were published in leading journals placed in the following rankings: Academic Journal Quality Guide (with the highest rating of 4*, a journal of the world's elite) and the Australian Business Deans Council (with the highest rating of A*, the best or a leading journal in its field). This shows that the issues of innovation-driven HRMP are not only important but also significant in the international scientific circulation.

As a result of the analysis, the five most frequently cited articles were selected (Table 3), with the most frequently cited article on the issues of innovation-driven human resource management practices being "Knowledge-based human resource management practices, intellectual capital and innovation" (Kianto et al., 2017) published in the Journal of Business Research. The journal has an Impact Factor of 11.06 and an H-index of 217. Considering the citation measurement of this publication, it may be included in the group of seminal studies, i.e., those that are repeatedly quoted by other authors and that have some impact on the issues of innovation-driven HRMP. It is worth noting that other publications also have an impressive citation measurement.

Table 3. Five most cited articles

No.	Article title	Author/ authors	Publication year	Journal name	Citation measurement
1.	Knowledge-based human resource management practices, intellectual capital and innovation	Kianto et al.	2017	Journal of Business Research	632
2.	Promoting innovation in hospitality companies through human resource management practices	Chang et al.	2011	International Journal of Hospitality Management,	400
3.	Improving innovation performance through knowledge acquisition: the moderating role of employee retention and human resource management practices	Papa et al.	2018	Journal of Knowledge Management	330
4.	How do high performance work systems influence organizational innovation in professional service firms?	Fu et al.	2015	Employee Relations: The International Journal	237
5.	Human resource management practices and organizational innovation: An empirical study in Malaysia	Ling & Nasurdin	2010	The Journal of Applied Business Research	199

Geographic localization of authorship

The results of our review show that 214 authors come from 71 university organizations from 71 countries. Based on the first author's affiliation, authors from United Kingdom contributed the largest number of publications. There are also significant contributions from Spain and the Netherlands (Figure 3). Despite the large number of countries, 11.27% of articles were published by a single author or team from one country. On the other hand, 26.76% of the publications were written by two authors, and 61.97% from three or more countries. Our finding shows that only a fraction of research on innovation-driven human resource management practices includes research conducted by international teams (15.49%). When analyzing the regions the authors come from, taking into account their affiliations, most of them come from Europe (65.11%), then Asia (16.28%), Australia (6.98%), North America (4.65%), South America (4.65%) and Africa (2.33%).

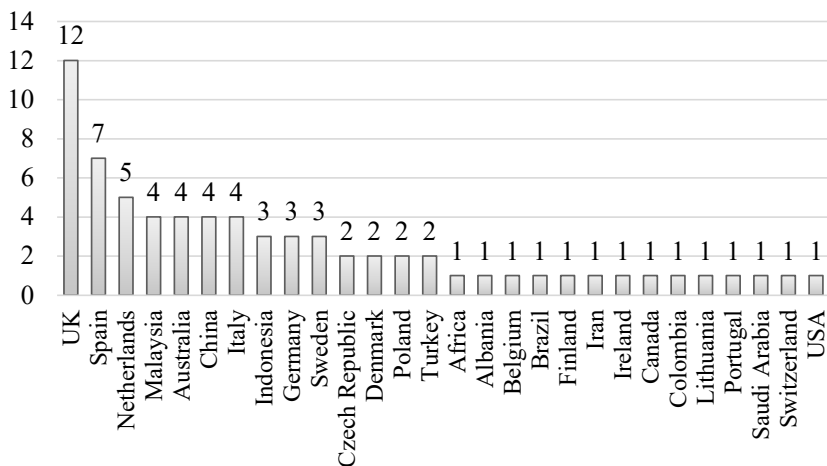


Figure 3. Geographic localization of authorship

Industry concentration

Articles in this literature review indicate that innovation-driven HRMPs are explored across industries. In general, this was empirically analyzed in several studies but limited in terms of research contexts. This issue was examined in the context of dynamic and complex industries, including manufacturing (Rajiani et al., 2016; Para-Gonzalez et al., 2018), automotive (Mazurchenko & Zelenka, 2022), start-ups (Jebali & Meschitti, 2020), IT (Mauro et al., 2020). In addition, the research was conducted in small and medium-sized enterprises (Llinas & Abad, 2020; Parwita et al., 2021; Sun & Mamman, 2022). Few studies were focused on catering (Chen et al., 2015) and hospitality (Chang et al., 2011). Interestingly, one of the articles covered the agricultural sector (Litwin, 2013).

Research methods

The researchers used a variety of methodological approaches (Table 4). The quantitative methodology was most often used (59.15%), followed by the qualitative methodology (38.03%). In relation to quantitative techniques, they involved survey questionnaires (57.75%), and in the case of qualitative techniques – single case studies (25.35%). With regard to data analysis techniques, regression analysis was used most frequently (35 publications, 49.30%). Other techniques included structural equation modeling (24 times, 33.80%) and correlation analysis (12 times, 16.90%). In addition, researchers also used a mixed methodology (2.82%). In particular, the

latter is recommended for research on innovation-driven human resource management practices (Becker & Matthews, 2005). The combination of qualitative and quantitative methods can contribute to a better understanding of the analyzed issues (Fetters & Molina-Azorin, 2017).

Table 4. Methodologies used in the analyzed articles

Method	Number of articles
Quantitative research methods	42
Survey questionnaire	41
Experiment	1
Qualitative research methods	27
Case study	18
Interviews	9
Mixed studies	2

Theme analysis

The theme analysis carried out in this literature review allowed us to identify innovation-driven HRMP on the following three levels: individual, group and organizational. The individual level includes employees, their commitment or satisfaction, and the act of giving meaning to individual activities, through innovation-driven character. At the group level, cooperation and other activities focused on the synergy effect, allowing for the creation of a new quality, are gaining importance. Finally, actions aimed at creating a common vision and ensuring strategic leadership are indicated at the organizational level. Most of the articles analyzed innovation-driven human resources management at the organizational level (61.97%, 44 publications), then at the individual level (22.54%, 16 publications). In turn, among the sample, the least attention was paid to innovation-driven HRMP at the team level (15.49%, 11 publications).

Innovation-driven HRMP: Individual level

The literature emphasizes that practices that are oriented at stimulating employees, maximizing the use of their potential and their knowledge and skills are of great importance for innovation (Castellacci et al., 2018). In particular, attention is paid to various training programs that strengthen employees' capabilities, which are important for creating organizational innovations (Lu et al., 2015). This means digital competence (Mazurchenko & Zelenka, 2022) that refers to knowledge, skills and attitudes towards the use of digital tools

and solutions by employees. For example, Mazurchenko and Zelenka (2022), analyzing organizations from the automotive industry in the Czech Republic, concluded that the widespread use of digital technologies could definitely contribute to enhancing digital competences of employees, and thus to generating the potential for innovation. Additionally, researchers find that employee retention increases the organization's ability to innovate (Papa et al., 2020). On the other hand, Ling and Nasurdin (2010) found that employee training increased the ability to create innovations. In addition, they found out that employee performance appraisal positively impacted administrative innovation, as it could serve as a guide to shaping and motivating employees to maximize their efforts towards achieving organizational goals. Contrary to expectations, the researchers concluded that the reward system had a negative impact on product innovation.

Innovation-driven HRMP: Group level

In the case of the group level, the literature indicates the importance of innovation in creating teams in the organization. Although the least explored, a stream of research focuses on the performance of multifunctional teams (Andrés et al., 2015; Deichmann & Jensen, 2018), skunkworks (Oltra et al., 2022), team dynamics (Belitski & Herzlg, 2018), their agility (Gras et al., 2020), self-management (Khanagha et al., 2021), diversity (Zouaghia et al., 2020), intergenerational teams (Říhová et al., 2019) and their importance for creating innovation. For example, Andrés et al. (2015) state that self-management teams as non-hierarchical groups of people with different and complementary experiences and knowledge are important for creating innovations. However, Oltra et al. (2022) think that skunkworks is creative and effective. Moreover, the covert activities of skunkworkers can create a new organizational context that emphasizes creativity and problem solving. In turn, Jones et al. (2021), based on research in the pharmaceutical industry, conclude that the cultural diversity of employee teams positively impacts innovation teams. To create innovations, cultural awareness of team members is important. The importance of self-managed work teams was also pointed out by Khanagha et al. (2021). They found that the stimulation of innovation by organizations required reorganization around self-managed work teams with diverse skills and knowledge with collective autonomy and responsibility for planning, managing, and performing tasks in an interdependent manner. In turn, Říhová et al. (2019), state that cross-generational creative teams increase the innovation potential of organizations. Different conclusions were reached by Zouaghia et al. (2020). After conducting their research in organizations with research and development departments in their

structures, they concluded that too much diversity of teams could reduce innovation and had a negative impact on the quality of decision-making and member involvement.

Innovation-driven HRMP: Organizational level

The literature indicates that the acquisition and employment of talented employees can contribute to the creation of an environment conducive to the creation of innovations of Hayton (2005). In the same way, several scholars argued that the selection of the right candidate for a specific position should be linked to innovation (Diaz et al., 2015). This is in line with several authors' findings that effective selection increased an organization's chance of creating innovation (Jiang et al., 2012). In addition, Nedumaran and Rani (2021) encourage the use of technology in human resources management called E-HRM to enhance more flexible HR practices more accurately and effectively, facilitate tasks, and transform communication and behavior at work and in life – ultimately contributing to create innovations. An example is provided by e-recruitment, where candidates can apply online on bulletin boards, which provide a database that allows them to search, browse and filter applications for an interview.

The literature emphasizes that compensation alone is not sufficient for innovation (Shepeck & Militello, 2000). The system of rewards, which consists of interrelated tangible and intangible mechanisms that are a distinction or recognition for the employee for his achievements, is gaining importance. In this perspective, the reward system can be a tool to attract or retain innovative people in the organization and stimulate and encourage employees to create innovations (Shepeck & Militello, 2000). As Smith (2018) states, based on the research conducted in a call center, the involvement of employees in the innovation process is what increases the organization's ability to shape innovation in the future.

Human resources management practices aimed at improving employee satisfaction are also of great importance, which is confirmed by the findings of Chen et al. (2015). Based on research conducted in a chain of Chinese restaurants, researchers conclude that it is important to develop an incentive system for employees, offering a competitive salary, showing employees that they are respected and appreciated, and providing rewards related to their performance. All this can translate into employee satisfaction and further innovation. Others emphasize the importance of creating innovations in employees' perceptions of the workplace. After researching telecommunication companies, Santoso and Furinto (2019) found that a friendly workplace helps to develop employees who are more tolerant to accept novelties or

failures, and more able to overcome difficulties in the pursuit of innovation. This is confirmed by the findings of Renkema et al. (2022), who state that an unfavorable working environment can be a barrier to innovation in an organization. In addition, according to Gupta and Shaw (2014), the possibility of internal promotion intensifies the creation of innovations.

Repeatedly in the literature, researchers have emphasized the importance of high-performance work practices for innovation (Murphy & Southey, 2003), which increases employees' motivation, commitment, sense of autonomy and skills. They focus on predefined human resources management policies and practices towards creating innovation (Fu et al., 2015; Rasheed et al., 2017). For example, Rajiani et al. (2016) point to green human resources management, which increases the well-being of employees and sustains the group community.

The literature shows that performance appraisal is considered to be one of the most important HR practices in the context of innovation (Andreeva et al., 2017). This potential results from the fact that feedback provided to employees can encourage them to certain behaviors, intensify the willingness to share knowledge and increase their internal motivation to search for, generate and deliver innovative ideas. In addition, it is indicated that performance-oriented feedback positively affects employees' job satisfaction, thus increasing their involvement in creating innovation (Kampkötter, 2016). In this view, when employees receive feedback, they will feel obligated to reciprocate by providing new information and ideas that may be relevant to creating innovations. However, the mere design and application of performance appraisal may not always generate innovation. This potential is only possible when employee performance evaluation is developmental and focused on discovering new ways of doing things. This can help employees manage mistakes and see them as an opportunity to learn, share knowledge, and generate new ideas without fear of being penalized if the desired results are not achieved (Bednall et al., 2014). In addition, performance appraisals must be understandable and unambiguous, which comes down to their compliance and stability in relation to all employees.

Lastly, many researchers also point out that management is important not only for the adoption of innovative practices, but also for improving the efficiency and results achieved by employees (Fu et al., 2015; Sun & Mamman, 2022). Research conducted by Jebali and Meschitti (2020) in Tunisian start-ups showed that it was important for management to provide a work environment that supports innovation in organizations. Finally, management should strive to strengthen the relationship between employees (Meacham et al., 2017).

Despite the importance of leadership, some researchers like Contreras et al. (2017) conclude that leadership alone is insufficient to promote employees to innovative behavior at work. The absorptive capacity and involvement of employees in work are important, which directly impact innovative behavior at work and further the creation of innovations. In addition, the organizational climate has a moderating effect on the creation of innovations. However, the role of management is to encourage employees to be innovative at work. Automation of business processes in the field of human resources and information management are becoming important factors in the effectiveness of the organization and the initiation of innovative processes. This was pointed out by Bilevičienė et al. (2015). Additionally, researchers find that employee retention increases the organization's ability to innovate (Papa et al., 2020).

Antecedents of innovation-driven HRMP

Antecedents refer to factors preceding and triggering a specific action. Earlier research indicated many antecedents of innovation-driven HRMP. They can be divided into external and internal.

External antecedents refer to the conditions in which organizations operate, such as the labor market, environmental dynamism, and institutional isomorphism. The labor market related to labor supply and demand is important in the context of recruiting employees in accordance with the needs of the organization. In the case of low labor supply, the organization may have difficulties in acquiring talents or employees with innovative capabilities. With regard to innovation-driven HRMP, environmental dynamism gains in importance, which refers to the pace and unpredictability of changes in the organization's environment (Kim & Ployhart, 2014). This intensifies the need to recruit employees with unique, distinctive skills, but also to increase their autonomy and involvement in the organization's affairs. Institutional isomorphism refers to the mechanisms that allow an organization to gain legitimacy in terms of funding obtained from institutional bodies. They may take the form of coercion or incentive. For example, in order to obtain funds for innovation, an organization is obliged to meet certain conditions referring to e.g. specific social practices or employment status.

With regard to internal antecedents, previous research identified organization characteristics, industry affiliation, employee turnover, organizational strategy, unions, and consulting firms. It was pointed out in the literature that one of the antecedents was the size and type of organizations. A greater need for innovation-driven human resource management practices may be noticed by organizations with foreign capital, capital companies,

and industries that operate in strategic uncertainty and technological change. This also applies to organizations operating in knowledge intensive industries, those that cooperate with various groups of stakeholders and competitive environment. Moreover, the adoption of new technologies by the organization is gaining importance for innovation-driven HRMP (Neirotti & Paolucci, 2013). The literature indicates that employee turnover may become the cause of innovation-driven HRMP. That way, organizations will strive to mitigate the effects of employee turnover, but also to mitigate the possible dissatisfaction of their employees and prevent further turnover. In addition, a flexible, decentralized, informal, highly integrated organizational structure intensifies the HRMP towards innovation (Laursen & Mahnke, 2001). Workgroups, delegation of responsibility, and integration of functions are important here. Organizational strategy is also important for innovation-driven HRMP. The literature emphasizes that the use of knowledge-based and innovative strategies is an important antecedent. Additionally, unions can be antecedents of HRMP. They aim at improving the working conditions of employees, their participation opportunities, and improving their competences. Some research shows that unions are related to innovation (Berton et al., 2021). In this perspective, stable employment conditions may make employees more willing to search for and generate new ideas or solutions. And finally, the organization's use of external advice from consulting companies may be an antecedent of innovation-driven HRMP.

Mediators of innovation-driven HRMP

Mediators refer to factors that can facilitate or hinder the creation of innovations using driven human resources management practices. A systematic literature review identified fourteen mediators that related to individual ambidexterity, innovative work, employee creativity, organizational citizenship behavior, innovation capability, supportive work environment, adaptive capability, creativity organizational climate, organizational culture, organizational learning, knowledge management capacity, absorptive capacity, human and social capital, and organizational learning capability.

Individual ambidexterity

Individual ambidexterity refers to the simultaneous exploration and exploitation of resources and knowledge. Creating innovations using the knowledge and skills of employees can be enhanced by the simultaneous exploitation and exploration of knowledge. In this approach, it is possible to use the existing

knowledge and search for new approaches in order to meet the client's needs and respond to the challenges of the environment (Malik et al., 2017).

Innovative work behavior

Innovative work behavior is defined in the literature as a set of employee behaviors that are oriented towards identifying problems or opportunities, searching, generating ideas, promoting them, and popularizing, financing, and developing implementation plans (Yuan & Woodman, 2010). At the same time, innovative work behavior also requires specific strengthening actions; hence, the literature mentions mediators of innovation-driven HRMP in that context (Sanz-Valle & Jiménez-Jiménez, 2018). All this encourages employees to take innovative actions, which can contribute to the creation of innovations. In addition, the importance of middle managers' innovative behavior is emphasized (Chen et al., 2018).

Employee creativity

Employee creativity refers to personal characteristics related to creating new and useful ideas and analyzing problems (Zhou & Shalley, 2004). According to findings by Jiang et al. (2012), employee creativity mediates the relationship between HRMP and innovation. In this view, when employees perceive that the organization values them, they reciprocate and provide for the implementation of new products, services, organizational processes, and procedures. Moreover, creativity of employees can strengthen the importance of HRMP for innovation.

Organizational citizenship behavior

Organizational citizenship behavior (OCB) refers to "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). Generally, OCBs help employees cope with uncertainty, environmental change and scarcity of resources, which consequently allows the organization to increase its ability to adapt to changes in its environment. Moreover, OCB allows an organization to increase its potential for collaboration, which benefits innovation (Naqshbandi et al., 2016).

Innovation capability

Innovation capability refers to the "ability to continuously transform knowledge and ideas into new products, processes, and systems for the

benefit of the firm and its stakeholders” (Lerro, Linzalone & Schiuma, 2009, p. 11). The literature indicates that building innovation capability is related to the organizational context, in particular, feedback provided to employees by the management and the development of employee competencies (Ma Prieto & Pérez-Santana, 2014). In this sense, the implementation of effective HRMP can contribute to the development of employees’ competences, their motivation, which drives the formation of innovation capability and ultimately leads to the creation of innovations (Farooq et al., 2016).

Work environment

There is general agreement in the literature on the importance of the work environment as an important factor conducive to creating innovation (Ma Prieto & Pérez-Santana, 2014). The work environment refers to employees’ perception of organizational support in the development of employee initiatives and innovative behaviors. It is also noted that HRMPs are conducive to the perception of the work environment by employees, which may further affect their abilities, motivation, and generally their performance (Janssen, 2000). In particular, a supportive work environment is gaining in importance, which stimulates the innovative behavior of employees and, consequently, the creation of innovations (Hunter & Cushenbery, 2011).

Adaptive capability

Adaptive capability refers to abilities, which enables the organization to solve problems, respond to customer needs, and identify opportunities in its environment (Wei & Lau, 2010). Adaptive capability encourages the organization to reconfigure resources to take advantage of emerging opportunities and to deal with challenges more effectively. An organization should be able to adapt to new situations by drawing on and developing the skills of its employees. What’s more, adaptive capability is a kind of motivator to look for new ways to stand out from the competition and respond to customer needs by providing or improving products or services (Wiwoho et al., 2020).

Creativity organizational climate

Generally, organizational climate refers to “individual cognitive representations of the organizational setting” (Scott & Bruce, 1994, p. 581). The creativity organizational climate is stimulated and promoted by HRMP, which boils down to employees becoming emotionally involved in work, initiating and making decisions, looking for new ideas and willingly taking on

new challenges (Heffernan et al., 2016). Overall, the creativity organizational climate has the potential to support innovation and can act as a mediator between HRMP and innovation. This is because the innovation process in organizations needs to be managed, which requires a climate that will enable employees to innovate.

Organizational culture

Organizational culture refers to values and beliefs that define the very behavior of organization members (O'Reilly & Chatman, 1996). In this perspective, organizations that consider human capital as the most important determinant of innovation are more likely to initiate innovation-driven human resource management practices (Lepak et al., 2007). An organizational culture focused on innovation can encourage risk-taking, employee participation, creativity, and shared responsibility.

Organizational learning

In the literature, organizational learning is defined as a process that includes knowledge acquisition, assimilation, exploration, and exploitation (March, 1991). The literature emphasizes that organizational learning contributes to innovation, but it can be supported by HRMP (Raj & Srivastava, 2013). In particular, practices that increase employee engagement and motivation to share knowledge are essential for organizational learning. In addition, organizations should use incentive systems that will encourage employees to take risks, be flexible, build teamwork, and create, develop, and use knowledge.

Knowledge management capacity

Knowledge management capacity refers to an organizational mechanism of continuous and purposeful acquisition, creation, sharing and application of knowledge in organizations (Von Krogh et al., 2001). As pointed out by Than et al. (2022), it is important for the potential to acquire, share and apply knowledge for innovation-driven HRMP. In this perspective, organizations show a greater ability to develop new insights and opportunities, respond to change, and develop creative ideas and innovations. This is because unique and valuable knowledge (Özbağ et al., 2013) allows organizations to modify the existing one, thus increasing the ability to create innovations.

Absorptive capacity

Absorptive capacity refers to the organization's potential to recognize, identify, assimilate, incorporate and use new knowledge for innovation (Cohen & Levinthal, 1990). The literature indicates that this ability can facilitate the creation of innovations using driven human resources management (Chang et al., 2012). In this approach, employees with specialist knowledge can more effectively search for information in the organization's environment, which increases the organization's potential and the creation of innovation.

Human and social capital

The literature points out that both the knowledge, skills and experience of an employee (human capital) and collective knowledge embedded in relations between employees (social capital) may prove useful in gaining access by the organization to information about new technologies, generating new ideas and creating innovation (Donate et al., 2016). In particular, job design, empowerment, teamwork and incentives intensify the formation of human and social capital, which increases the ability to create innovations.

Organizational learning capability

Organizational learning capability refers to "the capability of an organization to process knowledge – in other words, to create, acquire, transfer, and integrate knowledge, and to modify its behavior to reflect the new cognitive situation, with a view to improving its performance" (Jerez-Gómez et al., 2005, p. 2). HRMP can be important for innovation with the mediating effect of organizational learning capability (Lai & Kwang, 2014). In this perspective, HRMP gains importance as the development of employees' learning skills, remuneration systems that motivate employees to experiment, generate new ideas, inter-team cooperation, and share knowledge (Lepak et al., 2007). All this can contribute to the mobilization of employees to learn, which increases the possibility of shaping knowledge-based resources necessary for creating innovations.

Moderators of innovation-driven HRMP

Moderators refer to factors that influence the direction and/or strength of the relationship between HRMP and innovation. Previous research highlighted several moderators, including environmental dynamism, firm ownership, compensation and benefits, employee creativity, work-family facilitation, and work climate. In this view, Martínez-Sánchez et al. (2011) indicated

that environmental dynamism intensified the creation of innovations using HRMP. The dynamics refer to the pace and unpredictability of changes in the organization's environment, which requires the organization to look for ways to adapt to them. In addition, it increases the need for employee autonomy as well as the development of their skills. Another moderator is attributed to firm ownership (Liu et al., 2017), where privately owned enterprises use a combination of various HRMP to create innovation more often than state-owned enterprises. Other moderators refer to compensation and benefits (Diaz-Fernandez et al., 2017), and they may affect the correlation between HRMP and innovation. In addition to remuneration for work, opportunities for additional financial support or additional fringe benefits, gain importance for innovation. Employee creativity was indicated as a moderator by Liu et al. (2016). Such skills contribute to the recombination of knowledge possessed by the organization, which will allow it to be revised, supplemented and applied to create innovations. Another moderator refers to work–family facilitation (Chen et al., 2018). Lack of work–family conflict may contribute to generating a positive working environment, but also a sense of security in terms of resources, which may intensify the creation of innovations. Research has also shown that work–family conflict limits the innovativeness of employees (Luo et al., 2016), which may lead to a decrease in the quality of their work and reduce the intensity of innovative behavior. The last moderator identified in the systematic literature review refers to work climate (Chen et al., 2018) characterized by trust, collaboration, justice, equality, security and permission to take risks. Thanks to the above, employees will feel involved in the operation of the organization, as well as feeling safe in it and knowing they are responsible for its success.

Innovation-driven HRMP outcomes

The systematic literature review allowed for identifying several outcomes of innovation-driven human resource management practices, which in turn allows for recognising changes that occur in the organization in connection with adopting such practices. According to the literature, HRMPs contribute primarily to organizational performance, but also to technological development, business growth, productivity, and profitability (Schloemer-Jarvis et al., 2022). In addition, according to other researchers, innovation-driven human resource management practices may be important for shaping organizational innovation capability (Engelsberger et al., 2021), introducing changes, supporting strategic decision-making in organizations (Sheehan et al., 2016), building a competitive advantage, or developing the ability to respond to changing customer needs (Falahat et al., 2020).

A synthesis of 71 articles identified in the systematic literature review revealed the innovation-driven HRMP, antecedents, mediators, moderators, and outcomes. Based on the obtained results, an integrative framework was proposed to identify gaps and ambiguities in innovation-driven HRMP (Figure 4).



Figure 4. Integrative framework

The framework can also be used too. This framework takes into account the multi-level, innovation-driven approach. HRMP consists of an individual, group, and organizational level. This allows you to understand which of the individual HRMPs are relevant to innovation. Secondly, the framework provides insight into what factors can lead to an innovation-driven HRMP. Both external and internal antecedents are included here. This means that the organization's launch of specific antecedents may be caused by the external conditions in which the organization operates. Internal practices, processes, techniques, and governance structures are also important. Thirdly, the integrative framework includes both factors determining the importance of HRMP for innovation (moderators) and factors mediating this relationship (mediators). Fourth, the framework takes into account the outcomes related to the results or the consequences of the organization's use of HRMP that stimulate the organization to create innovations. These integrative frameworks show that innovation-driven HRMP is a complex process that depends on many factors that act as antecedents, mediating and modifying variables. The combination of these factors allows you to understand complexity of innovation-driven HRMP and their effects.

FUTURE RESEARCH DIRECTION

As the results of the systematic literature review show, there is a large variety of findings in the field of innovation-driven HRMP. However, despite the research intensity in this area, it is still a postulated direction for further research. A systematic review of the literature revealed several gaps that could be suggested as future research directions. In order to present them, the integrative framework was again used, which included challenges for future research on innovation-driven HRMP (Figure 5).

For a more complete understanding of the innovation-driven HRMP, several research gaps were identified through a systematic literature review, providing potential paths for future researchers to conduct their own research (Table 5).

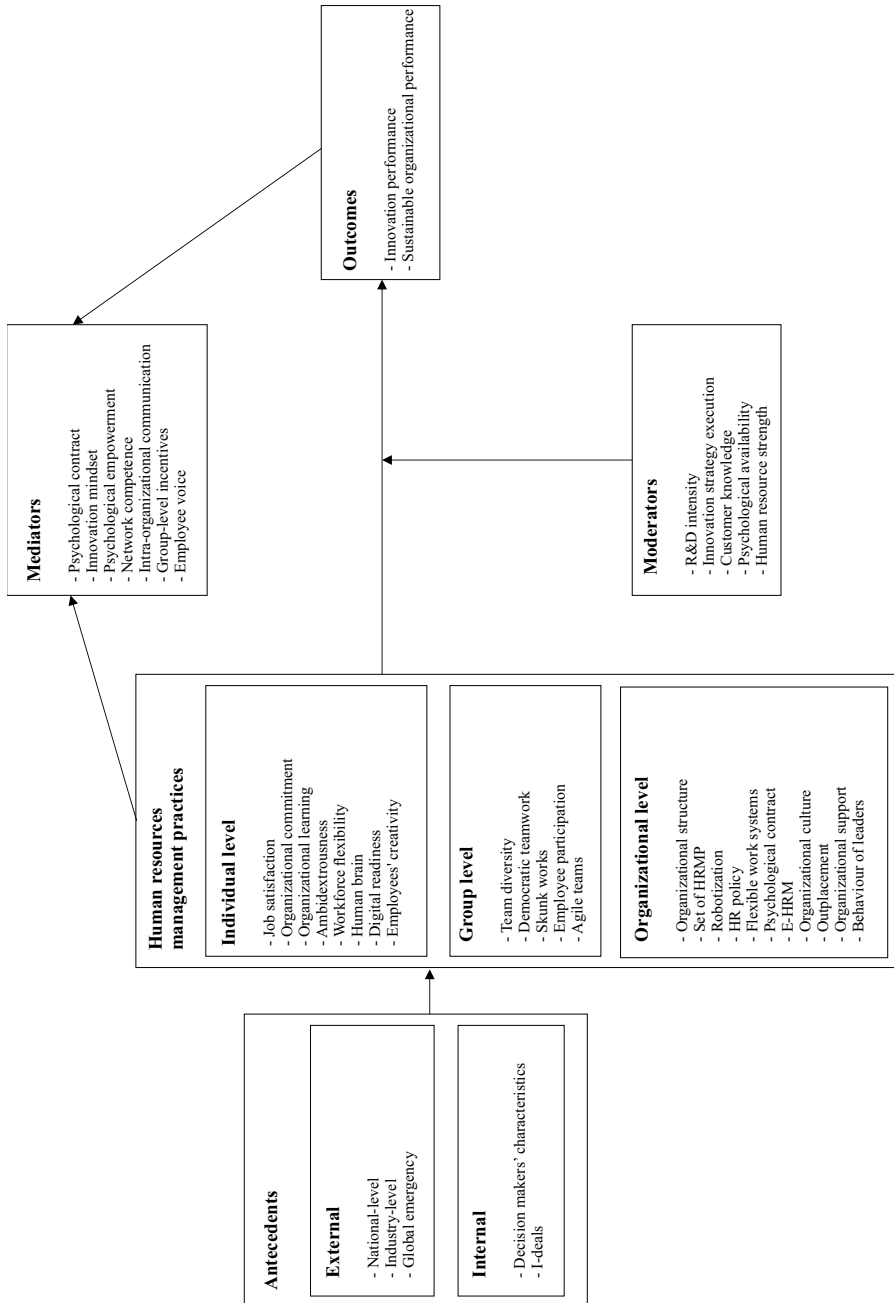


Figure 5. Model of future research direction

Table 5. Thematic gaps and potential questions for future research

Main topic	Cognitive/research gaps	Potential questions for future research
Antecedents of innovation-driven HRMP		
External	1. Understanding the national-level factors for creating innovation	RQ1. What is the importance of national-level factors for creating innovation?
	2. Understanding the industry-level factors for creating innovation	RQ2. What is the importance of industry-level factors for creating innovation?
	3. Understanding the global emergency for creating innovation	RQ3. What is the importance of global emergency for creating innovation?
Internal	1. Understanding the decision makers' characteristics for creating innovation	RQ1. What is the importance of decision makers' characteristics for creating innovation?
	2. Understanding the proactively voicing or negotiating idiosyncratic deals (i-deals) for creating innovation	RQ2. What is the importance of proactively voicing or negotiating idiosyncratic deals (i-deals) for creating innovation?
Innovation-driven HRMP		
Individual level	1. Understanding the importance of job satisfaction for creating innovation	RQ1. What is the importance of job satisfaction for creating innovations?
	2. Understanding the importance of organizational commitment for creating innovation	RQ2. What is the importance of organizational commitment for creating innovations?
	3. Understanding the importance of organizational learning for creating innovation	RQ3. What is the importance of organizational learning for creating innovations?
	4. The importance of ambidextrousness in human resources management at the individual level	RQ4. How does the ambidextrousness of human resources management at the individual level affect the creation of innovations?
	5. The importance of workforce flexibility for innovation	RQ5. What is the importance of workforce flexibility for innovation?
	6. Understanding the importance of employees in creating innovation, taking into account neuroscience and research on the human brain	RQ6. What is the importance of employees for creating innovations taking into account neuroscience and human brain research?
	7. The importance of digital readiness of employees for creating innovations	RQ7. What is the importance of employee digital readiness for innovation?
	8. The importance of employees' creativity for creating innovations	RQ8. What is the importance of employees' creativity for creating innovations?

Main topic	Cognitive/research gaps	Potential questions for future research
Team level	<ol style="list-style-type: none"> 1. The importance of team diversity for creating innovation 2. Studying the impact of democratic teamwork on creating innovations 3. The importance of teamwork for creating innovations 4. The importance of skunk works for creating innovation 5. The importance of employee participation for creating innovations 6. The importance of agile teams for creating innovations 	<ol style="list-style-type: none"> RQ1. What is the importance of diverse teams for innovation? RQ2. How does democratic teamwork drive innovation? RQ3. What is the importance of teamwork for creating innovations? RQ4. What is the importance of skunk works for creating innovation? RQ5. What is the importance of employee participation for creating innovation? RQ6. What is the importance of agile teams for innovation?
Organizational level	<ol style="list-style-type: none"> 1. The importance of the organizational structure for creating innovations 2. The importance of a set of human resources management practices for creating innovation 3. The importance of robotization for creating innovations 4. Understanding HR policy for creating innovation 5. The importance of flexible work systems for creating innovations 6. The importance of the fulfilment of the psychological contract for creating innovations 7. Understanding the importance of e-human resources management for creating innovations 8. The importance of organizational culture for creating innovations 9. Understanding the importance of outplacement for creating innovation 10. The importance of organizational support for creating innovations 11. Understanding the behavior of leaders for innovative behavior of employees 	<ol style="list-style-type: none"> RQ1. What is the importance of the organizational structure for creating innovations? RQ2. What is the importance of a set of human resources management practices for creating innovation? RQ3. What is the importance of robotization for creating innovations? RQ4. How can HR policy influence the creation of innovations? RQ5. What is the importance of flexible work systems for creating innovation? RQ6. What is the importance of the fulfilment of the psychological contract for creating innovations? RQ7. How can e-human resources management contribute to creating innovations? RQ8. What is the importance of organizational culture for creating innovations? RQ9. What is the importance of outplacement for creating innovations? RQ10. What is the importance of organizational support for creating innovations? RQ11. What actions should leaders take to strengthen innovative behavior among employees?

Main topic	Cognitive/research gaps	Potential questions for future research
Mediators of innovation-driven HRMP	1. The importance of the psychological contract in the relationship between HRMP and innovation	RQ1. Is the relation between HRMP and innovation mediated by the psychological contract?
	2. The importance of an innovation mindset in the relationship between HRMP and innovation	RQ2. Is the relation between HRMP and innovation mediated by the innovation?
	3. The importance of psychological empowerment in the relationship between HRMP and innovation	RQ3. Is the relation between HRMP and innovation mediated by the psychological empowerment?
	4. The importance of network competence in the relationship between HRMP and innovation	RQ4. Is the relation between HRMP and innovation mediated by the network competence?
	5. The importance of intra-organizational communication in the relationship between HRMP and innovation	RQ5. Is the relation between HRMP and innovation mediated by the intra-organizational communication?
	6. The importance of group-level incentives in the relationship between HRMP and innovation	RQ6. Is the relation between HRMP and innovation mediated by the group-level incentives?
	7. The importance of employee voice in the relationship between HRMP and innovation	RQ7. Is the relation between HRMP and innovation mediated by the employee voice ?
Moderators of innovation-driven HRMP	1. Explore the interactive effects of R&D intensity on HRMP and innovation	RQ1. Does R&D intensity moderate the relationship between HRMP and innovation?
	2. Explore the interactive effects of innovation strategy execution by top-management on HRMP and innovation	RQ2. Does innovation strategy execution by top-management moderate the relationship between HRMP and innovation?
	3. Explore the interactive effects of customer knowledge on HRMP and innovation	RQ3. Does customer knowledge moderate the relationship between mental health and job performance?
	4. Explore the interactive effects of psychological availability on HRMP and innovation	RQ4. Does psychological availability moderate the relationship between HRMP and innovation?
	5. Explore the interactive human resource strength intensity on HRMP and innovation	RQ5. Does human resource strength moderate the relationship between HRMP and innovation?

Main topic	Cognitive/research gaps	Potential questions for future research
Innovation-driven human resource management practices outcomes	<ol style="list-style-type: none"> 1. The importance of innovation-driven HRMP for innovation performance 2. The importance of innovation-driven HRMP for sustainable organizational performance 	<p>RQ1. What is the significance of innovation-driven HRMP for innovation performance?</p> <p>RQ2. What is the importance of innovation-driven HRMP for sustainable organizational performance?</p>

Apart from the thematic gaps in Table 5, the systematic literature review helped us find out that most research on innovation-driven HRMP was quantitative. Of course, those studies make it possible to determine cause-and-effect relationships between human resources innovation practices and innovation. However, quantitative research methods have their limitations, because they do not allow us to recognize the meaning of social phenomena, explain what social reality is like, and how people interpret their actions and others. The use of quantitative research methods is important to establish reliability and validity, but researchers are encouraged to use qualitative methods. They enable comprehensive and in-depth descriptions and analyses of causes, course, conditions, as well as results of the occurrence or functioning of innovation-driven HRMP in specific conditions and context.

In addition, we also recommend conducting research on innovation-driven HRMP using mixed methods. They allow for comprehensive discoveries, increased confidence in the results, accuracy of conclusions, and a more in-depth understanding of phenomena, methodological diversity, heterogeneity, and multiple levels of analysis (Johnson & Onwuegbuzie, 2004) in order to accelerate innovation-driven research human resource management practices.

CONCLUSIONS AND LIMITATIONS

For the last twelve years, there has been an increase in the number of publications devoted to innovation-driven HRMP. As a result, the existing literature in this field is diverse, but still limited. Therefore, research is needed to identify and synthesize all existing research inputs, streams and future research direction on innovation-driven HRMP using transparent and repeatable procedures.

This article makes two contributions to the literature in the management science context. Firstly, by addressing the challenges (Easa & Orra, 2021; Jotaba et al., 2022; Seeck & Diehl, 2017), we ensure identification of findings from previous literature and address the present situation of innovation-

driven human resource management. As a result, we reviewed the current literature and provided an in-depth and up-to-date synthesis, taking into account various sub-areas. To identify the state of the knowledge in this area, we conducted a systematic literature review based on a sample of 71 English-language, full-text and peer-reviewed scientific papers obtained from the Web of Science and Scopus databases through a rigorous and iterative data collection process. We synthesized the literature taking into account the following issues: research time horizon, place of publication, research methods, geographic localization of authorship, the levels of analysis and subject areas, and future research directions proposed by the extant literature. We focused our search on innovation-driven HRMP, the current state of research and future research directions on innovation-driven HRMP. Therefore, we hope that this article can serve as a road map for future researchers interested in conducting research in this area.

Secondly, as a part of the synthesis of all the existing inputs and research streams we identified, we proposed an integrative framework, which includes antecedents, innovation-driven HRMP, moderators, mediators, and outcomes. This framework not only organizes the existing literature, but also enables future researchers not only to understand innovation-driven HRMP, but also to deepen its underlying mechanisms and conditions. In addition, those frameworks allowed us to draw attention to emerging areas that were overlooked by previous research and are recommended in the literature due to existing theoretical and empirical inconsistencies. Hence, they can be the basis for undertaking further, new research efforts and a significant contribution to the development and comprehensive understanding of innovation-driven HRMP.

In addition, a systematic literature review provided valuable insights and guidance for management practitioners. In particular, we point to specific HRMP that are important for creating innovation. Taken together, our findings provide recommendations and pathways for future research to gain a more comprehensive understanding of innovation-oriented HRMP. It should be emphasized that the vast majority of research analyzing innovation-driven HRMP leads to the conclusion that the human factor is the most important in the organization. It is up to employees to generate new ideas or improve existing ones. However, the mere fact of employment or timeliness of remuneration may not be sufficient for innovation. Various practices are necessary to increase the motivation and involvement of employees, but also to encourage them to seek new knowledge, share it and use it. Participatory policies are also important. Employees are interested in passing on new ideas. Moreover, creating innovation may also require encouraging employees to experiment, take risky actions and collaborate with both

colleagues and various stakeholders. In addition, the reviewed literature also shows that organizations should take care of work–life balance, which is also of great importance for the motivation of employees and their search for new opportunities to create innovations.

Our systematic literature review, like any other, has several limitations. Firstly, we limited our searches to two international databases, such as the Web of Science and Scopus. This could result in the omission of potentially important publications that are not only available in digital form. Therefore, future research is encouraged to use complementary strategies. Secondly, we focused only on English-language, peer-reviewed, full-text articles and excluded unpublished studies, journals, books, book chapters, conference monographs, and abstracts written in other languages (including Polish) that might be relevant. Thirdly, the keywords we adopted may have resulted in the omission of potentially relevant literature. Finally, the findings in those articles come from different countries, so they are difficult to apply to every cultural context. Therefore, future research may empirically test the delivered integrative framework in different cultural contexts.

In this issue, we have endeavored to shed new light upon the above conceptual and empirical challenges by bringing together interdisciplinary, high-quality approaches to innovation-driven human resource management practices. The issue comprises four academic papers.

The first of the articles, titled "Sustainable human resource management practices in organizational performance: The mediating impacts of knowledge management and work engagement" by Abu-Mahfouz et al. (2023), focuses on establishing the mediating role of knowledge management and work engagement and the impact of sustainable management practices human resources on the performance of the organization. After conducting quantitative research using a sample of 500 academics, the authors used structural equation modeling to confirm that sustainable human resource management practices, knowledge management, and work engagement are related to organizational performance. The authors also found that knowledge management and work engagement mediated between human resource management practices and organizational performance. They also found that employee collaboration was essential in optimizing organizational performance, employee engagement in sustainable human resource management practices, and knowledge management.

The second article is "Predictors of fairness assessment for social media screening in employee selection" by Balcerak, Woźniak, and Zbucnea (2023). Based on quantitative research results, an analysis of the factors perceived by potential job candidates regarding the fairness of reviewing accounts on two Facebook and LinkedIn portals. Having interviewed 147 adults, the authors

found that Facebook perceived selection fairness was rated significantly lower than LinkedIn accounts and that perceptions of privacy intrusion during selection were higher for Facebook account review. Those findings are the first of their kind, especially with the use of the cybervetting scale, which made it possible to determine that activities focused on creating one's own image on the Internet were conducive to greater acceptance by candidates of selection based on data from social media.

The third article is "Overcoming the pitfalls in employee performance evaluation: An application of ratings mode of the Analytic Hierarchy Process" by Islam and Periaiah (2023). Researchers focus on determining the possibilities of using the Ratings mode of the Analytic Hierarchy Process to evaluate employee performance. The suggested tool includes five criteria: service, quality, finance, time, and teamwork. The authors' findings show that each of those criteria is important for evaluating employee performance. In addition, the following three important sub-criteria were distinguished when evaluating employees: harmonious work, skills, and punctuality.

The issue closes with the article "The influence of e-trust on a job performance model based on employees' dynamic capabilities during a crisis caused by a Black Swan event" by Tworek et al. (2023). The article attempts to recognize the importance of e-trust for enhancing the impact of employees' dynamic abilities on work efficiency. Quantitative research conducted among 1,200 organizations based in Poland, Italy and the United States found that the level of e-trust was related to the dynamic abilities of employees, which is important for work efficiency. In addition, research recognizes that e-trust is an essential element of e-leadership in the context of crisis situations, such as the COVID-19 pandemic.

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Abstrakt

CEL: Coraz częściej podkreśla się, że duże znaczenie dla tworzenia innowacji mają praktyki zarządzania zasobami ludzkimi (HRMP), które odnoszą się do rekrutacji i selekcji, szkolenia i podnoszenia kompetencji, wynagrodzenia oraz oceny. Jednak pandemia COVID-19 pokazała, że tradycyjne HRMP już są niewystarczające, co pociągga za sobą potrzebę ich ponownego przemyślenia i przeformułowania w kierunku bardziej skutecznych dla tworzenia innowacji, ale także pozwalającym organizacjom przetrwać kryzysy na skalę COVID-19. Chociaż istnieje obszerna literatura w zakresie zarządzania zasobami ludzkimi i innowacji, nadal nie ma zgody co do praktyk zarządzania zasobami ludzkimi napędzających innowacje. Niniejsze badanie ma na celu identyfikację oraz syntezę najbardziej znaczące i godne zaufania wkłady w badania praktyk zarządzania zasobami ludzkimi napędzających innowacje. Dodatkowo, aby ułatwić budowanie teorii w zakresie HRMP niniejszy artykuł konsoliduje istniejący stan wiedzy w ramy integracyjne. Ramy te mogą być wykorzystywane przez przyszłych badaczy do identyfikacji luk i niejasności w rozumieniu praktyk zarządzania zasobami ludzkimi napędzających innowacje. **METODYKA:** Artykuł prezentuje wyniki systematycznego przeglądu literatury 71 empirycznych artykułowych. Literatura przedmiotu została wyłoniona w oparciu o przeszukiwania zagranicznych baz danych, takich jak: Scopus i Web of Science. **WYNIKI:** Przeprowadzony przez nas systematyczny przegląd literatury pozwolił na identyfikację praktyk zarządzania zasobami ludzkimi napędzających innowacje z uwzględnieniem trzech poziomów analizy: indywidualnym, grupowym oraz organizacyjnym, przy czym ten ostatni poziom analizy

jest dominujący w dotychczasowych publikacjach. Rozpoznane praktyki zarządzania zasobami ludzkimi napędzające innowacje z uwzględnieniem poziomów ujęliśmy w integracyjne ramy, które stanowią podstawę teoretyczną do kierowania przyszłymi badaniami. Nasze wyniki potwierdziły rosnący trend liczby publikacji w prezentowanej tematyce poczynszy od 2010 r. Większość badaczy wykorzystywała podejście ilościowe. Na podstawie afiliacji pierwszego autora, najwięcej publikacji dostarczyli autorzy z Wielkiej Brytanii. Artykuły są publikowane w różnych czasopismach, przeważnie jednak o tematyce zarządzania zasobami ludzkimi. Badania uwzględniały różnorodne konteksty organizacyjne, przeważnie w dynamicznych i złożonych branżach. Nasze ustalenia potwierdzają, że obecny stan badań nad praktykami zarządzania zasobami ludzkimi napędzającymi innowacje wskazują na konieczność prowadzenia dalszych badań w tym zakresie. W oparciu o to dostarczyliśmy luki poznawcze oraz potencjalne przyszłe pytania badacze z podziałem na trzy poziomy praktyk zarządzania zasobami ludzkimi napędzające innowacje. **IMPLIKACJE:** Przeprowadzony przez nas systematyczny przegląd literatury pozwolił na zaproponowanie implikacji dla przyszłych badaczy planujących prowadzenie badań w zakresie praktyk zarządzania zasobami ludzkimi napędzających innowacje. **ORYGINALNOŚĆ I WARTOŚĆ:** Nasz systematyczny przegląd literatury koncentruje się na identyfikacji praktyk zarządzania zasobami ludzkimi napędzających innowacje, ustaleniu obecnego stanu wiedzy oraz przyszłych kierunków badań w tym zakresie. Dodatkowo opracowaliśmy ramy integracyjne, których celem jest uporządkowanie istniejącej literatury, ale także zidentyfikowanie obiecujących przyszłych kierunków badań nad praktykami zarządzania zasobami ludzkimi napędzającymi innowacje.

Słowa kluczowe: zarządzanie zasobami ludzkimi, praktyki zarządzania zasobami ludzkimi, innowacje, napędzanie innowacji, ramy integracyjne, systematyczny przegląd literatury, luki tematyczne, wyłaniające się kierunki badań

Biographical notes

Regina Lenart-Gansiniec is an associate professor at the Faculty of Management and Social Communication of the Jagiellonian University in Krakow. Her specialization is in strategic management, particularly in knowledge management, organizational learning, and crowdsourcing. She utilizes both quantitative and qualitative research methods in her studies. She is a recipient of the Minister of Science and Higher Education Award for outstanding achievements (2019–2022). She was also awarded the Future Scientist 2022 prize in the “Future Research” category.

Barbara A. Sypniewska holds a Ph.D. in social sciences in the discipline of management and quality science and a master’s degree in psychology. Currently, she is the Dean of the Faculty of Business and the Director of the Branch in Sochaczew of the University of Economics and Humanities in Warsaw. She specializes in the issues of human capital management and

business psychology, and in this area she is the author of many articles and books. She is an expert in human capital management at the Business Center Club and a founder and member of many associations.

Jin Chen is a professor at the Department of Innovation, Entrepreneurship and Strategy, School of Economics and Management, Tsinghua University, China. He is also a director of the Research Center for Technological Innovation, Tsinghua University, editor-in-chief of *International Journal of Innovation Studies* and *International Journal of Knowledge Management Studies*, the associate editor-in-chief of *Engineering Management Review (EI)*, *Technological Forecasting and Social Change (SSCI)*, *International Journal of Technology Marketing* and *International Journal of Foresight and Innovation Policy*.

Conflicts of interest

The authors declare no conflict of interest.

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