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Personnel Controlling as a Tool of HRM in the Public Entities

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Abstract

Theoretical background: This article will consider three research areas: central personnel controlling, human resources management (HRM), and public entities. For purposes of this article, the following definitions of these terms have been adopted for consideration. Personnel controlling (PC) fulfills two main roles in the company: the informational function consists of gathering, processing and preparing information necessary for making decisions related to personnel, as well as steering function which consists of coordinating plans and other personnel-related projects and exercising constant control over them. HRM – defined as strategic and coherent approach to the management of the most valued assets of organization – the people, who individually and collectively contribute to the achievement of organizations' objectives. Public entities is a natural person, legal entity, or organizational unit with certain rights and obligations under public law. Public law entities are related to public administration and work for the public weal.

Purpose of the article: The main aim of this article is to identify the role and importance of PC in the context of HRM tools in public entities. Research questions are as follows: RQ1: What are the main functions of PC in public institutions, and how do they affect HRM; RQ2: What are the biggest challenges of implementing PC as an HRM tool in the public sector, and how can they be overcome; RQ3: How does PC influence HRM decision-making in public institutions? Research hypothesis: The implementation of PC in public entities lacks a systemic and holistic approach to the application of the concept.

Research methods: Systematic literature review and case study.

Main findings: Main findings include: 1. Conscious use of PC as an HRM tool. 2. The need to identify optimal and universal indicators/performance measures of PC activities. 3. Undertaking PC activities from a systemic/complex/comprehensive perspective. 4. Conscious noticing of cooperation of HR entities with other stakeholders of public entities. 5. Focusing on the qualitative aspect of PC and not just the quantitative aspect. 6. Noticing the role of PC as an early warning system of deviation from established activities. 7. Noticing the importance of benchmarking the HR indicators against industry standards and best practices; specific benchmarking and analysis of best practices.

Introduction

Personnel controlling (PC) is becoming one of the most essential human resource management (HRM) tools for increasing the efficiency of HRM in organizations, including public sector organizations (Stańczyk & Kuźniarska, 2020).

In public institutions, implementing PC could address unique challenges such as bureaucratic complexity, limited resources and the need for the organization to operate in strict regulatory compliance (Igwe et al., 2014; Waxin & Bateman, 2009; Zámečník & Zeman, 2007). PC also appears to play a key role in improving productivity, reducing costs and improving employee well-being through better performance management and the use of feedback mechanisms (Siverbo, 2023).

By performing the essential functions of PC, which are systematic monitoring, data analysis, and cost optimization, it is increasingly tangible that PC enables entities, including public organizations, to align human resource (HR) practices with organizational goals and improve overall performance and accountability.

This article attempts to analyze the importance of PC and how it can be implemented as part of HRM in the public entities. Therefore, it seems that the purpose of the considerations in the article is to identify the role and importance of PC in the context of HRM tools in public institutions.

Within the framework of the research activities carried out and presented in the article (analysis of the subject literature, inference analysis of the authors' own experience, analysis of case studies), it can be noted that a specific research gap arises primarily from the lack of integration of operational and strategic approaches to PC emphasizing the need for cooperation between different HR stakeholders. In addition, it has been noted that in the area of PC implementation, there are numerous bureaucratic constraints, resistance to change, and, above all, the omission of qualitative factors such as motivation, employee involvement, and pursuing employee development in the measurement process. From the analysis of the subject literature,

further research and literature gaps emerge; most of the analyses deal with disconnected descriptions, i.e. authors describe CP as a stand-alone phenomenon (Brunetto & Beattie, 2020; Demo et al., 2024; Szejniuk, 2015), few only show it in the perspective of HRM as a tool, only in quantitative terms, and there is a lack of qualitative treatment, as mentioned earlier (Kamińska, 2016; Soósová, 2011; Zámečník & Zeman, 2007). Therefore, it seems that the research questions contributing to the purpose of consideration should be formulated as follows:

RQ1: What are the main functions of PC in public institutions, and how do they affect HRM?

RQ2: What are the biggest challenges of implementing PC as an HRM tool in the public sector, and how can they be overcome?

RQ3: How does PC influence HRM decision-making in public institutions?

The biggest challenge/problem for PC is its fragmented application in organizations. Therefore, the authors propose following research hypothesis:

H1: The implementation of PC in public entities lacks a systemic and holistic approach to the application of the concept.

The analysis of the literature and case study indicate a positive correlation between effective PC and the improvement of organizational performance in the public sector. By optimizing PC implementation activities as an HRM tool and increasing employee engagement, PC contributes to better service delivery and improved performance of public organizations.

The article also points out the need for continued empirical research to study the innovation of HR controlling activities and their impact on the performance of public sector institutions. In conclusion, this article seems to provide some essential insights into the role of PC controlling as an HRM tool in public institutions, highlighting its potential to improve organizational performance while addressing the unique challenges that public entities face.

Literature review

Defining the phenomena of PC and HRM is quite complicated because no single correct/binding definition is used by all those interested in describing these phenomena (Egbuta & Omojola, 2021; Haque et al., 2023; Kuźniarska, 2018; Zámečník & Zeman, 2007). Therefore, the authors of the article decided that it is appropriate to present some of the most popular definitions of HRM and PC for content credibility. The following is a summary (Table 1 and 2) of the definitions of HRM and PC.

Table 1. Selected definitions of HRM

No.	Authors	Definitions of HRM
1	(Beer et al., 1984)	All management decisions that affect the relationship between organizations and employees – its humans.
2	(Guest, 1987)	Defined in terms of four key goals: high commitment, high quality, flexibility and strategic integration.
3	(Bratton & Gold, 1996)	Human Resource Management is a body of knowledge and a set of practices that define the nature of work and regulate the employment relationship.
4	(Armstrong, 2006)	Defined as strategic and coherent approach to the management of the most valued assets of organization – the people, who individually and collectively contribute to the achievement of organizations' objectives.

Source: Authors' own study based on (Aikaterini, 2014).

Table 2. Selected definitions of PC

No.	Authors	Definitions of PC
1	(Sekuła, 1999)	Personnel controlling is used to make the best possible use of employees and to shape them in a way to obtain the maximum benefit for the enterprise. One can distinguish its informational role consisting of the collection and processing of personnel information, as well as its steering role related to the coordination. It involves, among other things, the collection and compilation of personnel information, supervision, coordination, and control. This system serves to realize objectives in individual areas.
2	(Sukalova et al., 2022)	Personnel controlling to provide feedback and at the same time serves to evaluate the current state of human resources management in the company. With the help of human resources audit we get a broader control of the results, as well as the efficiency and effectiveness of personnel management.
3	(Stańczyk & Stuss, 2018)	Personnel controlling is focused on the efficiency of managing resources (human resources), it features motivating functions and creates transparent rules and procedures for planning, monitoring, control, and refers to the possibilities of using existing problems in the organization or protection against their adverse effects.
4	(Zajac, 2018)	Personnel controlling fulfills two main roles in the company: the informational function consists of gathering, processing and preparing information necessary for making decisions related to personnel, as well as steering function which consists of coordinating plans and other personnel-related projects and exercising constant control over them.
5	(Thom, 2001)	Personnel controlling supports the planning and control of all human resource management activities or the corresponding agents and organizes the information supply.
6	(Lipych et al., 2021)	Personnel controlling provides modeling of the main parameters depending on the strategic goals and objectives of the organization as a whole and the personnel management system.

Source: Authors' own study based on literature references included in the table.

A review of selected HRM and PC definitions and literatures has provided insights into the importance and functionality of HR controlling within HRM. In addition, the analysis of selected definitions of PC has made it possible to identify key areas of interest for experts in this field, which are shaped within the selected areas shown in Table 3.

Table 3. Key areas of analysis for the PC

No.	Key area	Characteristics
1	Definition and importance of personnel controlling	Personnel controlling is a systematic approach to monitoring and managing organizational human resources. It involves using metrics and indicators to evaluate the effectiveness of HR practices and ensure compliance with organizational goals. It is emphasized that the effective HR controlling is critical to optimize employee performance and support strategic HRM decision-making (Stańczyk & Kuźniarska, 2020; Zámečník & Zeman, 2007).
2	Operational versus strategic personnel controlling	The literature also distinguishes between operational and strategic controlling around the PC. This two-dimensional view of PC allows organizations to respond quickly to current HR challenges while planning long-term for future HR needs (Stańczyk & Kuźniarska, 2020; Zámečník & Zeman, 2007).
3	Role of HR managers and actors	HR managers play a vital role in the implementation of HR controlling systems. The literature emphasizes the role of collaboration in HR controlling, where various HR actors, including line managers and HR professionals, should contribute to effective HR monitoring and management (World Education, n.d.).
4	Quantitative and qualitative measures	Analyses of the literature and PC definitions indicate that HR controlling should use quantitative and qualitative metrics. The literature analysis shows that quantitative indicators are primarily applicable in public institutions, especially management accounting. However, it should be highlighted that using a comprehensive approach will likely allow organizations to get a holistic view of their HR practices and identify areas for improvement (Fleming, 2023; Zámečník & Zeman, 2007).
5	Benchmarking and best practices	HR controlling often involves benchmarking against standards based on the practices and activities of market leaders. The literature suggests that organizations should benchmark their HR metrics against those of peers to identify best practices and improve their HR strategies (Brown, 2004; Brunetto & Beattie, 2020; Zámečník, 2007).
6	Challenges and future directions	The definitional content analysis, supplemented by literature analysis, also highlights challenges faced by implementers of HR controlling activities, such as the difficulty of measuring “soft” factors such as employee motivation and the need to transform HR departments into strategic partners in organizations. Therefore, future considerations must begin with analysis of areas related to the innovation of HR controlling practices and their impact on organizational performance (Striker & Grzesiak, 2022; Szarková, 2020; Zámečník, 2007).

Source: Authors' own study based on literature references included in the table.

The comparative analysis conducted above, as well as what is confirmed by the definitional analysis, reveals that the authors of the publications comprehensively describe and understand the essence of personnel controlling as a necessary component of effective HRM. It should be noted that many publications emphasize the importance of integrating operational and strategic approaches, using a variety of indicators, and fostering cooperation between HR entities to improve the performance of the broader organization. The formulated conclusions from the literature analysis highlight the need for continuous adaptation and improvement of HR controlling practices to meet the changing demands of employees, employers, and the closest environment.

In this regard, it seems essential that the theoretical background for the present discussion can be illustrated through the perspective of several fundamental theories that describe HRM. These theories undoubtedly provide a basis for understanding how HR controlling functions within HRM and what its implications are.

The first of the theories that seem appropriate to illuminate the considerations undertaken in this article is the following.

1. Contingency theory

This theory assumes that HRM practices should be tailored to the unique characteristics and peculiarities of an organization's operations. This theory emphasizes the need for flexibility and adaptability in HRM strategies, suggesting that personnel control must be tailored to the specific goals and peculiarities of organizational functioning to be considered adequate (Egbuta & Omojola, 2021).

2. Resource-based theory (RBV)

It emphasizes that an organization's human resources are a critical source of competitive advantage. It highlights the importance of harnessing the skills and abilities of employees through PC to increase the productivity and sustainability of the organization (Cho et al., 2023; Egbuta & Omojola, 2021; Fleming, 2023).

3. Human capital theory

Human capital theory suggests that investments in employee development – such as training and education – increase productivity. Personnel control can be seen as a mechanism to secure the effectiveness of these activities, and thus ensure the achievement of organizational goals and provide a competitive advantage, not only in the business area but also in the employer branding field (Stańczyk & Stuss, 2018).

4. Social exchange theory

It focuses on the interaction between employers and employees. It assumes that HRM activities, including HR controlling, should foster a positive exchange that increases employee motivation and commitment. This theory supports the idea that effective PC creates an optimal and supportive organizational culture (Negi, 2015).

5. Institutional theory

Emphasizes the importance of an organization's internal environment in shaping HRM efforts. HR controlling should consider the regulatory, normative, and cultural contexts that influence HRM policies and practices, ensuring they are appropriate and effective in a specific organizational environment (Szejniuk, 2015).

6. Stakeholder theory

It assumes that organizations must consider the interests of all stakeholders, including employees, customers, and shareholders. This theory supports the view that HR control should be aligned with broader organizational goals while addressing stakeholder needs and promoting ethical and responsible HRM practices (Bamber et al., 2017; Egbuta & Omojola, 2021; Tinjalä & Buglea, 2015).

The theoretical considerations presented above aim to enhance the understanding of HR controlling as an HRM tool across various dimensions. They emphasize the importance of adapting HRM practices to the characteristics of organizational functioning, leveraging human capital, fostering positive employer-employee relations, and considering stakeholder interests.

Considering the theoretical underpinnings of these theories is significant for answering the questions: the extent to which CP can perform essential functions in

public entities, and the biggest challenges of implementing PC as an HRM tool in the public sector, as well as how these challenges can be overcome.

The theoretical underpinnings can result in the creation of factors for the development of effective HR controlling strategies that increase efficiency and allow them to operate accordingly with the organization's sustainable development principles.

The literature review includes various studies and theoretical frameworks highlighting the importance and functionality of PC within HRM.

Research methods

This article is based on a systematic review of the literature supplemented by a case study analysis. The authors analyzed articles utilizing primarily academic databases such as Scopus and Web of Science (WoS), which are widely recognized as leading repositories of peer-reviewed literature (Baas et al., 2020; Baier-Fuentes et al., 2019; Mazur & Orłowska, 2018; Piwowar-Sulej & Iqbal, 2023). To ensure a comprehensive review, the authors also utilized Google Scholar to capture relevant publications that might not be indexed in the primary databases.

The study was conducted between October 2023 and August 2024. No specific publication date restrictions were applied to ensure the analysis captured the full historical evolution of the personnel controlling concept. Artificial intelligence (AI) tools were utilized solely for supportive purposes, specifically for linguistic correction and generating initial keyword suggestions; they were not used for content generation or data synthesis.

The search strategy involved specific keyword combinations tailored to the technical capabilities of each database. While Scopus and WoS allow for complex Boolean logic, Google Scholar required simplified search strings. The specific queries used are detailed in Table 4.

Table 4. Search strategies by database

Database	Search query / Keywords used
Scopus	(TITLE-ABS-KEY (personnel AND controlling OR "personnel audit" OR "human resources monitoring") AND TITLE-ABS-KEY ("public entities" OR "public sector")) AND (LIMIT-TO (PUBSTAGE, "final")) AND (LIMIT-TO (SUBJAREA, "BUSI")) AND (LIMIT-TO (LANGUAGE, "English"))
Web of Science	("human resources monitoring" OR "personnel audit") AND ("public entities" OR "public sector") (Categories: Business, Management)
Google Scholar	"Personnel controlling as a tool of HRM"; "Personnel controlling public sector"

Source: Authors' own study.

Following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, the initial search yielded 55 results in Scopus, 12 in WoS, and 980 in Google Scholar. After screening for duplicates, removing incomplete publications, and filtering by title and abstract relevance, a final set of 40 publications was selected for in-depth qualitative content analysis. The selection process flow is illustrated in Figure 1.

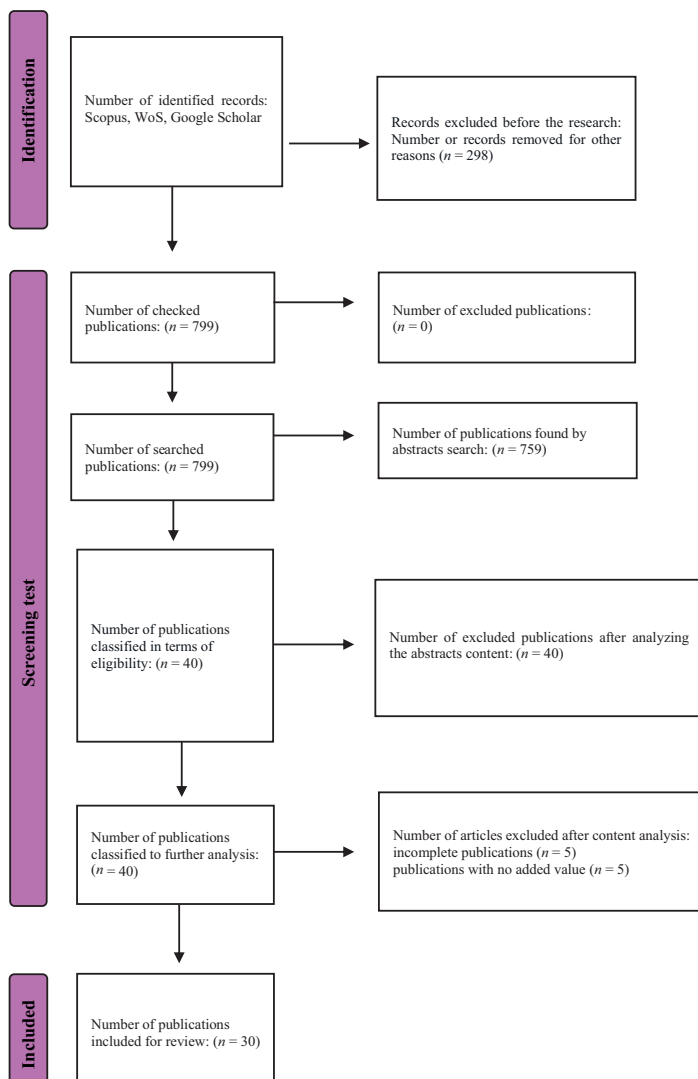


Figure 1. PRISMA diagram

Source: Authors' own study based on PRISMA Flow Diagram (<http://www.prisma-statement.org/PRISMAStatement/FlowDiagram>).

To complement the systematic literature review, the authors employed the case study method. This approach allows for an in-depth examination of the phenomenon in its natural context (Eriksson et al., 2012) and serves to verify theoretical findings against practical reality. The subject of the study is a public higher education institution employing approx. 2,000 staff members. This entity was selected as a representative example of a complex public organization where human capital constitutes the key strategic asset. The analysis focused on internal documents, controlling procedures, and the practical integration of personnel controlling tools within the university's management structure.

Results

The analysis of the literature, supported by empirical findings, highlights a distinct dichotomy in the application of PC within public entities.

The gap between theory and practice

Literature clearly indicates that public organizations are increasingly turning to PC to improve operational efficiency and align HR activities with strategic goals (Fahim, 2018; Zajac, 2018; Zámečník & Zeman, 2007). This signals a broader shift towards the professionalisation of HRM in public administration. However, a significant gap exists between theory and execution. While scholars emphasise the necessity of a systemic approach (Kamińska, 2016; Stańczyk & Kuźniarska, 2020), empirical evidence suggests that implementation is rarely holistic. In practice, PC is often reduced to fragmented activities – primarily salary auditing or basic compliance checks – rather than functioning as an integrated management system (Boikivska et al., 2022; Kupec et al., 2020).

The role of collaboration and integration

Success in this area appears heavily dependent on cooperation. The literature argues that effective controlling requires synergy between HR professionals, line managers, and senior administration. Where such collaboration exists, PC successfully supports both operational and strategic objectives (Bamber et al., 2017; Leroy et al., 2018). Conversely, the absence of coordination leads to the isolation or duplication of functions, resulting in chaotic management structures (Striker & Grzesiak, 2022). Moreover, truly effective systems must bridge the gap between hard operational metrics (e.g. absenteeism, payroll costs) and soft strategic dimensions, such as long-term human capital development (Angelus et al., 2023; Stańczyk & Stuss, 2018). Summary effective PC requires active cooperation between HR professionals, line managers, and senior administration. Wziątek-Staśko (2016) highlights that managers

play a pivotal role in motivating employees, and without their engagement in the controlling process, strategic goals cannot be met.

Functions and decision-making (Q1 & Q3)

In terms of specific functions, the literature review confirms that PC acts primarily as an early warning mechanism, allowing for the detection of irregularities before they escalate into critical management failures (Bernais & Ingram, 2005; Striker & Grzesiak, 2022). Beyond oversight, it structures team management by clearly defining responsibilities across organizational levels (Lipych et al., 2021). Crucially, PC shifts decision-making from intuition to evidence-based practice by providing an objective data foundation (Zámečník, 2007). Strategically, it aligns individual performance with the organisation's mission (Szejniuk, 2015) and optimizes costs by identifying inefficiencies, thereby supporting data-driven talent acquisition and retention strategies.

Barriers to implementation (Q2)

Despite these clear benefits, converting theory into practice presents substantial hurdles. The analysis identified three primary barriers. First, bureaucratic inertia and rigid hierarchies in the public sector create significant resistance to new management systems (Szejniuk, 2015; Zubek, 2020). Second, there is a notable skills gap; many entities lack professionals capable of navigating both the specific regulatory environment and modern controlling principles. This deficit is compounded by limited budgets for training and technology (Brown, 2004; Lipych et al., 2021). Finally, political instability and frequent leadership changes often disrupt the continuity essential for long-term HR strategies. Overcoming these challenges requires not only training but also a firm commitment from top management to foster a culture of innovation alongside compliance.

Case study: Empirical verification

The case study of the HEI provides practical validation of these theoretical concerns. Although a formal "Controlling Department" exists within the university structure, its primary role is restricted to drafting administrative procedures. Real HRM is scattered across nearly 22 disparate units, including the Personnel Affairs Centre, HR Department, Employer Branding sections, and various project centers.

This severe fragmentation leads to a lack of cohesion. Different units operate on incompatible IT systems (e.g. separate systems for leaves, business trips, and employee evaluation), making it impossible to obtain a coherent view of the organization's human capital. As noted by Karasek (2019) and Sienkiewicz (2021), the integration of IT tools is fundamental for effective HRM, yet this study reveals significant

gaps in this area. The study confirms that in this context, “personnel controlling” is limited to mandatory administrative reporting (payroll and absenteeism) rather than serving as a strategic tool. This disconnect directly supports the research hypothesis: the implementation of PC in public entities frequently lacks the necessary systemic integration.

Conclusions

The conducted research, synthesising a systematic literature review with empirical verification, allows for a positive verification of the research hypothesis: the implementation of PC in public entities lacks a systemic and holistic approach.

The trap of administrative compliance

The study reveals a fundamental paradox in the public sector’s approach to human capital. While public entities are increasingly adopting PC tools, they primarily utilize them for retrospective administrative compliance rather than proactive management. As demonstrated by the case study, “controlling” is often reduced to the monitoring of complex financial data, such as payroll costs, absenteeism, and regulatory adherence. While this ensures budgetary discipline, it fails to leverage the strategic potential of PC. The organization possesses the data but lacks the integration required to transform that data into actionable management knowledge. Consequently, the function of PC as an “early warning system” (Q1) is severely limited; it detects financial irregularities but fails to identify critical trends in employee engagement, competence gaps, or retention risks.

Organisational silos and disintegrated data

A critical finding of this study is that the fragmentation of organizational structures acts as the primary barrier to effective controlling. The empirical analysis of the HEI highlighted the existence of isolated “islands” of activity – over 20 disparate units managing different aspects of the employee life cycle without a unified strategy. The lack of interoperability between IT systems for distinct HR functions (e.g. development, evaluation, leave management) makes it impossible to generate a holistic view of the organisation’s human capital. This structural disintegration forces managers to rely on intuition rather than evidence-based decision-making (Q3), leading to inefficiencies such as external recruitment for skills that already exist within the organisation.

The need for qualitative integration

The research underscores that for PC to be genuinely effective in the public sector, it must evolve beyond quantitative metrics. The current focus on “hard” data neglects the qualitative dimensions of HRM – motivation, organizational culture, and employee well-being. A comprehensive PC system must bridge the gap between operational efficiency (cost control) and strategic development (talent management). Without integrating these “soft” factors into the controlling framework, public entities risk creating rigid, dehumanized systems that encounter significant resistance from employees.

Barriers and recommendations

Overcoming the identified implementation challenges (Q2) – specifically resistance to change, lack of specialized expertise, and bureaucratic inertia – requires a cultural shift driven by top management. The study suggests that training programs focusing solely on technical controlling skills are insufficient. Instead, public entities need comprehensive change management strategies that position PC not as a tool of surveillance, but as a support mechanism for line managers.

Limitations and future research

The authors acknowledge limitations that should guide future research. First, the systematic literature review was bounded by specific linguistic (English and Polish) and database criteria (Scopus, WoS, Google Scholar), which may have excluded relevant administrative models from other regions. Second, the empirical component relied on a single, in-depth case study of a HEI. While this provided deep insight into the mechanisms of fragmentation, the specific structural challenges may differ in other types of public entities, such as healthcare or local government administration. Future studies should verify these findings across a broader spectrum of public institutions and investigate the psychological impact of controlling systems on the performance of public sector employees.

References

- Aikaterini, G. (2014). *Personnel Management vs. Human Resource Management: Evidence from Hellas*. <https://repository.ihu.edu.gr/xmlui/bitstream/handle/11544/588/Aikaterini+Georgiou.pdf?sequence=2>
- Armstrong, M. (2006). *A Handbook of Human Resource Management Practice*. Kogan Page.
- Baas, J., Schotten, M., Plume, A., Côté, G., & Karimi, R. (2020). Scopus as a curated, high-quality bibliometric data source for academic research in quantitative science studies. *Quantitative Science Studies*, 1(1), 377–386. https://doi.org/10.1162/qss_a_00019

- Baier-Fuentes, H., Merigó, J.M., Amorós, J.E., & Gaviria-Marín, M. (2019). International entrepreneurship: A bibliometric overview. *International Entrepreneurship and Management Journal*, 15(2), 385–429. <https://doi.org/10.1007/s11365-017-0487-y>
- Bamber, G.J., Bartram, T., & Stanton, P. (2017). HRM and workplace innovations: Formulating research questions. *Personnel Review*, 46(7), 1216–1227. <https://doi.org/10.1108/pr-10-2017-0292>
- Beer, M., Spector, B., Lawrence, P.R., Mills, D.Q., & Walton, R.E. (1984). *Managing Human Assets*. Free Press.
- Bernais J, & Ingram, J. (2005). *Controlling personalny i koszty pracy*. Wyd. Uniwersytetu Ekonomicznego w Katowicach.
- Boikivska, G., Mokhonko, G., Andrushkiv, R., Lytvynova, L., & Guk, O. (2022). Modern technologies of personnel management in the conditions of digital economy development. *International Journal of Computer Science and Network Security*, 22(2), 283. <https://doi.org/10.22937/IJCSNS.2022.22.2.35>
- Bratton, J., & Gold, J. (1996). *Human Resource Management: Theory and Practice*. Macmillan.
- Brown, K. (2004). Human resource management in the public sector. *Public Management Review*, 6(3), 303–309. <https://doi.org/10.1080/1471903042000256501>
- Brunetto, Y., & Beattie, R. (2020). Changing role of HRM in the public sector. *Public Management Review*, 22(1), 1–5. <https://doi.org/10.1080/14719037.2019.1645876>
- Cho, W., Choi, S., & Choi, H. (2023). Human resources analytics for public personnel management: Concepts, cases, and caveats. *Administrative Sciences*, 13(2). <https://doi.org/10.3390/admsci13020041>
- Demo, G., Costa, A.C.R., & Coura, K.V. (2024). HRM practices in the public service: A measurement model. *RAUSP Management Journal*, 59(1), 45–61. <https://doi.org/10.1108/RAUSP-01-2023-0005>
- Egbuta, O., & Omojola, O. (2021). Human resources management theories, policies and practices: A review of literature. *The International Journal of Business & Management*, 9(5). <https://doi.org/10.24940/theijbm/2021/v9/i5/bm2105-041>
- Eriksson, A., Axelsson, S.B., & Axelsson, R. (2012). Collaboration in workplace health promotion – a case study. *International Journal of Workplace Health Management*, 5(3), 181–193. <https://doi.org/10.1108/17538351211268836>
- Fahim, M.G.A. (2018). Strategic human resource management and public employee retention. *Review of Economics and Political Science*, 3(2), 20–39. <https://doi.org/10.1108/REPS-07-2018-002>
- Fleming, S. (2023). Human resources management in sustainable development goals. In H. Kaur & S. Prasad (Eds.), *Research on Emerging Trends for Sustainable Development* (Vol. 1, pp. 117–126). Empyrean Publishing House. <https://www.empyreanpublishinghouse.com/pdf/research-on-emerging-trends-for-sustainable-development.pdf#page=126>
- Guest, D.E. (1987). Human resource management and industrial relations. *Journal of Management Studies*, 24(5), 503–521. <https://doi.org/10.1111/j.1467-6486.1987.tb00460.x>
- Haqec, Md.W., Akter, Md.T., Hasan, M., Hossain, Md.A., Miah, Md.S., Amin, Md.A., Karmuzzaman, A., Rahman, M., Talukder, Md.T.I., & Islam, Md.K. (2023). A theoretical and practical framework for evaluating human resources effectiveness. *Saudi Journal of Business and Management Studies*, 8(06), 118–123. <https://doi.org/10.36348/sjbms.2023.v08i06.003>
- Igwe, A., Onwumere, J.U.J., & Egbo, O.P. (2014). Effective human resource management as a tool for organizational success. *European Journal of Business and Management*, 6(39).
- Kamińska, B. (2016). Personnel controlling in human resource management – theoretical perspective. *Entrepreneurship and Management – Przedsiębiorczość i Zarządzanie*, 17(1), 189–199.
- Karasek, A. (2019). The use of information technology in human resource management in American enterprises. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, 53(2), 37–44. <https://doi.org/10.17951/h.2019.53.2.37-44>
- Kuček, V., Lukáč, M., Písař, P., & Gubíniová, K. (2020). Increasing personnel competencies in museums with the use of auditing and controlling. *Sustainability*, 12(24), 1–18. <https://doi.org/10.3390/su122410343>

- Kuźniarska A. (2018). Controlling personalny jako narzędzie wspomagające tworzenie zrównoważonego personelu w organizacji. In M. Baran (Ed.), *Humanizacja Pracy* (Vol. 294, pp. 31–47). Szkoła Wyższa im. Pawła Włodkowica w Płocku.
- Leroy, H., Segers, J., van Dierendonck, D., & den Hartog, D. (2018). Managing people in organizations: Integrating the study of HRM and leadership. *Human Resource Management Review*, 28(3), 249–257. <https://doi.org/10.1016/J.HRMR.2018.02.002>
- Lipych, L., Khilukha, O., Kushnir, M., & Matviichuk, I. (2021). Personnel controlling as a tool for effective enterprise management. *Economic Journal of Lesya Ukrainka Volyn National University*, 2(26), 108–118. <https://doi.org/10.29038/2786-4618-2021-02-108-118>
- Mazur, Z., & Orłowska, A. (2018). Jak zaplanować i przeprowadzić systematyczny przegląd literatury. *Polskie Forum Psychologiczne*, 23(2), 235–251. <https://doi.org/10.14656/pfp20180202>
- Negi, A. (2015). Human resource audit system for evaluating employees performance. *International Journal of Research in Economics and Social Sciences*, 5(8), 1–9.
- Piwoń-Sulej, K., & Iqbal, Q. (2023). Leadership styles and sustainable performance: A systematic literature review. *Journal of Cleaner Production*, 382. <https://doi.org/10.1016/j.jclepro.2022.134600>
- Sekula, Z. (1999). *Controlling personalny. Cz. 1: Istota i przedmiot controllingu personalnego*. TNOiK. Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego.
- Sienkiewicz, Ł. (2021). Algorithmic human resources management – perspectives and challenges. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, 55(2), 95–105. <https://doi.org/10.17951/h.2021.55.2.95-105>
- Siverbo, S. (2023). The impact of management controls on public managers' well-being. *Financial Accountability and Management*, 39(1), 60–80. <https://doi.org/10.1111/faam.12290>
- Soósová, V. (2011). Implementation of human resource controlling in small and medium-sized enterprises. *Human Resources Management & Ergonomics*, 5(2), 94–103. <http://www.dominanta.sk/mmPersControl.htm>
- Soulsby, A., & Clark, E. (1998). Controlling personnel: Management and motive in the transformation of the Czech Enterprise. *International Journal of Human Resource Management*, 9(1), 79–98. <https://doi.org/10.1080/095851998341206>
- Stańczyk, I., & Kuźniarska, A. (2020). Role of entities of human resource management in personnel controlling. In A. Michałkiewicz & W. Mierzejewska (Eds.), *Contemporary Organisation and Management. Challenges and Trends* (pp. 283–297). Wyd. Uniwersytetu Łódzkiego. <https://doi.org/10.18778/8220-333-2.17>
- Stańczyk, I., & Stuss, M.M. (2018). Personnel controlling – human capital management. Results of selected company listed on GPW. *International Journal of Contemporary Management*, 17(3), 241–260. <https://doi.org/10.4467/244989391J>
- Striker, M., & Grzesiak, L. (2022). Experiencing personnel controlling by HR employees – preliminary research results. In D. Molek-Winiarska (Ed.), *Shaping Employee Experience in the Changing Social and Organisational Conditions* (Vol. 1, pp. 45–52). Wrocław University of Economics and Business. <https://doi.org/10.15611/2022.989.4>
- Sukalova, V., Stofkova, Z., & Stofkova, J. (2022). *Human resource management and selected personnel indicators in sustainable development*. <https://doi.org/10.20944/preprints202208.0290.v1>
- Szarková, M. (2020). Place and role of personnel audit in Slovak companies in the industrial revolution stage 4.0 and 5.0. *SHS Web of Conferences*, 83, 01065. <https://doi.org/10.1051/shsconf/20208301065>
- Szejniuk, A. (2015). Controlling personalny w procesie zarządzania zasobami ludzkimi. *Journal of Modern Science*, 2(25), 33–51. <https://www.jomswsge.com/pdf-81816-17224?filename=Personnel%20controlling%20in.pdf>
- Tinjalá, D.-M., & Buglea, A. (2015). Key sustainability metrics for labour practices – a comparative evolution of freedom of association and of non-discrimination in emerging/frontier and developed markets. In K. Stankiewicz (Ed.), *Contemporary Issues and Challenges in Human Resource Management* (pp. 18–32). Gdańsk University of Technology, Faculty of Management and Economics.

- Thom, N. (2001). *Human resource management – development tendencies and future perspectives* (Working Paper). Institute for Organization and Human Resource Management, University of Bern.
- Waxin, M.F., & Bateman, R. (2009). HRM in the public sector: Is it enough? In *International Handbook of Public Management Reform* (pp. 41–65). Edward Elgar Publishing Ltd.
<https://doi.org/10.4337/9781849802031.00010>
- World Education. (n.d.). *Human Resources Manager HRM Career Education Jobs Salary Growth*. <https://www.worldeducation.info/career-options/human-resources-managers>
- Wziętek-Staško, A. (2016). The role of managers in motivating employees. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, 50(1), 421–430. <https://doi.org/10.17951/h.2016.50.1.421>
- Zajac, P. (2018). Theoretical aspects of personnel controlling. In A. Jaki & P. Wójtowicz (Eds.), *Knowledge – Economy – Society: Contemporary Challenges of Economic Resources Management* (pp. 69–78). Foundation of the Cracow University of Economics.
- Zámečník, R. (2007). Personnel controlling as a part of the management controlling system in an enterprise. *E a M: Ekonomie a Management*, 10(2), 29–36.
- Zámečník, R., & Zeman, V. (2007). The personnel controlling instrumentaria. *Human Resources Management & Ergonomics*, 2, 1–6.
- Zubek, M. (2020). Leadership and management in public administration. *Edukacja Ekonomistów i Menedżerów*, 55(1), 114–126. <https://doi.org/10.33119/ceim.2020.55.8>