# The high-performance HRM systems in shaping employee performance – an analysis into the mediating effect of the psychological contract based on organisations in Central Poland*

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## Abstract

This paper uses independent and intermediate variables (individual and organisational) to study employee performance. It was prepared based on a literature review and a study of relations between the high-performance systems (the main predictor) and employee performance (composed of their behaviours and performance) mediated by the fulfilment of psychological contract. The research showed that the high-performance HRM systems (consisting of content, process and climate) directly and indirectly influence employee performance through the mediating effect of the psychological contract setting out the obligations of employers and employees towards each other.

## 1. Introduction

One of the main lines of research within strategic HRM in the last two decades aimed to improve the understanding of relationships occurring between HRM and employee performance (Delaney/Huselid 1996; Lepak et al. 2007; Stavrou et al. 2010; Sanders et al. 2014; Ostroff/Bowen 2016). In the literature, the performance achieved by an organization is considered in terms of three main groups of factors (Jiang et al., 2012), namely: 1) employees' skills, attitudes and behaviours, 2) operating performance (measured by productivity, growth and creativity) (Wojtczuk-Turek 2016), and 3) financial performance (evaluated based on sales growth, return in equity and return on assets) (Tsai 2006; Kątnik 2011).

The early studies that explored the role of HRM systems in organizations' financial performance examined statistical evidence to find out whether individual HRM practices or HRM systems directly contributed to their results without giving attention factors that could mediate a HRM approach and employee performance. In the following years several studied were conducted (e.g. Boselie et al. 2005), which assumed that effective HRM could contribute to the operating per-
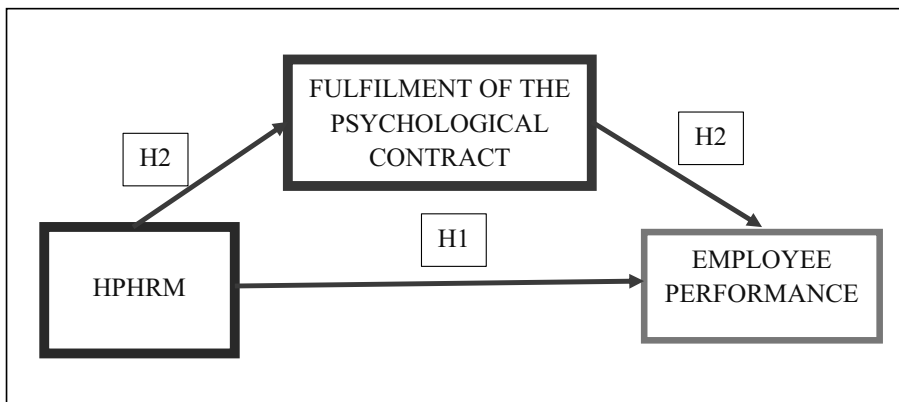
** *Anna Rogozińska-Pawełczyk*, Professor, University of Łódź, Faculty of Economics and Sociology, Department of Labour and Social Policy. Email: anna.rogozinska@uni.lodz.pl. Main areas of research: human resource management, psychological contract, organisational change, organisational behaviour.

formance of an organization (Hartog et al. 2012) and thus to its financial performance. In other words, what has been established so far is that a HRM system can influence three dimensions of organisational performance (Jiang et al. 2012). Even though HRM has been found to be related to organisations' results, the debate about why the relationship produces produce positive results has not reached a conclusion yet (Wright et al. 2005).

HRM systems are important as instruments for stimulating employee performance (Wall/Wood 2005). It is especially true about the high-performance HRM (HPHRM) systems that strengthen the desired behaviours of employees, as well as modifying their beliefs, attitudes and the hierarchy of values. The tool for encouraging employees to adopt the organizationally beneficial attitudes and behaviours is the psychological contract, i.e. an unwritten agreement concluded between the employer and an employee that sets their individual, reciprocal promises, expectations and commitments (Rousseau 1989). Evidence from the empirical research confirms (Rogozińska-Pawełczyk 2016) that the fulfilment of the psychological contract mediates between the HRM effect on employees' inclination to show specific attitudes and behaviours in their job.

This paper considers employee performance using independent and intermediate variables characterising individuals and organizations. The empirical part of the research involved quantitative analysis of relationships between HPHRM systems and employee performance. To explain the relationships, a model is proposed (see figure 1) which assumes that a HPHRM system (the predictor) contributes to employee performance both directly and indirectly, in the latter case being mediated by the fulfilment of the psychological contract (the mediator).
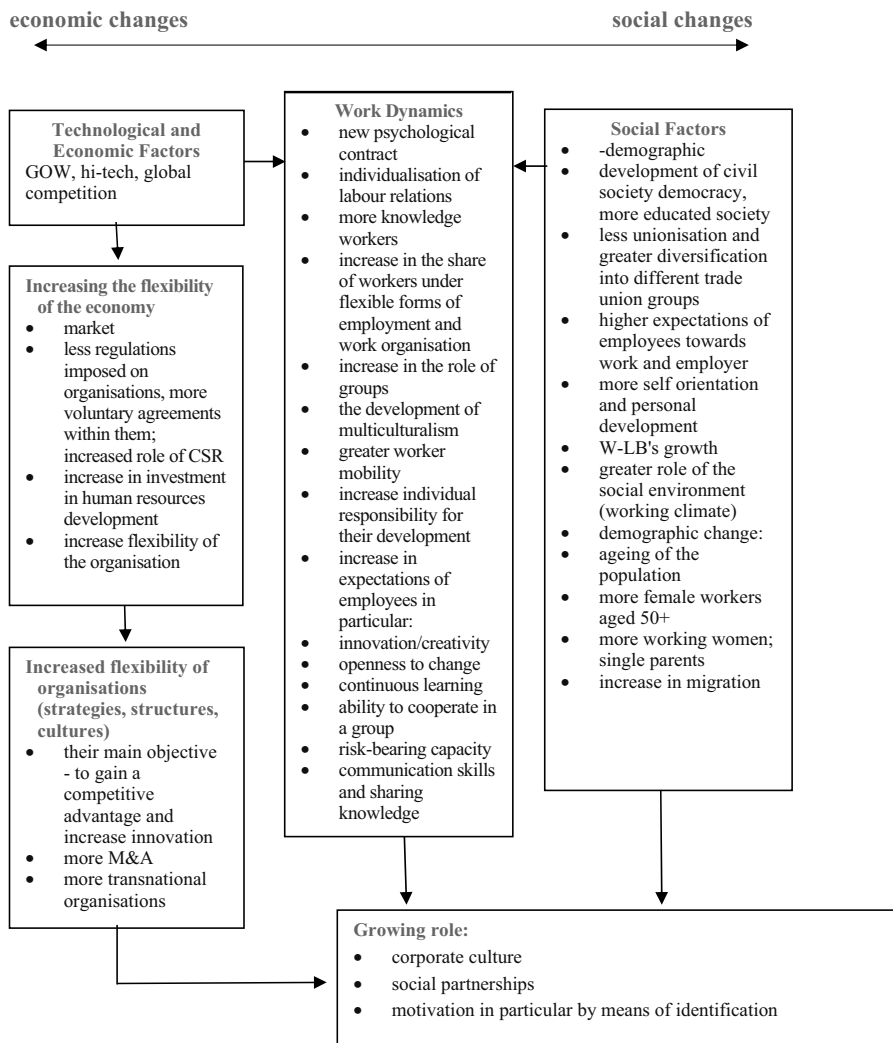
**Figure 1. Relationships between the model's components**



Source: developed by the author.

## 1. Trends in human resource management in Poland

Economic, political and demographic changes in Poland have serious social consequences for human resource management in organisations. The financial crisis of 2007–2008 has resulted in an ongoing need to reduce labour cost cuts, which in most cases has led to redundancies and the shelving of the available human capital.

**Figure 2. Key factors for change in Human Resource Management**

economic changes ⟷ social changes

**Technological and Economic Factors**
GOW, hi-tech, global competition

**Increasing the flexibility of the economy**
- market
- less regulations imposed on organisations, more voluntary agreements within them; increased role of CSR
- increase in investment in human resources development
- increase flexibility of the organisation

**Increased flexibility of organisations (strategies, structures, cultures)**
- their main objective - to gain a competitive advantage and increase innovation
- more M&A
- more transnational organisations

**Work Dynamics**
- new psychological contract
- individualisation of labour relations
- more knowledge workers
- increase in the share of workers under flexible forms of employment and work organisation
- increase in the role of groups
- the development of multiculturalism
- greater worker mobility
- increase individual responsibility for their development
- increase in expectations of employees in particular:
- innovation/creativity
- openness to change
- continuous learning
- ability to cooperate in a group
- risk-bearing capacity
- communication skills and sharing knowledge

**Social Factors**
- -demographic
- development of civil society democracy, more educated society
- less unionisation and greater diversification into different trade union groups
- higher expectations of employees towards work and employer
- more self orientation and personal development
- W-LB's growth
- greater role of the social environment (working climate)
- demographic change:
- ageing of the population
- more female workers aged 50+
- more working women; single parents
- increase in migration

**Growing role:**
- corporate culture
- social partnerships
- motivation in particular by means of identification

Source: A. Rogozińska-Pawełczyk (2016): *Zarządzanie zasobami ludzkimi oparte na kontrakcie psychologicznym*, Warszawa: IPiSS. pp.43.

Polish HRM changes at an increasing pace, following changes in the character of work and in the internal and external environments of organisations (see figure 2). Polish studies conducted in the 2010 s have demonstrated that factors comprising the environments influence organisations, their strategies, structures, as well as the dynamics of work (Zadura-Lichota 2015, Melnarowicz 2017).

Organisational culture, business profiles, employment, work requirements and employees themselves change, too. Polish organisations increasingly need knowledge employees who have bigger and different expectations about their work than non-knowledge employees. As a result, they are faced with the following HRM dilemma: should they merely follow the knowledge workers' needs or rather try to predict, or perhaps even inspire, future changes to appropriately prepare the personnel function in advance. The second approach apparently increases the odds of organisational HRM improving employees' performance and, thus, the financial efficiency of the organisation (Myjak 2018).

The analyses conducted by Rogozińska-Pawełczyk (2016) show that Polish organisations will build and develop their human capital around the following transition processes:

1. From the domination of physical work to the domination of knowledge-based work (which becomes a key determinant of organisations' value and their ability to compete on the global scale).
2. From simple, routine work to one that is creative, variable and diversified (this involves the development of a learning culture, openness to changes, acceptance of uncertainty, risk, and cultural diversity).
3. From employee subordination to more partnership relations in the workplace (employee empowerment, greater independence and responsibility).
4. From individual work based on rivalry to group work, cooperation, and exchange of information.
5. From legally unprotected work to workplace relations based on a psychological contract.
6. From human labour to work utilising artificial intelligence and ICT solutions.

Contemporary HRM strategies in Poland are aimed at establishing structures that allow organisations to meet employees' expectations which express the value of their human capital. They also emphasise that employees' well-being is achieved when they themselves and their organisation meet their interests together, and seek to ensure that employees' attitudes and performance are aligned with the economic goals pursued by the organisation (Myjak 2018). The trends justify further research into how the shape of HRM strategies and systems influences employees' productivity.

The trends in the HRM area observed in the organisations based in central Poland and Łódź (where the research for this article was carried out) are very much the same. In the 20th c., Łódź was a major producer of textiles, but the col-

lapse of communism in the early 1990 s Łódź and the domination of inexpensive Asian textiles in European markets threw it into a crisis. Unable to compete in the open market, the city's large factories were being shut down one by one. The 2000 unemployment rate in Łódź was 13 percent, whereas in other large cities it fluctuated around 4 percent. Łódź has learnt the lesson well and has chosen diversity. From a textile industry centre it used to be, it has evolved into a centre of knowledge, technologies, and specialist business services (BPO/SSC, IT, and R&D), and a place where the logistics, white goods, electronics, biotechnology, and modern textile industries thrive. Łódź is also an academic city and a centre of culture. The research into the productivity of employees in central Poland was prompted by the fast pace of changes in its economy and Polish HRM.

## 1.1 Theoretical framework and the model's theoretical background

The theoretical framework for the model was the Guest (2011) and Zhang and Morris (2014) concepts of influencing employee performance. Based on the knowledge that high-quality human capital has a bearing on the level of employee performance and consequently on the performance of the organisation (Sels et al. 2006), the employee performance variables were selected for this study using human behaviour theories and a performance-based approach (Aguinis 2016) utilizing the measures of individual behaviours and performance indicators of the most efficient employees. This approach to selecting performance variables involved the use of many measures providing direct insight into employees' behaviour.

Because the operating performance ratios (e.g. profits, market value, ROE, revenue and sales per employee, or employee turnover) concentrate on work results rather than on behaviours, research should seek to establish how employee behaviour and organizational operating performance are related to each other. According to the results of studies by Delaney and Huselid (1996) and by Klassen et al. (1998), employee performance should be measured using productivity, efficiency, effectiveness and efficacy. Because of the terms' definitional obscurity and the blurred semantic borders between them, only effectiveness and efficiency will be used herein to evaluate employee performance. Effectiveness is defined as the degree of employee's ability to achieve organisational goals while efficiency is understood as their potential for maximizing organizational revenues while using minimum inputs. Both measures are the most relevant to manufacturing environments delivering tangible outputs. Their use for the purposes of service providers (especially those delivering intangible services) is somewhat problematic. Pocztowski (2008) mentions organizations' studies on employee performance that considered employees' characteristics, behaviours and performance. Accordingly, the next three indicators with which employee performance will be measured are: 1) employee development understood as an indi-

vidual's improving ability to exploit opportunities and confront challenges as they arise; 2) innovativeness defined as the ability of an individual employee to find new solutions and improvements for processes to enhance organisational competitiveness; and 3) quality meant as the ability of an employee to generate as many top-quality ideas/products/services as possible. There are two arguments that support the use of measures in this study. Firstly, all of them focus on the performance of an individual. Secondly, they consider it in terms of its value and the benefits for the organization (Wojtczuk-Turek 2016).

The second theoretical pillar of the model proposed above is the HPHRM systems, i.e. systems marked by strong integration of HRM content, process and climate (Bowen/Ostroff 2004). The HRM content is a cluster of practices and policies that organizations use to make their employee selection, retention and development processes more efficient, and to improve the use of human capital in line with their strategic goals (Boselie et al. 2005).

Most HRM practices constituting its content are aimed to attract and recruit the right job applicants, to set the goals for human resource development, to implement a remuneration policy facilitating the retention and motivation of employees, and to foster positive relations among the workforce (Boxall et al. 2011). These key practices underlie the creation of HRM strategies (Boselie et al. 2005; Lepak et al. 2007) for planning, recruiting and selecting the best-quality human capital for the organisation. Employee development is directly linked to the organisation's ability to function, the assessment of their performance and fair remuneration help focus their energy on the execution of their tasks, and relations among employees influence the overall climate in the organization and thereby its performance.

The HRM process is about how HRM practices are communicated to employees (Li et al. 2011). Because it involves the risk of employees understanding HRM practices in their own way, i.e. different than intended by the organisation, Bowen and Ostroff (2004) argue that a system for communicating HRM practices should be characterised by distinctiveness, consistency and consensus to be effective.

Distinctiveness means a need to emphasise the causal relationship between an event and its outcome in order to make a HRM practice visible and interesting. Consistency, too, places emphasis on the causal relationship between an event and its outcome but its purpose is to ensure the coherence of time, people and contexts. Consensus requires that the features of the system used to communicate HRM practices to employees enable them develop basically the same understanding of its impacts. This means that an organization has a strong HPHRM system when it meets the criteria of distinctiveness, consistency and consensus. The strength of a HPHRM system means that it ensures the common understanding and interpretation of HRM practices by employees, thus fostering their

positive attitudes and behaviours and consequently enhancing the organisation's performance.

The HRM climate is as important as its process and content, because it determines whether the perception of HRM practices in the organization will differ, and how much, from intended (Kinnie et al. 2005). The HRM climate is viewed as the general atmosphere in the organization, subjectively experienced and evaluated by its employees (Wudarzewski 2016). Its significance derives from the fact that an organization's performance partly depends on the employers' and employees' cognitive abilities translating into the amount of information they can process to understand each other's intentions (Nishii et al. 2008). The individual cognitive limits of employees are important because they determine their interpretations of HRM practices, which may be different from what the employer wished to achieve (Guzzo/Nooman 1994). When HRM practices are consistently perceived across the organization and its HRM climate is strong, employees' behaviours are likely to correspond to what their organizations expect of them (Bowen/Ostroff, 2004). Bowen and Ostroff (2004) concluded that for a HPHRM system to have real influence on performance its content and process must be well integrated. They also observed that the manner of communicating HRM practices (HRM process) can develop create a relationship between HRM practices (content) and the way they are perceived and experienced (climate). The observation was challenged by Li et al. (2011) who suggested that in fact the HRM process loosens the relationship between the actual and expected perception of HRM practices, because in strong HRM systems employees perceive events similarly and consequently has similar expectations as to HRM practices

The model proposed in this paper was constructed assuming that the fulfilment of the psychological contract's obligations (transactional or relational) by the employer was a prerequisite of employee honouring theirs. The extent of fulfilment of the psychological contract was evaluated using the theoretical framework of social exchange occurring between the employer and an employee and the norm of reciprocity it involves (Rousseau 1995).

In the literature dealing with the psychological contract, the fulfilment of the psychological contract is associated with the emergence of temporary cognitive patterns whereby both employees and employers can determine whether the departures from their reciprocal arrangements are cognitively acceptable or not (Schalk/Roe 2007). How balanced the relations between the parties are can be determined by evaluating the degree to which they meet their obligations and honour reciprocal expectations. If both parties appreciate what they receive and deliver on their promises, then they show satisfaction, commitment and motivation for work (Coyle-Shapiro/Shore 2007). The model proposed in this paper was built on the assumption that the employer and an employee were committed to keeping their promises.

Although psychological contracts tend to be very subjective (Rousseau, 2010), based on their characteristics they can be classified into one of two main categories: transactional or relational contracts (Rogozińska-Pawełczyk 2011). The transactional contract highlights the parties' economic gains and its time frame can be fixed in advance. While being performance oriented, this type of the psychological contract also allows an employee to develop their competences, increases their earnings, and adds prestige to the job involved. The relational psychological contract comes with certainty of employment and long career with the organisation in exchange for which it expects loyalty and acceptance of organizational hierarchy by the employee (Rogozińska-Pawełczyk 2015). Some studies suggest that the selection of HRM policies and practices can influence the fulfilment of both types of the psychological contract (Pathak et al. 2005). An argument in support of this thesis was provided by Rogozińska-Pawełczyk (2016), who showed that which type of the psychological contract predominates in the organization can be determined from whether an organization has built its HRM policy on involvement or flexibility and from its HRM practices. The confirmation of the scientific soundness of this conclusion was the relationship between employee assessment systems, career paths and the variable element of remuneration on the one hand and the type of the psychological contract on the other hand that she demonstrated (Rogozińska-Pawełczyk 2012; 2016). Because of the findings, the proposed model was extended to employees' and employers' fulfilment of their reciprocal obligations under relational and transactional contracts.

## 2. Research method

### 2.1 Procedure and measures

The quantitative research was aimed to establish the relationship between the high-performance HRM systems (HPHRM) and employee performance in regard to the mediating role of the psychological contract. The following research hypotheses were tested:

H1.    *There is a positive relationship between a high-performance HRM system and employee performance.*

H2.    *The fulfilment of the psychological contract is a mediator between a high-performance HRM system and employee performance.*

In order to test both hypotheses, to find relationships between the selected variables, and to evaluate the role of the mediator, a correlation analysis and multiple regression analysis were performed using the QUADAS tool. Correlations were assumed significant at $p<0.05$ and $p<0.01$. To quantify the role of the mediator, regression models and 5000 bootstrapping samples were used. For the

purposes of the analysis, the structural equation modelling (SEM) method (part of the STATA/SE package) was additionally applied (Preacher/Hayes 2004). It was used because of the need to analyse multivariate models containing a large number of predictors (a high-performance HRM system with its content, process and climate) and of mediators (the fulfilment of the psychological contract by employees and employers). Another important argument for using the SEM was that it outperforms the regression models as a tool for analysing variables.

## 2.2. Participants

The survey was conducted in 100 organisations based in the Lodz voivodeship (in Central Poland). The respondents were the representatives (n=100) of the top or middle-level management or persons in charge of HR departments.

The sampled organisations varied in size from medium (82 %) to large (18 %); 69 % of them were privately held and 31 % represented public sector servives. Most organizations were in the manufacturing industry (43 %), others in industries such as R&D services (9 %), IT services (9 %), transport and telecommunications (7 %), trade (7 %), construction (6 %), healthcare (4 %), and banking, finance and insurance (3 %). As far as the respondents' gender, age, the number of years in employment and job are concerned, 53 % were women and 47 % were men; people aged to 25 years constituted 3 %, 23 % were aged between 26 and 35 years, 37 % were in the age group 36–45 years, 24 % were aged from 46 to 55 years, and 13 % were older than 56; 8 % of respondents were employed to 5 years and 92 % were employed longer than 5 years; 30 % were department directors, 29 % managed HR departments, and 41 % were non-managerial employees in different organizational units. The structure of the test sample is shown in Table 1.

**Table 1. The structure of the test sample (N=100)**

| Variable | | Respondents | |
|---|---|---|---|
| | | % | n |
| Gender | Female | 53 | 53 |
| | Male | 47 | 47 |
| Age | < =25 years | 3 | 3 |
| | 26–35 years | 23 | 23 |
| | 36–45 years | 37 | 37 |
| | 46–55 years | 24 | 24 |
| | > 55 years | 13 | 13 |
| Seniority | <= 5 years | 8 | 8 |
| | >5 years | 92 | 92 |

Source: developed by the author.

## 2.3 Questionnaire

The survey was anonymised and was carried out using the CATI technique (computer-aided telephone interviews). The measurements of the selected variables were made using the following diagnostic tools:

**High-performance HRM system** – a HPHRM system is a theoretical construct, so it was not investigated directly but used as a lateral variable. Its attributes (content, process and climate) were measured by means of three tools developed from the high-performance work concept (Combs et al. 2006; Lepak et al. 2006; Lepak et al. 2007).

**Content** – (HRM practices) – was measured against items adapted from the tools measuring HRM practices (Guthrie 2001; Tsai 2006; Fu et al. 2015). Based on the exploratory factor analysis, the following practices were selected: Motivation (ZM), Training and professional development (ZSRz), Performance-based remuneration (ZWo) and Assessment of productivity (ZOw). Each practice was described by three items such as: „My career path and personal development plan in the organisation are clearly defined" (ZSRz), „The motivating system addresses my personal expectations" (ZM). Respondents rated the statements on a 5-point Likert scale, where 1 represented „I strongly disagree" and 5 – „I strongly agree". The Cronbach's alpha coefficient indicating the reliability of this research tool was 0.78.

**Process** – this variable was evaluated on three subscales, namely distinctiveness (13 items), consistency (11 items) and consensus (16 items) (Bowen/Ostroff, 2004). All items were derived from the tool developed by Delmotte et al. (2007) to evaluate the strength of a HRM system**.** Some of the items read as follows: „In my organisation, there are clear promotion criteria for each job" (distinctiveness) or „I am satisfied with the bonus I received recently" (consensus). Each subscale's items were evaluated on a 5-point Likert scale, where 1 meant „I strongly disagree" and 5 – „ I strongly disagree". The Cronbach's alpha coefficient indicative of the tool's reliability was high – 0.89.

**HRM climate** – (the perception of HRM practices) – was evaluated using four subscales for HRM practices indicated by the exploratory factor analysis: Motivation (KM), Training and professional development (KSRz), Performance-based remuneration (KWo), and Job performance assessment (KOw). Each practice was assessed against three items that, unlike those used to study HRM content (practices), were aimed to evaluate respondent's satisfaction with HRM practices in their organization. The items were defined as questions such as: „Are you satisfied with the quality of training you get in your organization?" or „Are you satisfied with your salary?" Each subscale's items were rated by respondents on a 5-point Likert scale, where 1 denoted „not at all" and 5 – „very much". The Cronbach's alpha coefficient for this tool was 0.81.

**Fulfilment of the psychological contract** – was measured using two subscales, each having 5 items – method developd Mcneil (2000) and Rousseau (1989). One subscale assessed the transactional aspects and the other the relational aspects of employers' and employees' fulfilment of their psychological contract obligations. Whether an aspect was transactional or relational was determined using the categorisation system used by Thompson and Hart (Thompson/Hart, 2006). The transactional aspect comprised economic variables such as pay, its level and structure, performance-based profit sharing, and variables that could generate incomes in the future, e.g. opportunities for personal development and promotion. The relational aspect consisted of 'social' variables, including a good workplace atmosphere, values associated with organization's CSR, and the quality of relations between the employer and employees (e.g. employment certainty and security, fair treatment from the employer).

To measure the fulfilment of the employer's and employees' transactional and relational obligations two subscales were used, each containing 5 items such as „Does your employer deliver on their promise to provide promotion opportunities in the organization?" (the employer has offered a relational psychological contract) or „Do employees share their expertise with other people in the organization as they promised?" (employees have accepted a transactional psychological contract). All items were assessed by respondents on a 5-point Likert scale, where 1 was „not at all" and 5 „very much". The Cronbach's alpha coefficient for this research tool was 0.77.

**Employee performance** – this variable was measured on 5 subscales (effectiveness, efficiency, development, innovativeness and quality), each containing 3 items adapted from the tools that Delaney and Huselid (1996) and Klassen et al. (1998) developed to measure employee performance (behaviours and work results). Some of the items were as follows: „I do my job carefully, competently and efficiently" or „I think I undertake enough training to do my job competently". The Cronbach's alpha coefficient for this tool was 0.89. Respondents gave their answers on a 5-ppoint Likert scale, where 1 denoted „I strongly disagree" and 5 „I strongly agree".

## 3. Analysis of research results

The first step of statistical analysis involved the calculation of correlations between the variables (table 2).

Table 2. Correlation coefficients calculated for the selected variables

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Wes HRM Ogól | 1 | | | | | | | | | | | | | | | | | | | | | |
| 2 Z | 0.34** | 1 | | | | | | | | | | | | | | | | | | | | |
| 3 ZM | 0.21** | 0.11** | 1 | | | | | | | | | | | | | | | | | | | |
| 4 ZSRz | 0.54** | 0.43** | 0.13** | 1 | | | | | | | | | | | | | | | | | | |
| 5 ZWo | 0.43** | 0.61** | 0.48** | 0.41** | 1 | | | | | | | | | | | | | | | | | |
| 6 ZOw | 0.35** | 0.13** | 0.12** | 0.40** | 0.19** | 1 | | | | | | | | | | | | | | | | |
| 7 P | 0.57** | 0.15** | 0.11** | 0.70** | 0.27** | 0.86** | 1 | | | | | | | | | | | | | | | |
| 8 O | 0.34** | 0.10* | 0.49** | 0.36** | 0.36** | 0.43** | 0.56** | 1 | | | | | | | | | | | | | | |
| 9 S | 0.35** | 0.21** | 0.25** | 0.56** | 0.42** | 0.75** | 0.55** | 0.21 | 1 | | | | | | | | | | | | | |
| 10 K | 0.44** | 0.16** | 0.28** | 0.09* | 0.28** | 0.61** | 0.60** | 0.40** | 0.57 | 1 | | | | | | | | | | | | |
| 11 KI | 0.45** | 0.45** | 0.33** | 0.57** | 0.36** | 0.67** | 0.19** | 0.12** | 0.29** | 0.26** | 1 | | | | | | | | | | | |
| 12 KM | 0.48** | 0.57** | 0.24** | 0.29** | 0.32** | 0.58** | 0.52** | 0.46** | 0.35** | 0.36** | 0.30** | 1 | | | | | | | | | | |
| 13 KSRz | 0.60** | 0.54** | 0.28** | 0.35** | 0.43** | 0.63** | 0.43** | 0.10* | 0.22** | 0.07 | 0.27** | 0.11** | 1 | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 KWo | 0.12** | 0.59** | 0.18** | 0.22** | 0.23** | 0.44** | 0.58** | 0.47** | 0.39** | 0.19** | 0.16** | 0.03 | 0.13** | 1 | | | | | | | | |
| 15 KOw | 0.33** | 0.50** | 0.23** | 0.39** | 0.45** | 0.54** | 0.53** | 0.38** | 0.23** | 0.23** | 0.39** | 0.10* | 0.48** | 0.82** | 1 | | | | | | | |
| 16 KP Pracow. | 0.77** | 0.59** | 0.31** | 0.23** | 0.38** | 0.43** | 0.55** | 0.22** | 0.36** | 0.17** | 0.48** | 0.11** | 0.11** | 0.56** | 0.70** | 1 | | | | | | |
| 17 KP Pracod. | 0.68** | 0.45** | 0.31** | 0.24** | 0.29** | 0.36** | 0.52** | 0.31** | 0.37** | 0.26** | 0.44** | 0.10* | 0.49** | 0.49** | 0.54** | 0.81** | 1 | | | | | |
| 18 WPr | 0.59** | 0.61** | 0.24** | 0.36** | 0.39** | 0.33** | 0.57** | 0.27** | 0.21** | 0.38** | 0.36** | 0.16** | 0.38** | 0.71** | 0.69** | 0.54** | 0.84** | 1 | | | | |
| 19 E | 0.35** | 0.57** | 0.29** | 0.36** | 0.07 | 0.45** | 0.59** | 0.16** | 0.43** | 0.25** | 0.16** | 0.13** | 0.24** | 0.64** | 0.50** | 0.58** | 0.71** | 0.34** | 1 | | | |
| 20 W | 0.38** | 0.64** | 0.10* | 0.21** | 0.14** | 0.58** | 0.54** | 0.25** | 0.24** | 0.29** | 0.23** | 0.12** | 0.25** | 0.49** | 0.64** | 0.73** | 0.61** | 0.55** | 0.19** | 1 | | |
| 21 R | 0.34** | 0.62** | 0.15** | 0.43** | 0.23** | 0.38** | 0.45** | 0.26** | 0.34** | 0.16** | 0.31** | 0.11** | 0.28** | 0.46** | 0.61** | 0.79** | 0.64** | 0.59** | 0.57** | 0.21** | 0.34** | 1 |
| 22 I | 0.35** | 0.62** | 0.11** | 0.45** | 0.11** | 0.49** | 0.62** | 0.32** | 0.21** | 0.31** | 0.11** | 0.31** | 0.22** | 0.57** | 0.81** | 0.64** | 0.50** | 0.57** | 0.17** | 0.41** | 1 | |
| 23 J | 0.41** | 0.58** | 0.15** | 0.36** | 0.25** | 0.57** | 0.66** | 0.28** | 0.11** | 0.18** | 0.21** | 0.09 | 0.24** | 0.56** | 0.72** | 0.48** | 0.33** | 0.29** | 0.15** | 0.43** | 0.37** | 0.13** |

**Wes HRM Ogół** – the HPHRM system, **Z** – content, **ZM** – motivation, **ZSRz** – training and professional development, **ZWo** – performance-based remuneration, **ZOw** – assessment of productivity, **P** – process, **O** – distinctiveness, **S** – consistency, **K** – consensus, **KI** – climate, **KM** – motivation, **KSRz** – training and professional development, **KWo** – performance-based remuneration, **KOw** – assessment of productivity, **KP Pracow.** – fulfilment of the psychological contract by the employee, **KP Pracod.** – fulfilment of the psychological contract by the employer, **WPr** – employee performance, **E** – effectiveness, **W** – efficiency, **R** – development, **I** – innovativeness, **J** – quality.
* $p < 0.05$, ** $p < 0.01$.
Source: developed by the author.

As the data in table 1 show, employee performance is moderately and significantly correlated with a high-performance HRM system ($r=0.59$; $p<0.01$) and its dimensions, i.e. content ($r=0.61$; $p<0.01$), process ($r=0.57$; $p<0.01$) and climate ($r=0.36$; $p<0.01$) (table 1). Moreover, employee performance as a whole and its constituent variables (effectiveness, efficiency, innovativeness and quality) are positively and moderately correlated with employee performance. This confirms the findings of earlier research according to which organizational HRM practices: (content: motivation, training and professional development, performance-based remuneration and assessment of productivity) are correlated with the manner of their communication (process) and their perceived importance by employees (climate) (Bowen/Ostroff 2004; Nishii et al. 2008; Katou 2015).

How the independent variable (a HPHRM system) correlated with the mediator (the fulfilment of the psychological contract) was important for evaluating the strength of the research hypotheses. Analysis showed a positive correlation between the HPHRM system and the fulfilment of the contract by employees ($r=0.59$, $p<0.0$) and employers ($r=0.68$, $p<0.01$), and a positive and moderately strong correlation between the system's particular dimensions and the mediator. Employee performance was also positively correlated with the mediator ($r=0.54$, $p<0.01$ for employers meeting their obligations and $r=0.84$ $p<0.01$ for employees).

**Table 3.   The results of regression analysis**

| Variable | Model 1 | Model 2 |
|---|---|---|
| Independent variable: high-performance HRM systems | 0.565*** | 0.496*** |
| Control variables: | | |
| Gender | -0.300** | -0.151* |
| Age | 0.920** | 0.976** |
| Duration of employment | 0.431** | 0.316** |
| Organization's size | 0.020 | 0.076 |
| Industry | -0.560** | -0.534** |
| Ownership | 0.325** | 0.298** |
| Mediating variable: fulfilment of the psychological contract | - | 0.605*** |
| $R^2$ | 0. 26 | 0.24 |
| $\Delta R^2$ | 0.22 | 0.25 |
| F | 20.192*** | 34.770*** |

\* $p<0.05$; \*\* $p<0.01$; \*\*\* $p<0.001$.
Source: developed by the author.

To study the nature of the correlation between the HPHRM system and employee performance and to assess the mediating effect of the fulfilled psychological

contract, a stepwise regression analysis and a bootstrapping procedure were used. Two regression models were constructed that allowed, respectively, for a direct and indirect (stronger) influence of the HPHRM system on employee performance. The results of this analysis are shown in table 3.
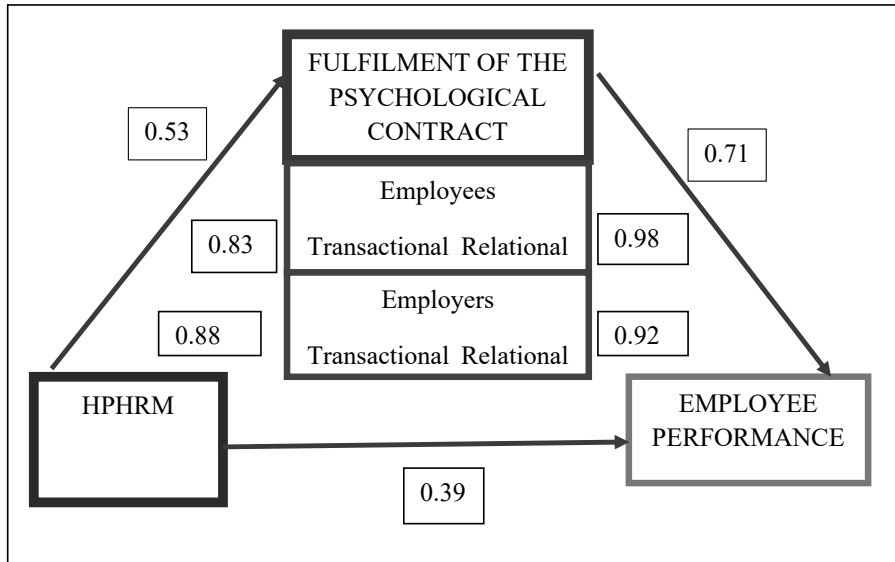
Both models proved statistically significant and well fitted to the data (F=34.770, p<0.001 and F=20.191. p<0.001, respectively). They showed that, as expected, the HPHRM system (the predictor) influenced employee performance both directly and indirectly. The direct effect in the first model (β = 0.565; p<0.01) meant that employee performance would improve with the HPHRM system's elements becoming more visible. In the second model, the introduction of the mediator increased the predictor's value with respect to the explained variable (performance). The mediator significantly correlated with both the dependent variable (employee performance) and the predictor that stimulated employee performance indirectly (β = 0.605; p < 0.001), i.e. through the mediator.

Both organisational control variables (organisation's size and industry) and individual control variables (age, gender, the number of years in service) significantly determined the effectiveness of the HPHRM system and employee performance. The negative value of the variable 'manufacturing industry' indicated that it was less correlated with all analysed variables than 'trade and services sector' (the strongest correlations were found for 'R&D services' and 'IT services'). The implication of the positive value of 'ownership' was that employees in private organisations performed better than those in public administration. The effect of the HPHRM system on employee performance depended on their age, gender and the number of years in service: women, persons older than 46 years of age and employees who were employed the longest reported a stronger association between employee performance and the HPHRM system in place.

Summing up, the HPHRM system has a direct as well as indirect influence on employee performance. The stronger influence observed in the second case means that the HPHRM system improves employee performance the most when both the employer and employees fulfil the psychological contract. Accordingly, hypotheses H1 and H2 have been empirically confirmed.

They have also been confirmed by the results of the structural equation modelling (SEM) procedure where the HPHRM system functioned as the predictor, the fulfilment of the psychological contract as the mediator, and employee performance as the dependent variable. The relationships between these variables are shown in figure 3.

**Figure 3.  The relationships between a HPHRM system and employee performance and the mediating effect of the fulfilment of the psychological contract by employees and employers.**



Source: created by the author.

The model is well fitted to the data ($\chi2$= 2.950, df= 244, p=0.000, RMSEA= 0.076, NFI= 0.992, CFI= 0.914, GFI= 0.851, SRMR= 0.013) and significantly explains how its components are related to each other. As can be seen, employee performance is directly influenced by the HPHRM system through the fulfilment of the psychological contract. The implication of the relational aspect being more important in both transactional and relational psychological contracts is that it is more important for the effectiveness of the HPHRM system (Rogozińska-Pawełczyk 2016; Uen et al. 2009), as well as that the relational aspect has a stronger effect on employee performance. It must be borne in mind, however, that is the transactional aspect of the psychological contract that must be taken care of first, because it is a prerequisite for the parties to meet their relational obligations afterwards.

## 4.  Conclusions

The above analysis of the quantitative research results has confirmed the complexity of relationships between the HPHRM systems and employee performance, and consequently the need to study them using an interactive approach. Showing that the HPHRM systems are related to employee performance, it is also consistent with the findings of other researchers, such as Bowen and Ostroff

(2004) and Katou (2015), and acknowledges the view that HPHRM systems are important for organizations because they make employees more productive by inducing a similar perception of HRM practices across the workforce.

The psychological contract is a very fragile theoretical construct, the importance of which increases as the organization becomes more complex and chaotic. In the self-organising organisations, the relationship is less clear. The presence of a strong relationship can only be explained in the framework of a sophisticated self-organisation theory, such as synergy, according to which the structure and functioning of the entire organisations are regulated by values, beliefs and attitudes. The results of this study support the assumption that values, value development and organizational culture are more important in organisations that have achieved a higher level of self-organisation.

The HPHRM systems have been shown to have a direct as well as indirect influence on employee performance, the latter being largely dependent on the fulfilment of the psychological contract by employees and employers. In both cases the outcomes are significantly determined by individuals' characteristics. The very fulfilment of the psychological contract, especially the relational one, also considerably influences employee performance. Organizations should consider using this relationship as a mediator between the high-performance HRM systems and employee performance. According to the research results, shaping employee performance modifies the functioning of individual employees as well as of the organization.

The analysis of employee performance (behaviours and performance) and of its determinants can help formulating recommendations for personnel management.

- Because this study has shown that the HRM content, process and climate (comprising an integrated HRM system) have effect on employee performance, managers should take more care to ensure that the clusters HRM practices are more visible (explicit and noticeable) to employees, more comprehensible (easily understandable), and more meaningful (helping employees achieve goals).
- Efforts are also necessary to raise the employees' awareness of a HPHRM system being in place (as HRM practices can significantly improve their performance and quality of work) and to ensure that it is understood or interpreted in the same or similar way (this requires that the HRM department sends its messages in a co-ordinated manner, consistent across contexts and times). HR managers focused on these aspects of high-performance HRM systems will be able to come with better relational psychological contracts capable of stimulating employee performance.
- The study has provided insight into personnel management practices in organisations that are aware of the role of the psychological contract as a means for improving employee performance, and where the fulfilment of the psy-

chological contract is a mediator between employee performance and high-performance HPHRM systems. One has to be aware, however, that preparing a positive psychological contract is a difficult task (Rogozińska-Pawełczyk, 2016). It is therefore important that the personnel policy in an organization involves open communication and ongoing dialogue between managers and employees.

The study seems to provide a solid starting point for future research with a larger, representative sample, which will investigate the fulfilment of psychological contracts as a predictor of employee performance and as a mediator between the high-performance HRM systems and employee performance.

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## References

Aguinis, H./O'Boyle, E./Gonzalez-Mulé, E./Joo, H. (2016), Cumulative advantage: Conductors and insulators of heavy-tailed productivity distributions and productivity stars, in: Personnel Psychology, 69, 3- 66.

Boselie, P./Dietz, G./Boon, C. (2005): Commonalities and contradictions in HRM and performance research, in: Human Resource Management Journal, 15, 3, 67–94.

Bowen, D.E./Ostroff, C. (2004): Understanding HRM-firm performance linkages: the role of the 'strength' of the HRM system, in: Academy of Management Review, 29, 2, 203–221.

Boxall, P./Ang S./Bartram, T. (2011): Analysing the "black box" of HRM: uncovering HR goals, mediators and outcomes in a standardized service environment, in: Journal of Management Studies, 48, 7, 1504–1532.

Combs, J./Liu, Y./Hall, A./Ketchen D. (2006): How much do high performance work practices matter? A meta-analysis of their effects on organizational performance, in: Personnel Psychology, 59, 501–528.

Coyle-Shapiro, J. A.-M./Shore, L. M. (2007): The employee-organization relationship: Where do we go from here?, in: Human Resource Management Review, 17, 166–179.

Delaney, J.T./Huselid, M.A. (1996): The impact of human resource management practices on perceptions of organisational performance, in: Academy of Management Journal, 39, 4, 949–969.

Delmotte, J./Winne, S.D./Gilbert, C./Sels, L. (2007): Comparing line managers' and trade union representatives' assessments of HRM strength, paper presented at the Dutch HRM Network Conference, Tilburg, 9–10 November.

Fu/ N./Flood/ P. C./Bosak/ J./Morris/ T./O'Regan/ P. (2015): How do high performance work systems influence organizational innovation in professional service firms?, in: Employee Relations, 37, 2, 209–231.

Guest, D.E. (2011): Human resource management and performance: still searching for some answers, in: Human Resource Management Journal, 21, 1, 3–13.

Guthrie, J. P. (2001): High-involvement work practices, turnover, and productivity: Evidence from New Zealand, in: Academy of Management Journal, 44, 1, 180–190.

Guzzo, R.A./Noonan/ K.A. (1994): Human resource practices as communications and the psychological contract, in: Human Resource Management, 33, 3, 447–462.

Hartog, D.N.D./Boon, C./Verburg, R.M./Croon, M.A. (2012): HRM, communication, satisfaction, and perceived performance: a cross-level test, in: Journal of Management, 39, 6, 1637–1666.

Jiang, K./Lepak, D.P./Hu, J./Baer, J.C. (2012): How does human resource management influence organisational outcomes? A meta-analytic investigation, in: Academy of Management Journal, 55, 6, 1264–1294.

Katou, A.A. (2015): The mediating effects of psychological contracts on the relationship between human resource management systems and organisational performance, in: International Journal of Manpower, 36, 7, 1012–1033.

Klassen K. J./Russell R. M./Chrisman J. J. (1998): Efficiency and Productivity Measures for High Contact Services, in: The Service Industries Journal, 18, 4, 1–18.

Lepak, D. P./Liao, H./Chung, Y./Harden, E. E. (2006): A conceptual review of human resource management systems in strategic humn resource management research, in: Research in Personnel and Human Resources Management, 25, 217–271.

Lepak, D. P./Shaw, J. D. (2008): Strategic HRM in North America: looking to the future, in: The International Journal of Human Resource Management, 19, 1486–1499.

Lepak, D. P./Taylor, M. S./Tekleab, A./Marrone, J. A./Cohen, D. J. (2007): An examination of the use of high-investment human resource systems for core and support employees, in: Human Resource Management, 46, 223–246.

Lepak D.P./Smith K.G./Taylor M.S. (2007): Value Creation and Value Capture: A Multilevel Perspective, in: Academy of Management Review, 32, 180–194.

Li, X./Frenkel, S./Sanders, K. (2011): Strategic HRM as process: how HR system and organisational climate strength influence Chinese employee attitudes, in: The International Journal of Human Resource Management, 22, 9, 1825–1842.

Melnarowicz, K. (2017): Działalność innowacyjna polskich przedsiębiorstw – przegląd narzędzi pomiaru, in: Studia i Prace Kolegium Zarządzania i Finansów, 158, 117–134.

Mcneil, I.R. (2000): Relational Contract Theory: Challenges and Queries, in: Northwestern University Law Review, 94, 877–907.

Myjak, T. (2018): Wykorzystanie kapitału ludzkiego jako kluczowego zasobu w budowaniu przewagi konkurencyjnej przedsiębiorstwa, in: Studia Ekonomiczne: Gospodarka, Społeczeństwo, Środowisko, 1,2, 187–195.

Nishii, L.H./Lepak, D.P./Schneider, B. (2008): Employee attributions of the 'why' of HR practices: their effects on employee attitudes and behaviors, and customer satisfaction, in: Personnel Psychology, 61, 3, 503–545.

Ostroff, C./Bowen, D. E. (2016): Reflections on the 2014 Decade Award: Is There Strength in the Construct of Hr System Strength?, in: Academy of Management Review, 41, 2, 196–214.

Pathak, R. D./Budhwar, P. S./Singh, V., Hannas, P. (2005): Best HRM practices and employees psychological outcomes: A study of shipping companies in Cyprus, in: South Asian Journal of Management, 12, 4, 7–24.

Pocztowski A. (2008): Zarządzanie talentami w organizacji, Kraków: Wolters Kluwer Business.

Preacher K.J./Hayes A.F., (2004): SPSS and SAS procedures for estimating indirect effects in simple mediation models, in: Behavior Research Methods, Instruments, & Computers, 36, 4, 717–731.

Rogozińska-Pawełczyk A. (2011): Od relacyjnego do transakcyjnego kontraktu psychologicznego – zmieniający się paradygmat, in: Zarządzanie Zasobami Ludzkimi, ¾, 61–77.

Rogozińska-Pawełczyk A. (2012): Rola wynagradzania kompleksowego w kształtowaniu kontraktu psychologicznego, in: Zarządzanie Zasobami Ludzkimi, 5, 88, 63–76.

Rogozińska-Pawełczyk A. (2015): The Dynamic Character of a Psychological Contract between the Superior and the Employee (According to Empirical Research), in: Economia. Seria Management, 18, 2, 271–285.

Rogozińska-Pawełczyk A. (2016): Zarządzanie zasobami ludzkimi oparte na kontrakcie psychologicznym, Warszawa: IPiSS.

Rousseau D.M. (1989): Psychological and implied contracts in organizations, in: Employee Responsibilities and Rights Journal, 2, 121–139.

Rousseau D.M. (1995): Psychological contracts in organisations: understanding the written and unwritten agreements, London: Sage Publications.

Rousseau, D.M. (2010): The individual–organization relationship: The psychological contract, w: S. Zedeck, red., Handbook of industrial/organizational psychology, in: American Psychological Association, 3:191–220.

Sanders, K./Shipton H./Gomes, J.F. S., (2014): Is the HRM process important? Past, current, and future challenges', in: Human Resource Management, 53, 489 – 503.

Schalk, R./Roe, R.E. (2007): Towards a dynamic model of the psychological contract, in: Journal for the Theory of Social Behaviour, 37, 167–182.

Sels, L./De Winne, S./Delmotte, J./Maes J./Faems, D./Forrier A., (2006): Linking HRM and Small Business Performance: An Examination of the Impact of HRM Intensity on the Productivity and Financial Performance of Small Businesses, in: Small Business Economics, 26, 1, 83 -101.

Stavrou, E. T./Brewster, C./Charalambousa, C. (2010): Human resource management and firm performance in Europe through the lens of business systems: best fit, best practice or both?, in: International Journal of Human Resource Management, 21, 933–962.

Thompson J.A./Hart D.W., (2006): Psychological Contracts: A Nano-Level Perspective on Social Contracts Theory, in: Journal of Business Ethics, 68, 229–241.

Tsai, Ch.-J. (2006): High performance work systems and organizational performance: an empirical study of Taiwan's semiconductor design firms, in: The International Journal of Human Resource Management, 17, 9, 1512–1530.uen

Uen, J.-F./Chien, M. S./ Yen, Y.-F. (2009): The mediating effects of psychological contracts on the relationship between Human Resource systems and role behaviors: A multilevel analysis, in: Journal of Business and Psychology, 24, 215–223.

Wall, T. D./Wood, S. J. (2005): The romance of human resource management and business performance, and the case for big science, in: Human Relations, 58, 429–462.

Wojtczuk-Turek A, (2016): Wspieranie produktywności pracowników wiedzy-rola zarządzania zasobami ludzkimi i dopasowania człowiek-organizacja, Warszawa: Wydawnictwo Naukowe PWN.

Wright, P. M./Gardner, T. M./Moynihan, L. M./Allen, M. R. (2005): The relationship between HR practices and firm performance: examining causal order, in: Personnel Psychology, 58, 409–446.

Wudarzewski, G. (2016): Współczesne problemy zarządzania i marketingu, Warszawa: Difin.

Zhang, B./Morris, J.L. (2014): High-performance work systems and organizational performance: testing the mediation role of employee outcomes using evidence from PR China, in: International Journal of Human Resource Management, 25, 1, 68–90.

Zadura-Lichota, P. (2015): Innowacyjna przedsiębiorczość w Polsce. Odkryty i ukryty potencjał polskiej innowacyjności, Warszawa: PARP.