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In Search of Key HR Practices for Improvement of Productivity of Employees in the KIBS Sector

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ABSTRACT

The objective of this article is to present research devoted to the relationships between HR practices and productivity (understood as behavior and results) of employees in the KIBS sector (knowledge-intensive business services sector). The operations of companies in this sector are based on the application of expert knowledge to create services satisfying the needs of personalized clients. Because companies from the KIBS sector are immensely important to the development of the economy (mainly in the context of their high potential for innovation), identification of the key factors that allow them to give fine performance is a significant theoretical and practical issue. A major role in this respect is played by the human resources management system – chiefly because KIBS companies gain competitive advantage through employees' knowledge. As part of research with a quantitative approach (serving to test hypotheses) and a qualitative approach (allowing exploration), the human resources management system has been described as the key – from the point of view of desired behaviors and results – HR practice identified. Based on the study that has been conducted, which examined employees who had expert knowledge and created personalized services for clients, it has been concluded that the HR practices that most fully account for the productivity of employees are work design and job characteristics and empowerment, participation, and autonomy. Within the framework of qualitative research carried out in participation with HR managers of knowledge-intensive service firms, the character of individual high performance HR practices and the prominent role of managers and HR experts in supporting performance on individual and organizational levels has been indicated.

KEY WORDS: KIBS sector, knowledge-based work, HR practices, behaviors, results.

JEL Classification: M12, L2

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Introduction

The increasing economic pressure on knowledge and innovation has stirred the emergence and development of companies offering business services based on

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expert knowledge (i.e., KIBS – knowledge-intensive business services sector). The criterion for distinguishing such companies from others on the market is the fact that their services are based on expert knowledge that is employed for the purpose of satisfying the needs of personalized clients (Bettencourt, Ostrom, Brown, & Roundtree, 2002). These include both services that make extensive use of scientific and technological knowledge, e.g., research and development or IT ser-

vices, and more traditional, professional, e.g., legal or accounting, services (Miles, 2005).

The significance of these companies for the development of the economy is not only profound from the perspective of innovative potential but also because they may trigger and enhance knowledge conversion processes in clients' companies (den Hertog, 2000). In this context, identification of the key factors contributing to high efficiency and effectiveness in companies operating in the KIBS sector is an important theoretical and practical issue. Because the operations of these companies are based on application of expert knowledge while the creation of services is dependent on the ability of a company to make use of its resources that employees possess (Larsen, 2001), particular significance in the process of building competitive advantage is assumed by human resources management (HRM).

Taking into consideration companies' objectives related to achieving high individual and organizational productivity, it is recommended to adopt High Performance Work Systems (HPWS) along with High Performance Work Practices (HPWP) in human resources management, highlighting involvement, joint participation, and effects (Becker & Huselid, 1998; Huselid, 1995; Messersmith & Guthrie, 2010; Posthuma, Campion, Masimowa, & Campion, 2013; Tregaskis, Daniels, Glover, Butler, & Meyer, 2013). In addition, although numerous studies pointing to a positive correlation between these systems and high task results of employees exist, there are still many unresolved issues, including, among others, the influence that HRM mechanisms exert on efficiency and effectiveness is insufficiently explained (Becker & Gerhart, 1996; Purcell, Kinnie, Hutchinson, Rayton, & Swart, 2003), no intervening variables are taken into account in analyses (Huselid & Becker, 1996), and the characteristic nature of service firms is disregarded – the majority of examinations are chiefly based on production companies, whereas some of their practices are inadequate for service firms (Fu, Flood, Bosak, Morris, & O'Regan, 2015). Hence the problems that have been indicated give rise to new research areas.

The aim of this article is to present research on the relationship between HR practices and productivity of employees who create services based on intensive

expert knowledge as well as to characterize the human resources management system in companies operating in the KIBS sector.

The role of high performance HR practices in stimulation of knowledge workers' productivity

Empirical studies demonstrate that there are correlations between HPWS and both individual and organizational results. The system is positively related to organizational performance (Bowen & Ostroff, 2004; Guthrie, 2001; Huselid, 1995) as well as human capital on the individual level (Chang, 2015). As far as the second aspect is concerned, the results generated by employees are crucial for demonstrating organizational effectiveness (Zhang & Morris, 2014). In the course of specifying the mechanism of influence of HPWS on individual results, the impact of human resources management on employees' skills, knowledge, motivation, and elasticity is presented (Paauwe & Richardson 1997).

Analyses that researchers conduct prove that the effects arising from high performance work systems on individual levels are related to both 1) *behavioral effects*: proactivity (Evans & Davis, 2015), organizational engagement (Garg, 2015, Macky, & Boxall, 2007), creativity (Zhu & Chen, 2014), employees' effectiveness (Demirbag, Collings, Tatoglu, Mellahi, & Wood, 2014), and 2) *attitudes*: job satisfaction (García-Chas, Neira-Fontela & Castro-Casal, 2014; Garg, 2015; Gibas & Ashill, 2013; Yanadori & Jaarsveld, 2014), satisfaction from HPWS (Zhang, Fan & Zhu, 2014), and the sense of procedural justice (García-Chas et al., 2014). The attitude-related aspects are immensely important from the point of view of the emergence of intentions to display desired organizational behaviors, which in turn lead to results. Therefore, from the perspective of operationalization of productivity at the individual level, one should discuss not only results but also behaviors since along with attitudes they are important elements constituting workers' productivity. Authors stress that the very theories of organizational behaviors serve as a basis for accounting for individual efficiency (Aguinis, O'Boyle, Gonzalez-Mulé, & Joo, 2015). They refer to measures of individual behaviors and their aggregation as well as indicators of results (Beck, Beatty, & Sackett, 2014). An example of integration of both these perspectives is a definition of productivity that is

concerned with results and gradable/scalable activities and behaviors that employees get involved in or initiate and that are related to one another and contribute to the fulfilment of organizational objectives (Viswesvaran & Ones, 2000). From the perspective of human resources management, it is justified to approach the problem of defining and supporting employee's productivity by way of analyzing their job characteristics and particular behaviors that lead to production of results (positively valued by clients), just as the case with investigation into effectiveness (Pocztowski, 2008).

The HPWS is a theoretical basis of HPWP practices. However, despite numerous theoretical and empirical studies in this area, it is still stressed that there is insignificant consensus with regard to the structure of the system and its content (Posthuma et al., 2013), which may give rise to theoretical problems concerning categorization of individual HPWP practices as well as practical ones related to implementation of these practices in an organization. Simultaneously, various types of classification emerge for putting the list of practices in order (Demirbag et al., 2014). In their proposal of comprehensive taxonomy based on analysis of 193 articles, Posthuma et al. (2013) have classified 61 specific practices and organized them into the following categories: compensation and benefits, job and work design, training and development, recruiting and selection, employee relations, communication, performance management, promotion. Of course, not all of these practices are equally related to employee's performance. Therefore, attempts are still made at providing an answer to the following question: "Which practices contribute to the achievement of desired results by employees to the largest extent?"

From the perspective of the character of the KIBS sector where specialist services based on intensive knowledge are created with the use of advanced technologies, two groups of practices should be considered particularly significant for achieving results: 1) commitment-based HR practices and 2) knowledge-based HR practices (Chow & Gong, 2010). As far as the second area of interest is concerned, it is stressed that HR practices play a major role in facilitating absorption, transfer, sharing, exchange, and creation of knowledge. Simultaneously, they improve an organization's capability of combining, developing, and using sources of knowledge in creating competitive advan-

tage through innovation. Thus, knowledge-based HR practices boost performance through innovation, whereas commitment-based practices help keep employees motivated and engaged in considerable "organizational participation".

Achievement of very good task results by employees in companies operating in the KIBS sector occurs by way of closely combining knowledge management and human resources management systems. HR practices ensure that a company has access to optimal knowledge resources through acquisition of people who have expert qualifications and competences in the course of recruitment processes. Knowledge resources are also enriched through trainings or work design. The last measure in particular allows the use of workers' knowledge resources in a company without the need to employ new people. In this context, knowledge sharing is very important as according to empirical analyses it combines with innovative results (Camelo-Ordaz, García-Cruz, Sousa-Ginel, & Valle-Cabrera, 2011) and abilities regarding organizational learning capabilities (Massingham & Diment, 2009). Therefore, managers should strive towards creation of organizational solutions for implementation and effective management of knowledge and systems encouraging cooperation, collaboration, and exchange of information as well as team building. The practices that allow sharing information and knowledge transfer are communication, moving employees to other organizational units and company branches (i.e., exchange of workers and combining their knowledge), and enhancement of work content. It seems that the same job characteristics (of people creating highly personalized specialist services for clients), which are high creativity and very specific requirements, may guarantee unique solutions that build the competitive advantage of these companies.

As far as HR commitment-based practices are concerned, one should indicate the processes of motivating, constant learning, cooperation, participation in decisions and creation of autonomy in the workplace. It should also be stressed that HR practices contributing to formation of positive attitudes towards work and co-workers, which are based on attachment and involvement, are the ones that may foster knowledge exchange processes, which has been proven by empirical research (Camelo-Ordaz et al., 2011; Collins & Smith, 2006).

Method

The aim of the quantitative study is to examine the relationships between individual HR practices and productivity of employees that create services for clients. As part of determination of the character of these relationships, an attempt has also been made to demonstrate which HR practices accounting for productivity are understood as behaviors and create results to the largest extent. The main hypothesis is concerned with the existence of a statistically significant correlation between high performance HR practices and employees of companies in the KIBS sector. To verify this hypothesis, independent regression analyses for individual practices have been carried out. The objective of the qualitative study is examination of the character of human resources management in knowledge-intensive service firms and capturing the nature of individual HR practices.

The research sample was composed of employees of companies operating in the KIBS sector ($N=563$), whose work consisted of performing tasks requiring expert knowledge and creating services for clients. The workers were employed in large- and medium-sized companies and various knowledge-intensive service branches: *telecommunications; software, IT consulting, and related activity; information service activities; activities of head offices; management consultancy activities; architecture and engineering activity; research and technical analyses; scientific research and development; advertising; market research and opinion polls; and other professional, scientific, and technical activities*. The study was Poland-wide and conducted in 2015 with the use of Computer Assisted Telephone Interviews (CATI), which ensured anonymity.

HR managers who co-create and follow HR policies of companies operating in the KIBS sector took part in the qualitative study. Ten individual partly structured in-depth interviews (IDI) were conducted.

For the purpose of measurement of HR practices, statements derived from tools used for examination of HR practices were adopted (Fu et al. 2015; Guthrie, 2001; Huselid, 1995; Tsai, 2006), which referred to conceptualization of high performance work systems. Based on exploratory analysis of the factors, the following practices were discerned: motivating, training, and professional development (promotion); work design and job characteristics; knowledge management;

empowerment, participation, and autonomy; performance evaluation and management; team work.

Diagnosis of employee productivity is established on the basis of measurement of aggregated innovative, prosocial, and proactive behaviors and results. Their detailed characterization along with reliability parameters and analysis of the factors are provided in a paper by Wojtczuk-Turek (2016), which employs indicators recommended by the relevant literature: accomplishment of objectives, timely performance of tasks (Janz, Colquitt & Noe, 1997), client satisfaction, quality, project significance and success (Drucker, 1999; Janz, Colquitt, Noe & 1997), and innovative effects (Drucker, 1999).

Results

In the first stage of analysis, the values of the coefficients of correlation for individual variables were estimated (Table 1).

As far as individual practices (Table 1) are concerned, it may be stated that productivity (in general) is most strongly correlated with work design and job characteristics ($r=0.452$; $p<0.01$), empowerment, participation, and autonomy ($r=0.359$; $p<0.01$) and, to a smaller extent (but still statistically significant), with performance management and appraisal ($r=0.278$; $p<0.01$) and knowledge management ($r=0.270$; $p<0.01$).

The results revealed that a significant correlation was found with all HR practices, and the strongest was revealed in the case of work design and job characteristics ($r=0.308$; $p<0.01$) and performance management and appraisal ($r=0.249$; $p<0.01$). The mutual correlations between HR practices and productivity / results, which were discovered in the study, served as basis for further exploratory analyses. To determine the type of correlation between productivity and HR practices and indicate which of them account for employee productivity to the largest extent; independent regression analyses were conducted (separately for each variable as factors in the same theoretical construct which are strongly statistically correlated with one another may not be examined with a single regression model) on a sample of employees under analysis, $N=563$. Juxtaposition of the results of analysis are presented in Table 2.

Based on the regression analysis that has been carried out, it may be stated that the practices that ac-

Table 1. Descriptive statistics and values of coefficients of correlation for HR practices and productivity

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. HRM PR GEN.	3.50	0.45	1								
2. MT&R	3.13	0.72	.816**	1							
3. WDJC	4.01	0.58	.500**	.118**	1						
4. KM	3.52	0.63	.677**	.433**	.268**	1					
5. EPA	3.39	0.75	.585**	.335**	.377**	.211**	1				
6. PM&A	3.68	0.76	.725**	.613**	.191**	.398**	.369**	1			
7. TM	3.84	1.00	.333**	.127**	.265**	.109**	.123**	.126**	1		
8. RS	3.93	0.49	.339**	.196**	.308**	.218**	.202**	.249**	.101*	1	
9. PR-GEN.	3.78	0.50	.452**	.246**	.452**	.270**	.359**	.278**	.159**	.499**	1

Note. * p<0.05, ** p<0.01

HRM PR GEN. – HRM practices in general, **MT&R** – motivating, training, and development, **WDJC** – work design and job characteristics, **KM** – knowledge management, **EPA** – empowerment, participation, autonomy, **PM &A**– performance management and appraisal, **TM** – team work, **RS** – results, **PR-GEN.** – productivity in general.

Table 2. Juxtaposition of regression analysis results for individual predictors of productivity

Predictors	B	Standard error	Beta	t	Significance of t	F	Significance of F
Work design and job characteristics	.355	.029	.461	12.296	.000	151.186	.000
Empowerment, participation, and autonomy	.208	.023	.352	8.916	.000	79.499	.000
Performance management and appraisal	.176	.023	.302	7.514	.000	56.466	.000
Knowledge management	.203	.029	.287	7.084	.000	50.188	.000
Motivating, training, and development	.160	.025	.260	6.378	.000	40.677	.000
Team work	.071	.019	.160	3.832	.000	14.688	.000

count for employee productivity – understood as aggregated behaviors and results – to the largest extent are work design and job characteristics and empowerment, participation, and autonomy. The first group of practices is immensely important in the context of work based on intensive knowledge, and the second group is significant with respect to encouragement of employees' engagement.

The qualitative study, which played an exploratory role, supplemented and deepened the quantitative one. Within the framework of in-depth interviews with HR managers, the researcher tried to capture the character of human resources management in companies creating specialist services for clients.

While discussing the role of the human resources management system in (large- and medium-sized) companies operating in the KIBS sector (which usually have structurally separate HR departments that implement an HR policy), one should refer to the specific character of these firms as their competitive advantage is based on competences; among others, innovation, building effective relations, orientation at the client and results, and engagement. The resource of particular importance is knowledge that underlies creation of highly specialized services. Clients play a major role in the process of creation of such services as they supply the necessary knowledge and offer very close cooperation in co-creating solutions. Strong co-

operation between the client and supplier is predominantly connected with high personalization of services and expectations of uniqueness.

Basing competitive advantage on knowledge and experience of employees endows the HR department and HRM operations with very specific roles. Managers (especially the ones in large companies) who took part in the interviews consistently stressed the strong position of the HR department and HR managers. This role may be referred to as HR business partnering, which manifests itself as the active participation of HR managers and experts in decision-making and operations concerning certain organizational units.

In light of HR managers' opinions, the main objectives of the HRM policy in companies creating highly specialized services are strategic partnership and playing the role of the agent of change. The respondents also pointed to support and safety but to a smaller extent. Support is concerned with managers who are internal clients of the HR department. They are provided with tools and solutions that allow them to single-handedly perform HR activities. These tools and solutions disperse and cascade HR activities to line managers who stay close to employees and have the most thorough knowledge of the character of their work. It is particularly important in the context of immense work complexity, which requires support and fine performance of design teams. Therefore, the attributes of human resources management systems in companies from the KIBS sector are openness (i.e., high accessibility for employees) and full cooperation with the managers.

In addition, in light of the respondents' answers, it turns out that despite the existence of structurally separate HR departments, HRM activities are even more dispersed, as they are performed (not only by the managerial staff but also) by employees themselves, who take part in the process of delegation and distribution of tasks as well as recruitment for highly specialized positions in the company (as persons verifying the knowledge and technical skills of the candidates).

Another attribute of the HRM system in knowledge-intensive firms indicated by the respondents is flexibility manifesting itself as, among other things, application of various forms of organization of working time – flexible working time or making use of various types of contracts. Job descriptions are not always in

place since tasks may arise out of needs, requirements, and conditions specific to a given project, and it may so occur that employees will be performing completely new tasks. Freedom of action in some companies consists of employees establishing their own tasks and working time, though they may not give up certain tasks; companies' use of the services of off-site workers and working time may be regulated. Of course, this is not a rule, as there were also responses indicating that quite stiff – scheduled and structured – organization of work was in place.

An important element of enhancing employee productivity in companies from the KIBS sector is management of workers' mobility. It may be the consequence of both an international character of projects (requiring cooperation with experts) and the fact that it is a good way to acquire unique knowledge that experts from various environments possess. Transfer of employees to other departments, delegating them to new tasks or borrowing employees across departments are quite common practices.

From the perspective of operation of companies from the KIBS sector, participation in creation and transfer of knowledge across the company are significant activities of the HR department. The respondents highlighted that human resources management activities are oriented at encouraging knowledge sharing – at least by way of making employees assume the roles connected with entering into useful discussions (i.e., "knowledge networks" management). Another area of an HR department's activity is involvement in managing knowledge, e.g., through coordination of knowledge exchange between certain organizational units or administrating its acquisition, transfer, and protection. Wide application of IT systems, including technological HR support systems – the so-called e-HR – serves this purpose.

The interviews that were conducted also allowed to identify individual HR practices and define their character. Synthetic juxtaposition of these is presented in Table 3.

Discussion on the results and conclusions

The study was concerned with empirical verification of the assumption that there is a relationships between high performance HR practices and productivity of

Table 3. Juxtaposition of HR practices in companies of the KIBS sector and their character

HPWP practices	Analytical remarks on the character of HRM practices and outliers
Work design and job characteristics	<ul style="list-style-type: none"> • job descriptions specifying tasks are in place or not and in case of the latter, tasks are assigned according to the nature of a project • tasks are closely connected with the requirements of the project and assigned to people with specific competences (selection of competences according to tasks) • flexibility in terms of the manner of task performance • various forms of organization of work (e.g., off-site work), the possibility to regulate time required to perform tasks, task-oriented system of work • employee transfers and "borrowings" between departments • flexibility of work design and the manners of performing work • in case of a complex project involving a large number of people, work is more organized and scheduled according to deadlines
Motivating	<ul style="list-style-type: none"> • individualization of the motivating system • various forms of financial and non-financial motivation • motivating character of projects, which allows employees to acquire unique competences and high attractiveness of employment • company's profit sharing • rewards for innovation
Trainings and development	<ul style="list-style-type: none"> • development of competences is a constant process encompassing knowledge workers • expert (technological) trainings are adjusted to the needs that are expressed or related to competences which are not directly related to professional activity • e-learning platforms are in use as well as tools serving acquisition of knowledge • there are development programs for persons showing great potential (having talents); lack of such programs is compensated with approaching every employee as a talent • there are varied development paths leading to changes in professional roles (based on competences) and possible change of position • employees participate in planning their own development • there are opportunities to follow career paths in other company branches (in various geographical locations) • cooperation with renowned universities with regard to education • employees are members of sector-related or student associations, take part in conferences, and maintain contact with universities
Recruiting and selection	<ul style="list-style-type: none"> • competences are supplied by professionals hired for particular projects or within the framework of permanent cooperation • recruitment is an ongoing process ensuring flexible access to human resources • the process is complex/multistage, involves HR experts, managers, and other employees • a system of instructions and recommendations is in place • IT tools are widely applied in recruitment • cooperation with universities – academies of young talents • direct contact with candidates possessing particular competences
Appraisal	<ul style="list-style-type: none"> • evaluation is carried out by managers in cooperation with the HR every half a year or every year and consistent with the financial plan (360 degree feedback is used) • ongoing assessment and feedback provided during project monitoring • company's clients participate in the process of employee evaluation • in addition to a point-based system, there is also a descriptive system in use (based on qualitative criteria) • international cooperation is subject to evaluation • employees participate in defining objectives and directions for development based on evaluation

Table 3. Continued

HPWP practices	Analytical remarks on the character of HRM practices and outliers
Knowledge management	<ul style="list-style-type: none"> • creation of new knowledge is given principal focus (in the course of combining with the already existing knowledge as well) • transfer of new knowledge serving to shape clients' attitudes, e.g., using ecological solutions • repeatability of knowledge (new combinations formed from the existing elements) • knowledge acquired from the outside is relevant for the character of the client's sector to a larger extent or production of part of products is outsourced • knowledge exchange programs and their protection, conditions for generating knowledge • mentoring is conducted by more experienced persons • elaborate and widely applied IT tools serving transfer of knowledge • knowledge is archived and placed in internal database systems • project documentation may be accessed through computer tools • knowledge "succession" to people continuing projects
Performance management	<ul style="list-style-type: none"> • the term "effectiveness management" is in use • effectiveness/quality management is activity undertaken within the framework of HRM
Participation and autonomy	<ul style="list-style-type: none"> • employees participate in making decisions regarding their work (e.g., tasks are distributed, it is possible to give a task up) • workers participate in making decisions concerned with their professional development • workers are encouraged to take part in discussions about new implementations • tasks are clearly defined at some positions and may not be changed
Mobility management	<ul style="list-style-type: none"> • HR activity connected with management of international mobility is extensive (there might even be a separate department) • serves project implementation by international teams • allows for acquiring of unique knowledge

Source: Wojtczuk-Turek, A. (2016).

employees whose work is based on intensive knowledge. While designing the study, the researcher strived to respect the assumption that positive effects arising from the influences of human resources management are the outcome of the adoption of a set of practices rather than single practices (Combs, Liu, Hall, & Ketchan, 2006).

Analyses allowed to single out the practices that to the largest extent account for workers' behaviors and the results they achieve (even though all the HR practices under examination were significantly correlated with employee productivity). These are work design and job characteristics as well as empowerment, participation, and autonomy. It may thus be said that in the context of specific knowledge-based work in companies from the KIBS sector, activity related to

creation of various tasks and enrichment of work, the requirement of intense creativity and the necessity to make use of various skills while simultaneously ensuring freedom of operation and that employees are treated individually contribute both to display of desired (innovative, proactive, and prosocial) organizational behaviors as well as achieving results. From the point of view of work design, it is important to offer such a structure of task performance which will encourage engagement and simultaneously create possibilities for effective operation. The content of work itself can offer motivation, which is indicated by J. Hackman and G.R. Oldham (1976), similarly to autonomy that is strongly correlated with the sense of satisfaction (Coutts & Gru-man, 2012). Simultaneously, the studies conducted so far confirm that participation and empowerment are

closely correlated with organizational business results (i.e., retention, operational efficiency, financial results, and general efficiency) (Subramony, 2009). When considering autonomy, it should be noted that knowledge workers have high expectations in this respect, which is often stressed by researchers (Robertson & Swan, 2003), especially that standardization of work is often impossible due to close cooperation with the client and their participation in creation of services as well as due to high complexity of work and uncertainty. Of course, in some companies from the KIBS sector, work processes are formalized and standardized owing to strong interdependence in performing tasks, however, it is possible to find space for autonomous and independent behaviors of employees.

Conclusions drawn from the qualitative study conducted in participation with HR managers point to a strong position of the HR department and a major role that it plays in building the competitive advantage of companies from the KIBS sector on the basis of workers' knowledge, which is the key resource. Experts and HR managers take the positions of business partners who offer line managers solutions consisting of performing independent HR activities: motivating, developing, performance management and appraisal. This offers a basis for reinforcement of the thesis that it is necessary to take a broad view of the HRM systems in companies from the KIBS sector – not as activities undertaken within the HR department but “interplay between people, tasks and the organization” (Brewster & Larsen, 2000) as well as institutionalized manner of operation in terms of crucial activities related to selection, assessment, rewarding, and development of people. This is confirmed by the existence of the phenomenon described as “fragmentation of HR functions” (which manifests itself as abandoning the traditional way HR activities are performed, i.e., delegating individual task groups to a specific organizational unit, in favor of changes in the proportions of tasks performed by an HR unit) (Pocztowski, 2011) and justifies the need to conceptually separate the terms HR department and HR organization as the latter is concerned with people responsible for following HRM practices outside the HR department.

To summarize, from the perspective of recommending particular actions to be taken within the framework of the human resources management

system in companies operating in the KIBS sector, it is worth considering the following areas that, as this study demonstrated, were most strongly correlated with productivity: a) work design and job characteristics, b) empowerment, participation, and autonomy, c) performance management and appraisal, and d) knowledge management. The indicated practices are related to those based both on commitment and knowledge (Chow & Gong, 2010). They reflect two significant dimensions leading to achievement of very good task and contextual results in organizations operating in the KIBS sector: qualifications and competences (whose core is knowledge resources) and attitudes (related to motivational aspects). Thus, on a conceptual level, the results that have been obtained in the course of empirical research combine the perspectives offered by High Performance Work Practices and High Involvement Work Practices in terms of perception of human resources management processes in companies where the key resource is knowledge.

Limitations and further research

Although the presented study provides new knowledge on HR practices – which are significant from the point of view of productivity of employees who create highly specialized services in the KIBS sector – it is not free from flaws. First and foremost, while making an attempt to discover which practices are most strongly related to behaviors and results, the analysis was not based on examination of variables in interaction (as it was impossible to analyze them jointly due to strong correlations among the variables forming the same theoretical construct). Moreover, conclusions on the impacts produced by the variables used in the model were indirect since the model did not provide for experimental examinations.

Other issues are the manner of analysis of variables and the research tools. Although cultural adaptation was used and reliability of all of the tools was tested, validation of their accuracy was not performed. Furthermore, the employed tools were based on self-description, which might give rise to concerns regarding control of the variable “social desirability”.

As far as analysis of the HR practices themselves is concerned, future studies should take into consideration employees' evaluation of their importance in terms of appropriateness, suitability, and effectiveness in bring-

ing about individual results. This is because it turns out that employees' perception of the effectiveness of practices is important for the implementation of HPWS. From the perspective of conceptualization of the research area, it should perhaps be expanded to cover the aspects reflecting the perspective of the HIWP (High Involvement Work Practices), as this might contribute to identification of other manners in which HRM enhances individual and organizational efficiency.

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