

HUMAN RESOURCES RISK AS AN ASPECT OF HUMAN RESOURCES MANAGEMENT IN TURBULENT ENVIRONMENTS

Edyta BOMBIAK

*Siedlce University of Natural Sciences and Humanities
2 Konarskiego, 08-110 Siedlce, PL
edyta.bombiak@uph.edu.pl*

Abstract. *Contemporary organizations work under turbulent conditions, in environments featuring rapid changes which are difficult to foresee. Such surroundings not only create opportunities for development and market success but also generate significant risk. This risk applies to nearly all areas of management. Human resources management practice is also facing the issue of internal and external turbulences affecting the quality of HR processes. Human resources risk is an inherent part of company operations, whereas the social sub-system is an indispensable key factor for the smooth running of business entities. Therefore, HR risk should be managed, as any other risk type. The purpose of this study is to present the major areas of risk in human resources management based on the analysis and criticism of relevant literature. The aim of the empirical research was the identification of managers' opinions with regards to the meaning of human resources risk for company operations. To attain it, I employed the analysis of results of both international and national studies, including own studies based on a diagnostic survey (a questionnaire). Research has shown that HR risk is perceived both as a chance and a threat to the organization. Every stage of HRM may serve as a potential source of risk that may require taking personnel-related decisions. The results of the research indicate that despite managerial staff's awareness of HR risk, it is not considered meaningful to the operations of organizations. Polish managers, in particular, seem to underestimate the importance of HR risk for company operations. As far as Polish reality is concerned, contrary to market risks (competition) and legal risks which rank relatively high, personnel-related hazards seem to be undervalued, for they do not make their way into the list of top 10 risks threatening Polish organizations.*

Keywords: *risk; human resources risk; human resources management*

Introduction

Without a doubt, doing business in contemporary, turbulent environments involve risks. Needless to say, risk management is now becoming an integral part of organizational operations for many business entities. Consequently, source literature abounds in accounts of the sources of various types of risk, such as financial, insurance, or investment, and methods of their mitigation. However, the source of risk in the knowledge economy is above all the human factor. A literature review reveals a thesis that the risk related to human resources is one of the most important areas of risk (Czerska & Rutka, 2012, p.185). Still, it is one of the most unexplored areas.

The risk associated with the human factor is most often considered the equivalent of fraud, occupational accidents or occupational risk. Such a narrow approach results in

the lack of manager awareness of the nature of this unique risk type and its impact on company operations. Therefore, the purpose of this study is to present the major areas of risk in human resources management based on the analysis and criticism of relevant literature. The aim of the empirical research was the identification of managers' opinions with regards to the meaning of human resources risk for company operations. To attain it, I employed the analysis of results of both international and national studies, including own studies based on a diagnostic survey (a questionnaire). In the course of literature review and empirical research, I attempted to answer the following questions: how should human resources risk be understood? Which stages of human resources management involve the risk of adverse events? What is the attitude of managers towards human resources risk?

Risk under turbulent conditions

Nowadays, organizations operate in a rapidly and continually changing environment, which predetermines their capabilities. Commonly referred to as tumultuous or turbulent, such environment features high variability which necessitates constant monitoring of its internal processes and fast reactions to incoming signals. The term "turbulent environment" refers to a number of transformations occurring in contemporary societies and economies, which become a backdrop for company operations. Viewed as a measure of the frequency of transition of unforeseen changes affecting the ability of organizations to create and maintain value (Kupik, 2011, p.37), turbulence cannot be predicted (Kotler & Caslione, 2009, pp.83–85). The following are the principal elements of turbulent environments (Matejun & Nowicki, 2013, pp.152-221): low complexity and poor structure expressed as the number, degree of complexity and variability of elements; changeability expressed as the rate and dynamics of changes; uncertainty related to difficulties regarding anticipation of environments' shapes in the future; multiple dimensions reflected by a differentiated impact of elements of the environment on individual entities operating within it; extensiveness related to the physical distance between elements and trends and the course of various phenomena and processes as part of the specific environment.

The turbulent environment is characterized by strong competition, an unstable political system, and major changes to legal provisions and customer preferences. These alterations are dynamic, unforeseeable, and they strongly affect the directions in which organizations operate and develop. Such surroundings not only create potential opportunities for development and market success but also generate significant risks. These are mainly related to business entities and it may never be possible to eradicate them (Sołoma, 2011, pp.152-153).

The term "risk" is commonly understood as related to adverse events (hazards) impeding the attainment of one's goals. More and more often, it is also considered equivalent with the ability to have a desired opportunity (Jajuga, 2009, p.13). Therefore, the risk is a multifaceted category relating not only to potentially negative but also potentially positive effects determined by the manner in which the risk is managed.

On the one hand, developments taking place in the turbulent environment lead to a decrease in certain risk types. On the other hand, they generate its novel forms. The

following types of risk are referred to most frequently in source literature (Jajuga, 2009, pp.18-19; Kaczmarek, 2006, p.56; Thlon 2013, pp.31-32): production risk (related to production, quality, costs and dates), market risk (related to market demand, competition, customers, suppliers, price fluctuations), legal-political risk (related to the state's policy and changing legal regulations), financial risk (problems involving fluidity, currency fluctuations, interest rates fluctuations, availability of loans), information risk (related to IT systems used in a company and data storage), force majeure events risk – e.g. natural disasters and accidents (floods, earthquakes), accidents originating in social conflicts and unlawful acts (strikes, arson). However, the source of risk in contemporary organizations is not only an act of God or investment in tangible or financial assets but also a personnel-related decision.

Essence of human resources risk

Human resources risk refers to the methods of management of one of the most valuable contemporary resources based on organizations' knowledge – i.e. human resources. It is classified as an operational risk (Jajuga, 2009, p.270) and defined as:

- the possibility of incurring a loss (financial, reputational, relational) due to human imperfection (errors resulting from insufficient knowledge, skills, suitability, employee knowingly violating company policies or laws) and imperfection of HR management processes (Bochniarz & Gugala 2005, p.98),
- a function of the probability that a negative event occurs as a consequence of personnel-related decisions and the scale of negative effects of the event on normal company operations (Rutka & Czerska, 2006, p.201),
- the probability of non-attainment of the aims of the human resources management process (Bizon-Górecka & Nogalski, 2009, p.30),
- a potential hazard which threatens company objectives and which stems from negligence and/or improper use of human capital (Kropp 2004, pp.131-166),
- the inability to establish whether certain actions undertaken at certain stages of human resources management will yield intended results, in line with the human resources strategy pursued by a given company (Lipka, 2002, p.24),
- a deviation from company objectives due to human resources involvement in operational activities arising from unpredictable employee behaviors and the adoption of improper decisions with regards to human factor management or the application of imperfect procedures (Zhao & Jia 2006, pp.830-831).

From a broad perspective, human resources risk refers to all intended and unintended employee-related events, which determine the level of organizational goal attainment. Hence, the risk factors could include individual characteristics of employees, their unpredictable behaviors, actions, decisions or day-to-day situations that may have a negative impact on companies (Shelest, 2013, pp.74-74). Viewed only in its narrow definition, human resources risk is related to the method of implementation of the human resources management process (Tyrańska, 2008, p.222).

Analysis of above definitions shows that some researchers think of HR risk as a negative phenomenon, treating it as a hazard involving material and non-material injuries. Others, in turn, see it as an opportunity to gain an advantage in the attainment of aims. This means that company's performance regarding human resources management may be either better or worse than expected. However, regardless of the

way of perceiving human resources risk, it is undoubtedly interlinked with the personnel process carried out within organizations.

The majority of definitions provides an organizational perspective of human resources risk. Nevertheless, it may also be viewed from an employee perspective. Employee risk is treated as an outcome of an employee's personal decision, defined as a function of the probability that a negative event occurs as a consequence of such decision and the scale of negative effects the event will have on the employee. For instance, a decision to resign one's post has consequences not only for the employer (the necessity to hire a new employee) but also for the employee himself (difficulties in access to new employment, financial and family problems, difficulties while adapting to new organizations) (Czerska & Rutka, 2016, pp.23-24).

Human resources management as a risk plane

Human resources management is a process consisting of logically intertwined actions aiming at a provision of required numbers of employees demonstrating suitable skills, and at a creation of conditions stimulating effective behaviors of the staff, in accordance with company aims at a given time and place. (Pocztowski, 1993, p. 20). In contemporary organizations, the process takes the form of more or less planned interrelations of personnel processes. The manner in which the processes are identified and classified depends on the size of the organization, its organizational structure, the branch type and adopted philosophy and strategy of management. In the general approach, the main personnel processes are: entering the organization, functioning within the organization, and exiting the organization (Pocztowski, 1993, p. 37). As part of the three processes, we may distinguish the following sub-processes (Bombiak, 2017, pp.66-67):

- employment planning – including the determination of demand for human resources both in quantitative and qualitative terms;
- employee selection – viewed as attracting the right pool of candidates (recruitment), evaluating their potential and choosing the candidate whose competence profile is closest to the required vacancy profile (selection), concluding employment contracts, and introducing adaptation actions for the fastest achievement of the optimum effectiveness of the new employee;
- employee evaluation – acquiring information regarding employee competencies, behaviors, characteristics, and performance with the intention of developing a rational personnel policy;
- employee motivation – creation of such conditions and use of such stimuli that the needs of employees are satisfied and the aims of organizations are attained concurrently;
- employee development – the total of actions aimed at reinforcement and execution of the processes of employee knowledge extension and competence improvement with the intention to increase the employee level of competences, at the same time increasing their effectiveness.
- dismissal – reducing human resources due to internal factors (such as structural transformations) or external factors (such as limiting one's activities due to a drop in demand).

Human resources management is an ongoing process of taking personnel decisions within different timeframes and regarding various aspects of staff potential

development. All these different elements, however, have one thing in common: they involve risk. As each of the above stages may constitute a potential risk source, we can differentiate the following risk areas (Lipka, 2002, p.43; Golaszewska-Kaczan, 2017, p.253): employment planning risk, recruitment risk, selection risk, adaptation risk, motivation risk, evaluation risk, development risk, dismissal risk. Table 1 presents illustrative examples of risk-generating actions within each area of human resources management.

**Table 1. A selection of adverse personnel events in each area of HRM
(Wróblewski, 2016, pp.103-154)**

Area of risk	Adverse personnel event
Employment planning	<ul style="list-style-type: none"> - no specifications regarding employee demand - no specifications regarding employee gap - no specifications regarding posts and no competence profiles
Employee selection	<ul style="list-style-type: none"> - limiting recruitment only to internal (or external) sources - no selection criteria - improper selection strategy - limiting selection to the simplest selection techniques - no adaptation process
Employee motivation	<ul style="list-style-type: none"> - no defined aims of the motivation process - no formalized criteria and methods of task performance - incompatibility of the motivation system and employee needs - no individualized approach to employees - the low attractiveness of motivation tools (e.g. low wages) - overestimation of the material (or non-material) dimension - incoherence between different motivation stimuli - the inflexibility of the motivation system - unfair treatment of employees on the part of their superiors - more negative than positive reinforcement - ineffective communication - conflicts and "unhealthy" competition
Evaluation	<ul style="list-style-type: none"> - no precise objectives of the final evaluation - no formalized system of evaluation (arbitrariness) - unsuitable methods and techniques of evaluation - inadequate criteria for evaluation - lack of knowledge (among employees) regarding the criteria - insufficient qualifications of the evaluators - the inadequate frequency of evaluation - no feedback regarding evaluation results for employees - inadequate passing-on of results of evaluation regarding personnel-related decisions - non-uniformity of the system of evaluation
Development	<ul style="list-style-type: none"> - no training needs analysis - wrong recipients of training activities - unsuitable methods and techniques of training - inappropriate conditions of training - incompetent training professionals - no evaluation of the effects of training - no career paths - no formalized promotion criteria - inconsistencies between the development policy and the personnel strategy - no promotion opportunities (horizontal, vertical)
Dismissal	<ul style="list-style-type: none"> - lack of alternatives to the dismissal process (such as redeployment)

	<ul style="list-style-type: none"> - wrong diagnosis of the personnel situation - lack of defined aims of the dismissal - no formalized criteria of dismissal - no information regarding the dismissal criteria provided to employees - no dismissal schedule - lack of assistance for dismissed employees - loss of key employees.
--	--

Analysis of Table 1 reveals that human resources risk-generating factors may appear at every stage of personnel function implementation, from employment planning to employee dismissal. Risks corresponding to these stages are the so-called specific risks (Lipka, 2002, p.45), which differ from the non-specific risk in that they are associated with various personnel-related activities, such as the absence of acceptance on the part of employees, the risk of conflicting situations or cultural differences. Said risks are drawn risks (Wróblewski, 2009, p.94), as due to the high degree of interdependence between the stages of the personnel functions, the materialization of risks in one area brings about changes regarding the level of risks associated with other stages of the human resources process.

Generally speaking, the risk of planning is associated with the abandonment of activities involving a comparative analysis of supply and demand. It is rarely the case that the two variables are balanced. The ignorance with regards to the personnel area and the limitation of personnel function adjustment solely to changes in the environment is an approach which may only work in small businesses operating under relatively stable conditions (Stoner & Wankel, 1997, p.232). Turbulent environments generate quite significant human resources risks. Under current conditions, organizations necessitate the scanning of major trends so that one may properly identify the threats and opportunities regarding the process of human resources development in the field of legislation, schooling and the job market.

Recruitment, selection and adaptation risks may be jointly referred to as the risk of selection. A selection is a set of actions aiming at a provision of the right number of competent employees within a certain time-frame to ensure continuity, effectiveness, and efficiency of company operations. The implementation of the personnel process is mainly associated with the risk of employing an unsuitable candidate, i.e. a person whose competence potential is ill suited to the requirements of a certain position.

Motivation risk is related to mistakes made during activation of the newly employed and constitutes a threat to the optimum use of human capital. The results of employee work are a combination of their competence and motivation. Both insufficient competencies and a lack of motivation could contribute to unsatisfactory work effectiveness. Still, motivation risk is associated not only with the low level of employee motivation but also with excess strain. In accordance with the Yerkes-Dodson's law, the motivation that is too strong is undesired, as it reduces performance (Reykowski, 1974, pp.56-58).

Development risk is associated with labor investment. Investment in the main components of the human capital, i.e. knowledge and skills, may be the future source of income both for the employee and the investor. However, they also necessitate expenditure. The dynamic, turbulent environments generate higher investment risks.

For a company which continuously needs to conduct adaptive-restructuring actions, the effects of investment in employees will also be uncertain. On the other hand, such risk occurs also when investment actions are abandoned. Employee development is, though, the underlying instrument of increasing company's flexibility. The knowledge economy necessitates the continuous development of knowledge, as it preconditions both individual and collective success.

Evaluation risk is a result of correct implementation of the system of periodic employee assessments and the proper course of the evaluation process. Each personnel decision should be preceded by an employee assessment, whereas each decision should depend on the quality of evaluation data, i.e. derivative of the application of proper assessment criteria, methods, and tools and an objective interpretation of assessment results. Hence, the system of period assessments may constitute a crucial element boosting company's effectiveness. On the other hand, the assessment process will act as the base for a number of errors, threatening the effectiveness of the whole human resources management process.

Dismissal risk appears when an entrepreneur is minded to take a decision to reduce employment. Dismissals may not only reduce the cost of company operations but also generate costs related to their performance. Nevertheless, dismissal risk has a non-material side, too. The method in which employees have dismissed shapes relations between former employees and employers and have an impact on the opinion of the rest of company staff, which is an element of employer branding and which affects its image (amongst its customers, contractors, and business partners). As a consequence, dismissing an employee may be a neutral, positive or a negative phenomenon for both parties, depending on process implementation. The way in which redundancies are made, in particular where the part to blame is the company, requires a clear-cut action plan which will reduce the risks associated with the field.

Attitudes to human resources risk adopted by managers

Analysis of international literature reveals an increasing role of human resources risk in contemporary business operations. In 2002, Marsh, a leader in risk and insurance services, surveyed 600 medium-sized European companies to assess their approach to risk (Anaraki-Ardakani & Ganjalim, 2014, pp.129-142). Amongst the most important factors were key employee loss and absences. According to yet another research conducted amongst 300 risk managers, human resources risk was one of the seven major risk categories (employee recruitment and retention and employee compensation topping the list) (Nickson, 2002, p.25).

Similar results were attained in research conducted by the Human Capital Institute. The study indicates that risk associated with the human factor is viewed as the greatest threat to businesses in South Africa. This risk type was ranked first among risks affecting company operations, such as information, reputation, financial, political and market risks (Robbins, Meyer & Roodt, 2011). Moreover, in a study conducted in 2005 in India including 100 various-level managers, human capital risk ranked first among 12 risks most affecting company outcomes (Nath & Shriram, 2017, p.3). Therefore, it may be stated that the area of human resources risk is becoming one of the key types of business risk of our times.

Despite the research cited above, human resources risk remains one of the least explored areas of risk, both in theory and in practice, as indicated by a relatively low number of domestic and foreign subject literature. In an attempt to bridge this gap, partially at least, in April 2017 the author of the present study began to identify the attitudes towards human resources risk of Polish managers. The study included 180 managers representing all levels of medium- and large-sized enterprises located within the Mazowieckie Province.

The managers were asked to list risks which are key to company operations. The study outcomes are illustrated in Figure 1. The risk indicated most frequently was market risk related to market demand, competition, customers, suppliers, price fluctuations. It was regarded as crucial by 75% of the respondents. The polled also often mentioned production risk related to production, quality, costs, and dates (43% of respondents). The key risk for 39% of the managers was legal & political risk related to the state's policy and changing the legal environment, and financial risk considered an equivalent of problems with liquidity and interest rate and currency fluctuations. The broadly-understood risk associated with the human factor, i.e. occupational accidents, frauds or errors in personnel policy resulting in employee rotation, difficulties related to employee recruitment and retention, was key only for every third manager (32%). Hence, the risk ranked almost last in the hierarchy of the studied risk types (only information safety risk ranked lower).

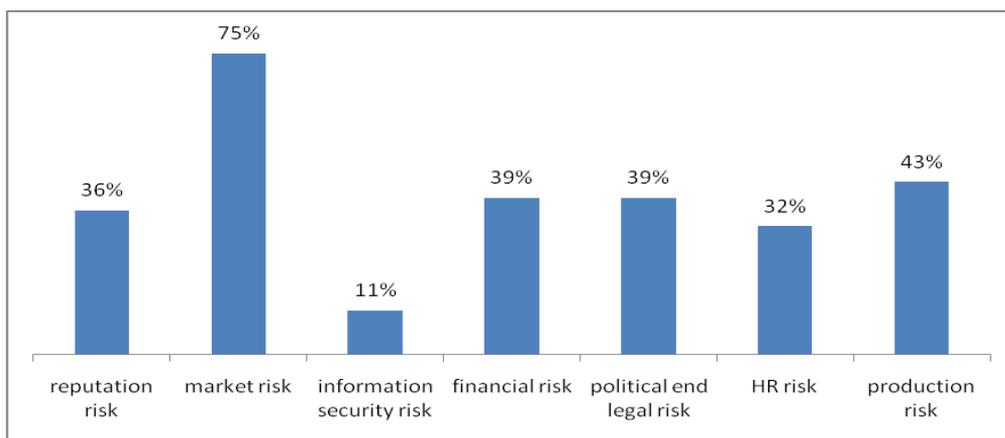


Figure 1. Risks key to company operations according to Polish managers (N=180) (own research)

Comparing the data above with global research findings presented hereinabove, we may conclude that Polish managers seem to underestimate the importance of HR risk for company operations. The thesis is confirmed by the analysis of the report on key risks for large enterprises in Poland, published by AON Poland, a consulting company. The Polish edition of the study conducted in 2016 involved 168 managers representing organizations which had dealt with risks and insurance. The results of the study are presented in Table 2. The analysis of results shows that risks (competition) and legal risks rank relatively high in the Polish reality market. Hazards associated with the economic slowdown, increased competition, and changes regarding legal environment are, apparently, a priority for Polish companies. On the contrary, personnel-related

hazards were evaluated relatively low, for they did not make their way into the list of top 10 risks threatening Polish organizations.

What is interesting to note, is the comparison between the evaluation of various risk types by Polish managers and the global study findings¹. It turns out that hazard perception in the Polish environment differs significantly from the global hierarchy of risks. The risk associated with the human factor, overlooked by the Polish managers, ranked quite high among global respondents. In the worldwide study, hazards associated with the inability to attract and keep talented employees ranked fifth, whereas inability to design and implement innovation – sixth. Polish companies clearly underestimate the image risk (damage to reputation), which was considered to be the greatest hazard globally.

Table 2. 10 key risks for business operations (AON Report Poland, 2016, p. 28).

10 key risks in the opinion of Polish managers	10 key risks according to the global study
<ol style="list-style-type: none"> 1. Increased competition 2. Economic downturn 3. Changes in legal/regulatory environment 4. Damage to reputation (image) 5. Raw material price fluctuations 6. Interruption of company operations 7. Contractors - trade receivables 8. Currency fluctuations 9. Malfunction of IT systems 10. Destruction/damage to property 	<ol style="list-style-type: none"> 1. Damage to reputation (image) 2. Economic downturn 3. Changes in legal/regulatory environment 4. Increased competition 5. Unsuccessful employee retention/inability to attract skilled employees. 6. Lack of innovativeness 7. Interruption of company activities 8. Civil liability/ claims 9. Computer crime/ Hackers/ Viruses 10. Destruction/damage to property

Additionally, the global ranking of difficulties regarding keeping or attracting skilled employees advance from no. 10 in the 2009 edition, to no. 5 in the 2016 edition (Raport AON Polska, 2016, p. 28). This suggests growing awareness regarding the importance of human resources risk among business management professionals.

Hence, it can be assumed that difficulties with the acquisition and retention of specialists will continue to be the most important human resources problems in the years to come due to recorded demographic changes. Since the beginning of the 90s, we have been observing the process of population aging, which is expressed by an increase in the quantity of post-production age population and a decrease of population of pre-working age. The process is expected to accelerate in the next twenty years. Given the unfavorable demographic trends, we may assume that soon also Polish managers will start to appreciate the effect of this human resources risk generator on company operations. We can formulate such assumptions on the basis of prognoses of the Central Statistical Office (GUS), according to which the share of the population of post-working

¹ The global edition of the study included 1418 representatives of companies and institutions, who dealt with risks and insurance management in their professional lives.

age in Poland will increase from 16.8% in 2010 (ca. 6.5 million) to nearly 27% (ca. 9.6 million) in 2035 (GUS, 2009). As a consequence, Poland will be one of the oldest countries in terms of demography (the median population age in 2010 was 37.7; in 2060 it will reach 51.21) (Kiełkowski, 2013, pp.15-20). The population of Poland, however, will decrease - from 38.2 million in 2010 to 32.6 million in 2060. In addition, many young people leave Poland to find jobs abroad, which undoubtedly will increase the human resources risk because the described demographic processes will change the quantitative and qualitative composition of human resources capital (Bombiak, 2014, p.111).

Conclusions

In our contemporary, turbulent environment, risk is a common occurrence associated with every type of business activity and having a potential, strong effect on its operations. Given the importance of human capital for the knowledge economy, it is clear that matters related to human resources risk deserve attention not only of the academic circles but also of practicing managers. Research shows that even though senior management is aware of human resources risk, it is not considered a key factor affecting company operations. Consequently, we may assume that it is not paid due attention. Meanwhile, in the era of intangible sources of competitive advantage, proper care and quality management of human resources seem to be priorities. To attain these objectives, conscious management of human resources risk is a prerequisite, reducing any effects of potential adverse and unexpected events, which could otherwise lead to company's human capital loss. Every manager should be aware of hazards associated with the human factor and irregularities regarding the human resources management process, for they may materialize and distort company operations. Only proper human resources risk management may contribute to the transformation of risks into opportunities. Correct identification of human resources risk is an integral part of the conscious management within turbulent environments and, most importantly, the key stage in the process of effective risk management. As emerge from the analyses, the ongoing, inevitable changes of the demographic situation associated with the aging population, declining job resources, and increased burden on the population of working age are crucial global human resources risk factors. In order to reduce the risk, employers will need to adopt a new approach to human resources management.

References

- Anaraki-Ardakani, D., & Ganjalim A. (2014). Human Resource Risk Management. Applied mathematics in Engineering. *Management and Technology*, 2(6), 129-142.
- Bizon-Górecka, J., & Nogalski, B. (2009). Problemy ryzyka personalnego w zarządzaniu projektami inwestycyjno-budowlanymi [Human resources risk problems in the management of investment and construction projects]. In Lipka, A., & Waszczak S. (Eds.), *Koszty jakości zarządzania kapitałem ludzkim a ryzyko personalne [The costs of quality of HR management vs HR risk]* (pp.28-35). Katowice: Wydawnictwo Akademii Ekonomicznej.
- Bochniarz, P., & Gugała, K. (2005). *Budowanie i pomiar kapitału ludzkiego w firmie [Developing and measuring human capital in firms]*. Warszawa: Poltext.

- Bombiak, E. (2017). Aspekty marketingowe w zarządzaniu zasobami ludzkimi [Marketing aspects in human resources management]. *Nowoczesne Systemy Zarządzania [Modern Systems of Management]*. Wojskowa Akademia Techniczna, 12(1), 66-78.
- Bombiak, E., (2014). Zarządzanie różnorodnością wyzwaniem dla współczesnych menedżerów [Diversity management as a challenge for contemporary managers]. *Zeszyty Naukowe Uniwersytetu Przyrodniczo- Humanistycznego w Siedlcach*, 102(29), 111.
- Czerska, M., & Rutka, R. (2012). Ryzyko ewaluacyjne na stanowiskach programistów w przedsiębiorstwach sektora IT [Evaluation risk associated with programming jobs in IT sector companies]. In Stabryła, A., & Woźniak, K. (Eds.), *Determinanty potencjału rozwojowego organizacji [Determinants of company development potential]* (pp.180-189). Kraków: Mfiles.pl.
- Czerska, M., & Rutka, R. (2016). Metody oceny ryzyka personalnego w organizacji [Methods of human resources risk evaluation]. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, 280, 23-24.
- GUS. (2009). Prognoza ludności na lata 2008–2035 [Population forecast for the years 2008 – 2035]. Retrieved from www.stat.gov.pl.
- Jajuga K. (2009). Koncepcja ryzyka i proces zarządzania ryzykiem – wprowadzenie [The idea of risk and the proces of risk management – an introduction]. In Jajuga, K. (ed.) *Zarządzanie ryzykiem [Risk management]* (pp.13-15). Warszawa: PWN.
- Jajuga, K. (2009). Ryzyko operacyjne w banku [Operational risk in banks]. In Jajuga, K.(ed.) *Zarządzanie ryzykiem [Risk management]* (pp.269-273). Warszawa: PWN.
- Kaczmarek, T. (2006). Ryzyko i zarządzanie ryzykiem, Ujęcie interdyscyplinarne [Risk and risk management. A cross-disciplinary perspective], Warszawa: Difin.
- Thlon, M. (2013). Charakterystyka i klasyfikacja ryzyka w działalności gospodarczej [Characteristic features and classification of risk associated with business operations]. *Zeszyty Naukowe Ekonomia*, UE w Krakowie, 902, 31-32.
- Kiełkowska, M. (2013). Rynek pracy wobec zmian demograficznych [Job market and demographic changes]. *Zeszyty Demograficzne. część 1*, Instytut Obywatelski, Warszawa.
- Kotler, P., & Caslione, J.A. (2009). *Chaos. Zarządzanie i marketing w erze turbulencji [Chaos. Management and marketing in the turbulent era]*. Warszawa: MT Biznes.
- Kropp, W. (2004). Entscheidungsorientiertes Personalrisikomanagement. In Bröckermann, R., & Pepels, W. (Eds.), In *Personalbindung: Wettbewerbsvorteile durch strategisches Human Resource Management*, (pp.131-166). Berlin: Erich Schmidt Verlag GmbH & Co.
- Kupik, K. (2011). Planowanie w turbulentnym otoczeniu [Planning in turbulent environments]. *Master of Business Administration*, 4, 37.
- Lipka, A. (2002). *Ryzyko personalne. Szanse i zagrożenia zarządzania zasobami ludzkimi [Human resources risk. Hazards and opportunities of human resources management]*. Warszawa: Poltext.
- Matejun, M., & Nowicki, M. (2013). Organizacja w otoczeniu - od analizy otoczenia do dynamicznej lokalizacji [Organization within the environments – from the analysis of environments to dynamic localization]. In Adamik, A. (Ed.), *Nauka o organizacji. Ujęcie dynamiczne [Organizational behavior. The dynamic perspective]*. Warszawa: Oficyna a Wolters Kluwer business.

- Meyer, M., Roodt, G., & Robbins, M. (2011). Human resources risk management: Governing people risks for improved performance. *SA Journal of Human Resource Management/SA Tydskrifvir Menslikehulpbronbestuur*, 9(1), Art. #366, 12 pages.
- Nath, V., & Shriram, U. (2017, March 21). *Managing human capital risks effectively*. Retrieved from www.willistowerswatson.com.
- Nickson, S. (2001). The Human Resources Balancing Act, Cooperation between risk management HR. *Risk Management*, 48(2), 25-29.
- Pocztowski, A. (1993). Rozwój potencjału pracy jako problem zarządzania zasobami ludzkimi w przedsiębiorstwie [Development of work potential as a problem of managing human resources in the enterprise], special series: „Monografie”. Kraków: Wydawnictwo Akademii Ekonomicznej.
- Raport AON Polska. [AON Report Poland] (2016). Zarządzanie ryzykiem i ubezpieczeniami w firmach w Polsce [Risk and insurance management in companies in Poland]. AON Risk Services.
- Reykowski J., (1975). *Teoria motywacji a zarządzanie [Theory of motivation vs management]*. Warszawa: PWE.
- Rutka, R., & M. Czerska, M. (2006). Ryzyko ewaluacyjne w zarządzaniu personelem w badanych urzędach miasta. [Evaluation risk in personel management in the study Municipal Offices]. In Stabryła, A. (Ed.), *Doskonalenie systemów zarządzania w społeczeństwie informacyjnym, Materiały konferencyjne [Management system enhancement in the information society. Conference materials.]* (pp.201-210). Kraków: Wydawnictwo Akademii Ekonomicznej.
- Shelest, O. (2013). Ocena czynników ryzyka personalnego w administracji publicznej na przykładzie Urzędu Miasta Poznania [Assessment of human resources risk factors in public authorities on the basis of the Poznań Municipal Council]. *Konteksty społeczne [Social contexts]*, 1(1), 74-75. Retrieved from <http://kontekstyspoleczne.umcs.lublin.pl>.
- Sołoma, A. (2011). Postawy właścicieli mikro i małych przedsiębiorstw wobec ryzyka w działalności gospodarczej [Attitudes of owners of micro and small enterprises to risk in business activities]. In Winiarski, J. (Ed.), *Ryzyko przedsięwzięć gospodarczych [The risk of economic undertakings]* (pp.150-159). Gdańsk: Fundacja Rozwoju Uniwersytetu Gdańskiego.
- Stoner, J.A.F, & Wankel Ch., (1997). Kierowanie [Managing]. Warszawa: PWE.
- Tyrańska, M. (2008). Obszary ryzyka w zarządzaniu zasobami ludzkimi w przedsiębiorstwie [Risk areas in the management of human resources in companies]. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, 772, 221-235.
- Wróblewski, J. (2009). Metodyka pomiaru ryzyka personalnego [Methods of human risk measurement]. In Lipka, A., & Waszczak, S., (Eds.), *Koszty jakości zarządzania kapitałem ludzkim a ryzyko personalne [The costs of quality of HR management vs HR risk]* (pp. 93- 103). Katowice: Wyd. Akademii Ekonomicznej.
- Wróblewski, J. (2016). *Ryzyko personalne w zarządzaniu zasobami ludzkimi służb marketingowych przedsiębiorstw farmaceutycznych [Human resources risk in the management of marketing-related human resources in pharmaceutical companies]* (Unpublished doctoral thesis). Gdańsk: Wydział Zarządzania Uniwersytetu Gdańskiego.
- Zhao X., & Jia, Z. (2006). *Risk Analysis on Human Resource Management, School of Economy and Management*. Handan: Hebei University of Engineering.