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THE INFLUENCE OF EMPLOYEE MOTIVATION FACTORS ON JOB SATISFACTION IN MINING COMPANIES

Janovac T., Virijević Jovanović S., Tadić J., Tomić G., Ćufalić S.*

Abstract. The paper analyses the relations and influence of employee motivation factors on job satisfaction in mining companies. The empirical study was conducted among the two largest mining companies in the Republic of Serbia. The sample consisted of 200 respondents employed in the selected companies. The data were processed using SPSS 21.0. Package, which was applied in order to conduct standard multiple regression analysis and determine the Pearson correlation coefficient. The results indicate a significant correlation between motivation factors and job satisfaction among the employees. In addition, the findings imply that motivation factors, such as nonmaterial motivators related to work (NMW) and material motivators (MAT), have a significant influence on satisfaction. The research has theoretical contribution regarding the limited studies exploring the motivation of employees in the mining sector. In practice, the study provides significant insight into designing motivation systems to improve the effectiveness of human resources management in mining companies. Bearing in mind that the business success of mining companies strongly affects the country's economy, this research has greater importance and broader perspective.

Keywords: motivation factors, job satisfaction, mining companies, human resources management, effectiveness.

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Introduction

Mining is one of the oldest human activities. The industry itself is dangerous and destructive for both man and nature. However, the economic side of the industry shows that foreign exchange earnings from mining can significantly affect the positive development of a country. Besides the economic laws of reproduction, the economic performance of mining companies is conditioned by many different factors. Internal factors that contribute to the realisation of organisational goals

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related to human resources, potential and motivation. In the context of human resource management in mining organisations, sustainability is also an important factor and a business challenge when it comes to attracting, retaining and performing employees.

Regarding that motivation directly impacts productivity, many theoretical and empirical studies have focused on identifying factors that influence employee motivation. Also, many empirical researchers have identified factors that lead to employee satisfaction. However, there is a lack of studies regarding the motivation and satisfaction of employees in the mining sector. The motivation system in mining organisations differs in comparison to other sectors due to the specifics of the industry and the nature of mining activity, which makes the research on employee motivation factors and satisfaction extremely important for effective management.

The organisations in the mining industry are particularly dealing with the issue of a low level of employee motivation and satisfaction. When it comes to work motivation, the problem is that the factors, which encourage motivation, may also demotivate the employees due to certain industry circumstances. The work in mining industry organisations is difficult, the environment is often unhealthy and unsafe, and employees face risks specific to the industry. Furthermore, aggravating circumstances can be poor working conditions, lack of professional staff, incompetent management, inadequate equipment, outdated technology, inefficient training and poor interpersonal relationships. If an employee in a mine is not adequately trained and equipped to work with respect to the appropriate safety procedures, he becomes directly endangered by the possible risks of mining work (Kuranchie-Mensah & Amponsah-Tawiah, 2016). Therefore, it is necessary to provide adequate training of miners in appropriate time in order to minimize the potential danger (Bayram, 2020). Besides the poor working conditions, an unfair reward system is a common reason that demotivates the employees to work. The lack of employee motivation and satisfaction implies reduced performance (Janovac et al., 2018), reflecting on the business success. In addition, the possibility of making mistakes in work increases with unmotivated and dissatisfied employees, which may have fatal outcomes in this industry.

Upon perusal and review of related literature, the researchers found out that there is a dearth of studies that have been conducted relative to this subject appertaining in many European countries. Thus, this paper intends to provide empirical shreds of evidence towards the relations and influence of employee motivation factors on job satisfaction in mining companies in the Republic of Serbia. The research results can contribute to the management of mining companies in designing a better motivation system and effective human resource management. Regarding that the business success of mining companies strongly affects the country's economy, this research has greater importance and broader perspective.

Literature Review

People play a vital role and are a key factor in the success of an organisation. Thus, business success also depends on the success of people, their knowledge, potential and motivation. Knowledge about employee motivation allows managers to take actions to improve employee performance in the workplace (Hitkaet al., 2021).

Regarding that employee motivation and satisfaction directly affect productivity, the process of employee motivation should be managed towards the realisation of the company's organisational goals. In contrast, the motivation system should be focused on optimal employee engagement, taking into account their needs. The motivation system should be designed to meet the economic and psychological needs of employees and enhance their motivation in the direction of performing tasks (Lorincová et al., 2019).

Motivation and job satisfaction

In regards to motivators, many of the conventional theories developed in the middle of the last century were created due to the researchers' efforts to discover the drivers of human activity. Abraham Maslow (1943) found that people in organisations are driven by five groups of needs, such as physiological needs, security needs, belonging and love needs, esteem needs, and self-actualization needs. Likewise, Clayton Aldefer (1969) classified human needs as existential needs, the needs of connection and the needs of development.

According to Herzberg's two-factor theory of motivation, human behaviour in an organization is influenced by hygienic factors and motivators. Frederick Herzberg considered that motivational factors (achievement, recognition, responsibility, advancement, growth and job itself) lead to the presence or absence of employee satisfaction. In the same manner, hygienic factors (salary, working conditions, company policy and procedures, relationship with the manager, work security and interpersonal relationships) affect the presence or absence of dissatisfaction. Removing a factor from one group does not necessarily lead to activating a factor in another group. If, for example, the factors that cause dissatisfaction are neutralized, it does not necessarily mean that job satisfaction will increase at any cost and another way around. The contribution of this theory is in comprehension that employee satisfaction and dissatisfaction are determined by different groups of factors.

According to the theory of value, job satisfaction exists at the extent to which people are satisfied with the outcome of the job itself. The theory is based on the concept that individual values determine employee satisfaction. At the same time, dissatisfaction is described as an undesirable emotional state that results from individual assessments that certain aspects of work that are important to individuals do not reflect their values (Janićijević, 2008,p.91). Moreover, job dissatisfaction results from a mismatch or deviation of what an individual wants or expects and what the final outcome is. Hence, job satisfaction presents an emotional response of an individual to his current state of work (Alshallah, 2004). The emotional response could be either positive or negative, resulting in a state of satisfaction or

dissatisfaction. Therefore, satisfaction is a feeling that occurs as a result of comparing expectations and outcomes. Every employee will experience some level of satisfaction or dissatisfaction in the working process depending on internal or external factors.

Relationship between employee motivation factors and job satisfaction

Despite the fact that job satisfaction and motivation are tangled in practice, there is a clear distinction between these two concepts. There are opinions that motivation affects job satisfaction as well as that satisfaction contributes to an increased level of motivation. In another word, there is a mutual relationship among them. Namely, in certain situations, job satisfaction would increase the level of motivation, but in the same way, the dissatisfaction itself could increase the motivation. Whether someone will be motivated by a state of satisfaction or dissatisfaction depends primarily on the personality traits and external factors (Roelen et al., 2008). Furthermore, a satisfied employee does not necessarily have to be a motivated employee, which implies the independence of these two phenomena.

The relationship among motivation, satisfaction and productivity is much more complex than a simple psychological relationship since it is of great importance in terms of gender differences, age differences, acceptance of responsibilities, working hours and sources of motivation (Srivastava & Barmola, 2011). Motivation manifests in job satisfaction and performance, and thus, it provides the link between employee job satisfaction and employee performance (Roos & Van Eeden, 2008).

According to the literature review, there are many studies that examine the relations between employee motivation and satisfaction (Lut, 2012; Mafini & Dlodlo, 2014; Tietjen, & Myers, 1998). Among the first researchers who studied this issue were Brayfield, Wells and Strate in 1957. (Mafini & Dlodlo, 2014).

The importance of employee motivation and satisfaction, as a tool for achieving organisational goals, is confirmed in many scientific studies (Baaren & Galloway, 2014; Hoboubi et al., 2017). For example, the results of research conducted by Professor Andrew J. Oswald (2015) indicate that positive emotions of employees may increase the productivity level up to 12%. In the study, Oswald has made a causal link between the factors, such as salary, working environment, bonuses and performance. Finally, in conclusion, it was stated that employee satisfaction affects performance, which contributes to overall productivity. The thesis is further confirmed in a study conducted by researchers Ahmad, Ahmad & Shah (2010).

Likewise, motivation affects the productivity level as well (Taiwo, 2010).

Therefore, it can happen that the employee has competencies for a certain job and that the organisation provides him with necessary working conditions, but if he is not motivated, the performance will be absent. This implies that motivation and productivity are inseparable concepts in organisational development, as well as that motivation and performance are mutually conditioned (Lut, 2012; Dobre, 2013; Alam et al., 2020; Haenisch, 2012; Nimusima & Tumwine, 2017; Pancasila,

Haryono & Sulistyono, 2020) resulting that motivation is used as a way to improve productivity (Manzoor, 2012; Osabiya, 2015; Purwanti, & Sitorus, 2018).

The largest number of research papers on employee motivation and satisfaction in mines originate from the African continent due to the development of the mining industry in this part of the world (De Beer, Tims & Bakker, 2016; Kuranchie-Mensah & Amponsah-Tawiah, 2016; Tshivhase & Vilakazi, 2018; Sartono & Ardhani, 2016; Samwel, 2017). In addition, there was a study about employee satisfaction on the example of mining companies in eastern Indonesia (Usman et al., 2018), and a study about effects of work motivation and leadership toward work satisfaction and employee performance in coal mining companies in Indonesia, too. (Pancasila, Haryono & Sulistyono, 2020). Also, there is a research on employee motivation factors in the context of Iranian copper mines (Yasrebi et al., 2014). Another interesting study explores the relations between job and life satisfaction of employees in the Australian coal mine (Iverson & Maguire, 2000). Keeping in mind that national culture influences motivation and other factors (Erez, 2008; Kim, 2017) of human behaviour in organisations, these studies are of great importance. In that respect, there is a lack of research on employee motivation and satisfaction in the mining sector in the Republic of Serbia, except for the study based on the example of "Ibar mines", which was conducted in 2018 (Bozovic & Bozovic, 2019).

However, despite started scientific studies dealing with motivation problems in companies, the relationship between employee motivation factors and job satisfaction in the mining industry is insufficiently explored in European countries. Therefore, the aim of this study is to examine the influence of employee motivation factors on job satisfaction in mining industry organisations in the Republic of Serbia.

The general objective is stated in the following research questions:

Research Question 1: To analyse the impact of material motivators, personal nonmaterial motivators, nonmaterial motivators related to work and nonmaterial motivators related to the work environment on job satisfaction in mining industry organisations.

Research Question 2: To determine the employee motivation factors that provide the strongest influence on job satisfaction in mining industry organisations.

Research methodology

The empirical study was conducted among the two largest mining companies in the Republic of Serbia, Kolubara Mining Basin and Mining and Smelting Combine in Bor. The sample included 200 respondents, of which 147 respondents were employed in Mining and Smelting Combine in Bor and 53 respondents in Kolubara Mining Basin. The survey was conducted anonymously.

Kolubara Mining Basin is a branch of a Public Enterprise Electric power industry of Serbia and produces about 30 million tons of coal annually.

Mining and Smelting Combine in Bor is the only producer of copper and precious metals (gold and silver) in Serbia. It has a production capacity of about 43,000 tons of copper annually. The production of copper presents an important part of the country's economy that generates several hundred million dollars a year. Mining and Smelting Combine as a unique business system produces copper ore and encourages the economic development of the entire region. Therefore, copper combine, with its potentials and abundant natural resources, is of strategic importance for developing the entire Serbian economy.

Keeping in mind the specificities that characterise the organisations in the mining industry and the risks related to their activities, the research was conducted with respect to the safety procedures in several stages. During the first phase of the research, the data were collected using the survey method in Mining and Smelting Combine Bor in 2018, before the privatization of this company. The second research phase included the survey of employees in the Kolubara Mining Basin conducted in 2019.

The sample consists of 200 respondents, defined by the education level, age, sex structure, work experience, and job position. Regarding gender, 81.0% of the respondents were men, and the remaining 19.0% were women. The majority of respondents were between 45 and 54 years old (28.5%), followed by respondents aged between 35 and 44 years (26.5%). There was a clear predominance of respondents with the job position "employee" (64.0%), with secondary education (51.5%) and working experience between 5 and 10 years (26.0%), as well as 11 and 20 years (26.0%).

The questionnaire included three parts: the first part, which identified the sample's socio-demographic characteristics, the second part with questions about employee's motivators, and the third part with questions regarding job satisfaction. The employee motivation measurement scale consisted of nineteen items evaluated on a 5-point Likert scale. These items were grouped into four factors: termed material motivators, personal nonmaterial motivators, nonmaterial motivators related to work and nonmaterial motivators related to environment, as defined above.

The responses were ranged from not at all (1) to very much (5). All motivation factors were average of the belonging items scores. The job satisfaction measurement scale consisted of 11 items evaluated on a 5-point Likert scale. The responses were ranged from very dissatisfied (1) to very satisfied (5). Job satisfaction was the average of the belonging items scores.

The employee motivation measurement scale consisted of nineteen items evaluated on a 5-point Likert scale. These items were grouped into four factors: termed material motivators (MAT), personal nonmaterial motivators (NMP), nonmaterial motivators related to work (NMW) and nonmaterial motivators related to environment (NME), as defined above. The responses were ranged from not at all (1) to very much (5). All motivation factors were average of the belonging items scores. The job satisfaction measurement scale (JOB SATISF) consisted of 11

items evaluated on a 5-point Likert scale. The responses were ranged from very dissatisfied (1) to very satisfied (5). Job satisfaction was the average of the belonging items scores. Descriptive statistics of motivation factors and job satisfaction are presented in Table 1.

Table 1. Descriptive statistics of employee motivation factors and job satisfaction

	N	Min	Max	Mean	Std. Dev.	Variance
MAT	200	1.25	4.25	3.46	.650	.424
NMP	200	1.00	5.00	3.79	.838	.703
NMW	200	1.00	5.00	3.77	.758	.575
NME	200	1.00	5.00	3.71	.867	.753
JOB SATISF.	200	1.09	4.64	2.92	.656	.431

Within employee motivation factors, personal nonmaterial factors had the highest mean value (3.79), while material motivators had the smallest mean value (3.46). This implies that personal nonmaterial factors motivate the employees more than material factors. Job satisfaction had a mean of (2.92), with minimum and maximum values ranging from 1.09 to 4.64. Testing normality of distribution was based on Kolmogorov-Smirnov and Shapiro-Wilk's test. The normality is shown to be a statistically insignificant (accidental) deviation from the normality if the Sig. > 0.05 (Coakes, 2013). In our research, the significance was greater than 0.05, which indicates that the assumption of the normal distribution is confirmed.

Starting from the basic subject and issues as well as the research objectives of this study, there have been defined the following hypotheses:

H1: There is a significant correlation between employee motivation factors and job satisfaction.

H2: Employee motivation factors have a significant influence on job satisfaction.

Data were processed using SPSS 21.0. statistical package, which was applied to find the descriptive statistical measures, as well as to conduct standard multiple regression analysis and determine the Pearson correlation coefficient (r).

Research results

Before testing the proposed hypotheses, the reliability of the scales was examined. Reliability was assessed using Cronbach's α . For a scale to be deemed reliable, Ho (2014) recommends that Cronbach's α value for that construct must be above 0.7. In the proposed model, all the constructs are reliable since values for Cronbach's α are well above 0.7 (material motivators 0.702, personal nonmaterial motivators 0.786, nonmaterial motivators related to work 0.877, nonmaterial motivators related to work environment 0.789 and job satisfaction 0.855).

Relationship between employee motivation factors and job satisfaction

The relationship between employee motivation factors and job satisfaction was performed using the Pearson linear correlation coefficient (r) (Table 2). Between the all nonmaterial motivators and job satisfaction, a middle positive correlation

(Cohen, 1988) was calculated ($r = 0.341$, $r = 0.379$, $r = 0.353$) $n = 200$, $p < 0.01$. Between material motivators and job satisfaction slightly positive correlation was calculated ($r = 0.092$) $n = 200$, but not significant $p > 0.01$.

Table 2. Correlation of employee motivation factors with job satisfaction

		MAT	NMP	NMW	NME
JOB SATISF.	Pearson Correlation (r)	.092	.341**	.379**	.353**
	Sig.	.196	.000	.000	.000
	N	200	200	200	200

A higher level of nonmaterial motivation is followed by a higher level of job satisfaction. Personal nonmaterial motivators explain 11.6% variance of job satisfaction, nonmaterial motivators related to work explain 14.4% variance of job satisfaction, and nonmaterial motivators related to work environment explain 12.5% variance of job satisfaction. On the other hand, lower levels of material motivation lead to lower levels of job satisfaction.

Aside from material motivators, which are slightly and positively correlated with job satisfaction, the findings indicate that there is a significant correlation between other employee motivation factors and job satisfaction. Therefore, a medium positive correlation was calculated between employee motivation factors (except material motivators) and job satisfaction. With regard to this, it can be concluded that there is a significant correlation between employee motivation factors and job satisfaction, and it implies that *H1(Hypothesis 1)* is accepted.

Influence of employee motivation factors on job satisfaction

The second hypothesis was tested by using multiple regression analysis. Within the analysis, four variables (material motivators, personal nonmaterial motivators, nonmaterial motivators related to work and nonmaterial motivators related to environment) were used as predictors, and job satisfaction as the dependent variable.

Predictor variables construct the model of regression and explain 16.0% variance of job satisfaction, as the R^2 value shows 0.160 (Table 3). The robustness of the model (Coakes, 2013) is provided by the analysis of variance table (Table 4) with F value of 10.457 and low p value of 0.000 for job satisfaction. The variance inflation factor (VIF) of four variables for job satisfaction is less than the traditional thumb rule value of 10 (Cohen et al., 2003).

Table 3. Model of regression

	R	R Square	Adjusted R Square	Std. Error of the Estimate
Job satisfaction	.420 ^a	.177	.160	.601

a. Predictors: nonmaterial motivators related to environment, material motivators, personal nonmaterial motivators, nonmaterial motivators related to work

b. Dependent variable: Job satisfaction
Source: Authors' calculation, SPSS Output Table

Table 4. Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
Job satisfaction	Regression	15.132	4	3.783	10.457	.000 ^b
	Residual	70.544	195	.362		
	Total	85.676	199			

a. Dependent variable: Job satisfaction

b. Predictors: nonmaterial motivators related to environment, material motivators, personal nonmaterial motivators, nonmaterial motivators related to work

Source: Authors' calculation, SPSS Output Table

Table 5. Coefficients of job satisfaction

Model		Stand. Coeff.	t	Sig.	Collinearity Statistics	
		Beta			Tolerance	VIF
JOBSATISF	Constant		7.428	.000		
	MAT	-.185	-2.278	.024	.642	1.558
	NMP	.176	1.628	.105	.362	2.763
	NMW	.292	2.306	.022	.264	3.794
	NME	.065	.575	.566	.328	3.045

The contribution of independent variables is presented by coefficients Beta (Table 5). The highest coefficient of beta has the nonmaterial motivators related to work - NMW (0.292), which means that NMW individually exerts the most influence on the dependent variable job satisfaction after deducing the variance explained by the other variable in the model. After NMW, the following beta coefficients are for material motivators - MAT (0.185), personal nonmaterial motivators - NMP (0.176), and nonmaterial motivators related to environment - NME (0.065). Since the significance of MAT and NMW is less than 0.05, it can be concluded that MAT and NMW have a significant influence on job satisfaction. The variable NMP and NME do not significantly influence job satisfaction.

Multiple regression analyses examined the influence of four different employee motivation factors (MAT, NMP, NMW and NME) on job satisfaction. A preliminary examination verified the assumptions of normality, linearity, atypical points, homogeneity of variance, independence of residuals, multicollinearity and singularity (Green & Salking, 2014). Violations of assumptions have not been noted. On the basis of determining the strength of the influence of employee motivation factors (MAT, NMP, NMW, NME) on job satisfaction, it can be concluded that nonmaterial motivators related to work (NMW) and material motivators (MAT) have a significant influence on job satisfaction (4, 195) = 10.457, $p < 0.01$. Personal nonmaterial motivators (NMP) and nonmaterial

motivators related to work environment do not significantly influence job satisfaction. Two of the four employees' motivational factors have a significant influence on job satisfaction, and it can be concluded that the *H2: Employee motivation factors have a significant influence on job satisfaction* is partially accepted.

Discussion

In relation to other studies, the most appropriate for comparison is the research on employee motivation on the example of "Ibar mines", conducted by Serbian authors Bozovic & Bozovic (2019). Their findings imply that employees are primarily motivated by earnings. The study conducted by Tshivhase & Vilakazi (2018) indicates that employees in a coal mine are more oriented to factors related to a good relationship with the manager, the support that the manager should provide, and the possibility of development and promotion. In addition, their findings show that the amount of salary does not have a long-term effect on motivation and that it is not the only factor of job satisfaction, but that employees tend more towards a balance between business and private life. The conclusions of these studies suggest that factors, such as good relationship with the manager, opportunities for development and promotion, and the balance between private and business life, significantly contribute to job satisfaction. In the current study, the results imply that a good relationship with the manager as a non-material motivator related to work environment (NME) does not significantly impact job satisfaction, as opposed to material motivators (MAT) that have a significant influence. The results of research conducted by De Beer, Tims & Bakker (2016) indicate that employee satisfaction in the mining sector can be achieved by providing support to employees in work by colleagues and supervisors, i.e., managers. However, the findings of the present study show that the support of colleagues and managers, which belong to the non-material motivators related to work environment (NME), does not have a significant impact on job satisfaction. According to a survey on employee satisfaction in a coal mine in Australia, conducted by Iverson & Maguire (2000), job satisfaction provides a stronger effect on respondents than private life satisfaction. In other words, employees are more satisfied with the success regarding their work, advancement and career, rather than the pleasures in private life.

The results presented in the study conducted by Pancasila, Haryono & Sulistyono (2020) showed that leadership and work motivation have positive and important effects on job satisfaction. Also, the research findings provided by Ekhsan et al. (2019) indicate that there is a significant influence between motivation and job satisfaction in coal companies, like in this study.

Furthermore, the results of the research can contribute to management in designing a better motivation system in order to improve the effectiveness of human resources management in mining companies. Effective human resource management contributes to the realization of the company's organisational goals

and business success. Regarding that the business success of mining companies strongly affects the country's economy (Marsonova et al., 2018), this research has greater importance and broader perspective.

The mining industry contributes 0.9-1% to the GDP of the Republic of Serbia. The total annual productivity of Kolubara Mining Basin is 30 million tons of coal. Bearing in mind that Kolubara employs about 10,169 people in its production process, the performance of workers amounts to 2,950 t per year (Čuta & Galop, 2018, p.40). Mining and Smelting Combine in Bor has a production capacity of about 43,000 tons of copper annually and 5,000 employees. However, in 2018, when the survey was conducted, there was a decline in profitability of 4.7% in the mining sector (Statistical Office of the Republic of Serbia, 2019), which is especially interesting if we take into account that the sector recorded the most significant growth in business profitability in the previous years. The decrease of 4.7% in 2018 could be related to the slowdown in business processes in the company Mining and Smelting Combine in Bor, bearing in mind that it was the period when the privatization process was finalized. Particularly, this fact might significantly influence employees' attitudes during the study, which was the major limiting factor. Nevertheless, the results of the research could be applied by the management while considering problems in eliminating certain shortcomings, and in the process of designing an adequate motivation system that will respond to the challenges in the mining industry. Hakelová et al. (2013) demonstrated that the motivation of employees, their efficiency and work productivity will lead to the increase of effectiveness in the mining business.

In addition, this study suggests a continuous collection of data regarding job satisfaction and employee motivation.

Conclusions

The research results indicated that there is a significant correlation between employee motivation factors and job satisfaction. Furthermore, the findings showed that motivational factors, such as nonmaterial motivators related to work (NMW) that include dynamic, challenging job, good working conditions, workplace safety, feedback on achieved results, acceptance of responsibility, modern work equipment, opportunity to participate in decision making and goal setting, clearly set goals and objectives. Besides, material motivators (MAT) related to material rewards, bonuses, salary, paid life insurance and scholarships for the education of employees and their children have a significant impact on job satisfaction.

Achieving employee satisfaction and high motivation is one of the most challenging tasks of the human resources sector and line managers. These issues are of great importance in the mining industry, where organisations face many challenges, especially when it comes to productivity. In addition, retaining employees in these organisations is complicated, regarding the job nature as well as the other problems that employees face at work. Therefore, the motivation system

should be designed in order to satisfy certain types of behaviour, attract new and retain existing employees. Additionally, it contributes to achieving the overall organisational goals. Furthermore, the motivation system should ensure that employees identify themselves with organisation and show interest in its continuous development and business success.

Keeping in mind that working in mining industry is difficult, often unhealthy and unsafe, it is a true challenge to achieve employee satisfaction, maintain productivity levels and achieve higher goals. Therefore, the management in mining organisation should be focused on the factors that contribute to the effectiveness of the work process. Likewise, continuous measurement of employee motivation and satisfaction and assessing employee performance ensure quality decisions regarding the question of whether an individual should be rewarded or corrected to eliminate employee failure in performing tasks. Hence, the development of human resource management strategy focused on employees and their satisfaction with a flexible motivation system is the key to the success of organisations in the mining sector.

The findings also indicate that interventions in human resources are needed in order to improve work engagement, essential motivation and employee satisfaction in mining industry organisations.

In future research, it would be useful to explore the attitudes of employees after the privatization of this company and compare them with the previous situation.

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WPLYW CZYNNIKÓW MOTYWACJI PRACOWNIKÓW NA SATYSFAKCJĘ Z PRACY W PRZEDSIĘBIORSTWACH GÓRNICZYCH

Streszczenie: Artykuł analizuje relacje i wpływ czynników motywacji pracowników na satysfakcję z pracy w przedsiębiorstwach górniczych. Badanie empiryczne przeprowadzono wśród dwóch największych firm górniczych w Republice Serbii. Próba składała się z 200 respondentów zatrudnionych w wybranych firmach. Dane zostały przetworzone przy użyciu SPSS 21.0. Pakiet, który zastosowano w celu przeprowadzenia standardowej analizy regresji wielokrotnej i wyznaczenia współczynnika korelacji Pearsona. Wyniki wskazują na istotną korelację pomiędzy czynnikami motywacyjnymi a satysfakcją z pracy wśród pracowników. Ponadto wyniki sugerują, że czynniki motywacyjne, takie jak niematerialne motywy związane z pracą (NMW) i materialne motywy (MAT), mają istotny wpływ na satysfakcję. Badania mają wkład teoretyczny w zakresie ograniczonych badań eksplorujących motywację pracowników w sektorze górniczym. W praktyce badanie dostarcza istotnego wglądu w projektowanie systemów motywacyjnych w celu poprawy efektywności zarządzania zasobami ludzkimi w przedsiębiorstwach górniczych. Mając na uwadze, że sukces biznesowy firm górniczych silnie wpływa na gospodarkę kraju, badanie to ma większe znaczenie i szerszą perspektywę.

Słowa kluczowe: czynniki motywacyjne, satysfakcja z pracy, firmy górnicze, zarządzanie zasobami ludzkimi, efektywność.

员工激励因素对矿业公司工作满意度的影响

抽象的。分析了矿业公司员工激励因素对工作满意度的关系及影响。实证研究是在塞尔维亚共和国最大的两家矿业公司中进行的。样本包括在选定公司工作的 200 名受访者。数据采用SPSS21.0进行处理。包, 用于进行标准多元回归分析并确定Pearson相关系数。结果表明, 员工的激励因素与工作满意度之间存在显著相关性。此外, 研究结果表明, 激励因素, 如与工作相关的非物质激励因素(NMW)和物质激励因素(MAT), 对满意度有显著影响。该研究对探索采矿员工动机的有限研究具有理论贡献。在实践中, 该研究为设计激励系统以提高矿业公司人力资源管理的效率提供了重要的见解。考虑到矿业公司的商业成功对国家经济的影响很大, 这项研究具有更大的重要性和更广阔的视野。

关键词: 激励因素, 工作满意度, 矿业公司, 人力资源管理, 有效性。