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Occupational safety and health as an element of a complex compensation system evaluation within an organization

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Abstract: Occupational safety and health (OSH) plays a significant role in today's organizations, because it helps in attracting and retaining employees as well as molding their attitudes and behaviors at work. This is why the issue of OSH is stressed in a comprehensive approach to employee rewards: the total reward concept. This article explains how OSH may be included in a complex evaluation process of the compensation system. Although the literature on the effectiveness of employee compensation refers mainly to financial and non-financial components, there is a need for inclusion of working conditions in such analyses. An evaluation of the compensation system that incorporates OSH can drive many benefits for both the organization and employees. Obtaining such benefits, however, requires systematic evaluation of the reward system, including OSH. Incorporation of OSH issue within the comprehensive analysis of compensation systems promotes responsible behavior of all stakeholders.

Keywords: occupational safety and health evaluation; compensation evaluation model; supportive working environment

1. Introduction

Modern trends in human capital management (HCM), and particularly in compensation, view the working environment as an important part of the total reward (TR) concept.[1] TRs include financial and non-financial rewards, development and career opportunities, and a supportive working environment. Research affirms occupational safety and health (OSH) to be an integral and most crucial element of a supportive working environment. The comprehensive approach of TR helps in achieving organizational goals, while at the same time meeting the needs of employees and influencing their behavior. Providing a healthy and safe working environment has the potential to increase labor productivity and job satisfaction, which, in turn, increases company profits.[2] Moreover, appropriate working conditions determine the optimal use of human capital within the organization.[3]

Although OSH is an important component of a comprehensive compensation system, strongly affecting the motivation and behavior of employees (compare [4–6]), most employers in Poland are not willing to invest in OSH and are not aware of the benefits it can bring to the organization.[7] Creating attractive pay and working conditions should be viewed not only in terms of costs but also with regard to the benefits they bring to the organization and employees. OSH is an important issue and part of organizational culture, as it gives clear information to the management and employees. Such an approach also helps avoid many dysfunctional situations and employee misconduct, e.g., bullying, sabotage, fraud, increased absence due to illness or increased number of accidents at work.[8] Therefore, employers should analyze the costs and benefits of OSH on a regular basis as an integral part of a human capital policy within the organization, e.g., together with measuring the effectiveness of the compensation system.

A comprehensive evaluation of the compensation system that incorporates OSH will help improve employee performance with no detriment to their safety and health and will not result in longer working hours and work overload. Such a complex evaluation will also create employer and employee understanding of the importance of OSH and socially responsible behaviors. Therefore, assessment of OSH should be an integral part of evaluating compensation systems. Most literature on this subject focuses on the evaluation of financial rewards. Rikhardsson notes also that ‘performance areas such as Health and safety are not automatically included in the traditional accounting system’.[9,p.65]

According to OSH departments, while evaluation of compensation systems might be included, the consequences of securing and improving working conditions are usually not shown explicitly in the accounting reports. Very few studies analyze this area and, as Buhai et al. stress, there is almost no empirical research linking the quality of the working environment to corporate performance. These researchers show, however, that OSH expenditures should also be seen as strategic investments in the economic sense, because today's costs bring profits tomorrow.[10]

The aim of this article is to present a new approach toward calculating the effectiveness of actions taken to provide OSH in the workplace as an intentional and integral part of human resources programs. The article will explain how OSH may be included in a complex evaluation process of the compensation system, based on the comprehensive evaluation model of compensation systems adopted by Beck-Krala.[11] So far, most literature on OSH and employee performance concentrates mostly in two disciplines: ergonomics and medicine/health promotion.[3] The importance of the new perspective from HCM and particularly from a compensation viewpoint to fill the existing gap in the literature cannot be underestimated. This article will explore these issues. Therefore, the article is addressed to both researchers and practitioners from management and particularly from human resources management (HRM) in developed countries.

2. Compensation system evaluation

A compensation system that is properly designed and adapted should significantly help the organization achieve its objectives and increase its competitiveness. Evaluation of compensation systems is important, especially in times of crises when expenditures should be made rationally. Despite this fact, few organizations seem to have any concrete evidence to justify their compensation practices.[12–15] This may be due to lack of resources and time, lack of knowledge and experience of the compensation professionals, lack of good practices in this area, and lack of reliable and universal tools to evaluate the system.[12,14,16] Most analysis that takes place within organizations focuses mostly on the cost of total expenditures on compensation [17] or on employee satisfaction from the financial rewards they receive.[13] This is typical in a traditional understanding of reward systems, where employees are treated as job holders who are rewarded according to the nature of their jobs and how well

they perform their jobs.[18] This narrow perspective seems to be insufficient today, when most organizations tend to be socially responsible and often take the perspective of all stakeholders. In this context, responsible rewards should satisfy the expectations of employees, owners, clients or the local society.[19]

A compensation system consists of the reward policies and practices within a company. The effectiveness of a compensation system should be considered not only in terms of economic rationality, but also in terms of the contribution of the system to organizational strategy [20] and may be widely defined as meeting the objectives of the firm, fulfillment of employees' expectations and realization of the needs of other stakeholders.[13] Evaluation of the compensation system that incorporates OSH can drive many benefits for both the organization and employees.[21]

From the theory of needs viewpoint, people seek safety and security from their employers. Competitive rewards and a reasonable level of safety and security are extremely important in attracting and retaining the best employees and also in receiving high performance from these employees.[17] In these aspects, creating healthy and safe working conditions will ensure better use of employee competences and higher levels of performance. Therefore, the effectiveness of a compensation system should incorporate both the economic perspective and the social one. The latter covers such issues as a healthy and safe working environment, which seems to be necessary for the optimal use of human capital, as accidents at work or high levels of stress reduce work performance and generate additional financial and social costs for all stakeholders.

Analysis of compensation systems may be undertaken for different purposes. From the employer viewpoint, the most important goals of an evaluation of compensation systems include the following:

- determining whether the compensation policies and practices are well established;
- verifying whether the system meets its objectives;
- verifying whether the system supports the objectives of the company;
- ensuring the different components of the compensation system return value for expenditure;
- verifying whether the system motivates employees to high performance and creates desired employee behaviors; and

- verifying whether employees are satisfied with the system.

Researchers have presented various approaches to the evaluation of compensation systems.[1] However, few have tried to build a complex and universal instrument to assess them.[12,13,15] Rewarding employees is an investment; therefore, the total impact of these investments on the organization achieving its goals should be evaluated and monitored over time. These investments must be understood in a larger context, which includes both investments made in various areas of the total compensation package and benefits connected with those areas. Moreover, the assessment of compensation systems must be a systematic and deep analysis that gives some suggestions for the future and helps develop both the organization and its people.[13]

3. Comprehensive methodology for compensation system evaluation

Based on research, a comprehensive methodology has been proposed to analyze the evaluation of compensation systems from five perspectives. This methodology is universal

----Insert Figure 1----

and can be applied to assessing other systems within the company. Based on a literature review,[12,15] this methodology also incorporates the work of other researchers, e.g., the training efficiency model of Donald Kirkpatrick [22] and the return on investment (ROI) measure adapted by Jack Philips.[23] However, the methodology concerns the compensation system and focuses on the most important aspects that should be evaluated within the system. Within these five perspectives, employers can analyze areas of the system that are most important to the organization. Based on the total compensation package, the analysis should include the four main components of the package from the point of view of these five perspectives. The components that should be evaluated include financial compensation, non-financial compensation, growth opportunities and a safe and healthy working environment with hazard-free working conditions.[18]

Financial compensation includes base pay and variable pay (bonuses, incentives); non-financial compensation refers to employee benefits. Opportunities for development include training, career development and succession planning. Finally, the supportive or positive

working environment covers healthy and safe working conditions, work–life balance, leadership, organizational culture and communication.[1]

In evaluating complex compensation systems, this methodology focuses on five pivotal perspectives:

- philosophy of the system and its convergence with the firm’s strategy;
- compliance of the system with formal regulations;
- external competitiveness of the total compensation system;
- cost-effectiveness of the payroll (and ROIs from the compensation); and
- employee satisfaction with the system.

Each component of the total compensation should be evaluated from these perspectives (Figure 1). The next section of this article shows the systematic evaluation of OSH according to these five perspectives.

4. OSH as part of compensation system evaluation: dimensions and measures

Since OSH is strongly associated with other HRM practices, especially with the compensation system, it is difficult to clearly identify costs and benefits. Moreover, since many motivational initiatives are often implemented simultaneously, analysis is even more difficult.[3]

Therefore, recognizing OSH not as a separate issue but rather one closely connected with the compensation system, one of the four components of TR, we propose an analysis of OSH performance according to the five perspectives of the evaluation methodology for compensation systems.

When evaluating compensation system effectiveness and OSH performance as an integral part of TRs, the employer must select adequate measures at each stage for this purpose. Different measures must be used, based upon the characteristics of the company, its strategy and main

----Insert Table 1----

objectives, its organizational culture and values, and its personnel and rewarding policy characteristics. Selected measures should be significant to the organization and help improve OSH performance and create employee and manager engagement in OSH issues, as well as help in achieving organizational goals.

4.1. Stage 1. Convergence with business strategy

TR strongly depends on whether or not a firm possesses a low-cost business strategy. In traditional compensation system evaluation, employers must assess whether the system is convergent with its business strategy and supports desired employee behavior. In the case of OSH issues, we have to admit that each employer has a general duty to provide a safe and healthy working environment, so the type of business strategy should not be the key aspect that affects OSH expenditures. However, the core organizational characteristics, e.g., firm size, business sector, and organizational culture and values, determine the importance of the OSH system for achieving organizational goals. Therefore, at this step it is crucial to ensure that OSH policy reflects the organizational strategy and structure, is comprehensive, supports human resources policy within the firm and is acknowledged by managers, so that it becomes an important part of organizational culture (Table 1). Promoting a climate of safety requires employee awareness and participation. This means that one of the core HRM goals may be enhancing employee engagement and involvement in safety issues. However, with a low-cost strategy and centralized structure, where the scope of participation is low, the main focus should be given to simplification of procedures, control issues and internal coherence between OSH and HRM.

4.2. Stage 2. Compliance

Most employers narrow the evaluation of OSH issues to compliance with national laws and collective agreements. In this context, three aspects should be stressed. First, all procedures should be collected and described in the OSH policy that should be systematically reviewed to fulfill changing legal requirements. As recommended by the International Labour Office (ILO), organizations should implement an OSH management system (MS) that also includes a recording system to track and document injuries, illnesses and diseases, and ensures legal compliance and best practices. Also, legal compliance with both national and local regulations should be collected and maintained.[24]

The next aspect of compliance concerns the internal organization: OSH policy cannot stand only as a document, but should be well communicated to employees and discussed to become a part of organizational culture. That will allow for employee participation and understanding of the policy.

The third aspect refers to monitoring and controlling needs. It is crucial that a committee is established to ensure conformity with legal requirements and an active internal dialog on OSH issues,[25] hazard recognition, evaluating OSH changes, monitoring worker health and building worker competences in OSH.[24] In HRM terms, one could comment that all these actions should concentrate on employee involvement and enhancing employee participation to build and sustain a culture of safety (Table 2).

4.3. Stage 3. External competitiveness

While evaluating compensation systems at this stage, it is crucial to ensure that the system is competitive compared with other companies and attracts potential employees. This refers not only to traditional compensation and benefits, but also to OSH issues.[26] To assure the external competitiveness of TR, firms use benchmark reports and compare their offer with organizations of similar size, nature, etc. In the case of OSH,

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it is possible to measure external competitiveness on two levels: working conditions and job posts measured using screening methods for OSH [27]; or evaluating safety climate, using inter-organizational or longitudinal approaches.[28] The inter-organizational approach enables the firm to measure organizational performance against external data, constructing benchmarks against similar companies, e.g., industry benchmarking involving companies with similar technological or market characteristics; process benchmarking involving companies with similar processes, similar functions and procedures; or internal benchmarking comparing operations within a business unit.[29] On the contrary, a longitudinal approach enables monitoring of changes on critical performance criteria within a time period, so it may be applied to control ‘hard’ performance measures collected in OSH MSs and ‘soft’ data referring to safety climate changes (Table 3).

4.4. Stage 4. Affordability and efficiency

Measuring the affordability and efficiency of the compensation system requires mostly quantitative data, but qualitative data can also be used.

Moreover, data must be gathered for both the direct and indirect costs and benefits of OSH. There are two main types of methods for measuring economic relations between OSH and enterprise management, as well as for the economic analysis of investments in OSH.[30] When assessing the efficiency of OSH, the employer may evaluate, e.g., the total cost spent on appropriate benefits, the trend in the number of accidents at work, the total cost of accidents at work, ROI from the cost spent on promotion of health and better working conditions or the absence ratio, etc. One recent popular method of measuring effectiveness is the ROI indicator that may also be used in relation to OSH. Although the methods of ROI are well known, the ability to implement them into practice, especially within

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OSH, is still limited. ROI on occupational health has been applied in many organizations and gives an opportunity to monitor value over time and increase OSH effectiveness.

It is necessary to calculate the total cost of OSH MS. According to Rzepecki, these include the cost of ensuring compliance with legal provisions of OSH, the cost of implementing and maintaining an OSH MS, and the cost of insurance, cost of sickness absence due to working conditions, cost of reduced work efficiency and work quality as well as cost of accidents at work and occupational diseases.[7] Rzepecki also lists various measures that may be used when calculating OSH MSs.

One of the most important categories that must be evaluated is the cost of accidents at work. In some companies, accidents generate very high costs to the employer. These costs must be monitored, assessed and decreased over time. Often, accident-related costs are measured from a narrow, financial perspective to the exclusion of other types of costs, e.g., psychological, motivational and damage to employer image. Estimation of these costs may be possible while measuring changes in safety climate.[31,32] What is more, these costs may be identified not only at the level of the individual, but also at the level of the organization. For the employer, the second category is crucial and may include, e.g., lost working hours, lost current assets, lost fixed assets, short-term payments, cost due to the absence of the injured, employee sick pay, compensatory and cost of living allowances due to accidents at work, cost of materials, cost of external services, lost revenues and income, effect of insurance premium, fines, overtime, administration and communication costs, and other benefits.[33,34]

Generally, two kinds of indicators may be distinguished: leading and lagging (Table 4). In OSH cases, according to Hinze et al.:

while lagging measurements can provide data about incidents after the fact, the question remains regarding the value of these metrics as future predictors for safety in the workplace (. . .) leading indicators are measures which are not necessarily historical in nature but rather can be used as predictors of future levels of safety performance. [35,p.24]

Leading indicators may provide early warning signs of potential failure and enable organizations to identify early enough for corrective action to be taken to make changes in the safety process so that injuries do not occur.[36,37]

As Hinze et al. stress:

passive leading indicators can be used to predict, on a larger or long-term basis, the likely safety performance to be realized by a company or on a particular project (. . .) Active leading indicators represent both a qualitative and quantitative measure of the actual implementation of the processes within a comprehensive safety management system. [35,p.25]

Examples of measures used in the proposed evaluation model at stage 4 are presented in Table 5.

4.5. Stage 5. Employee satisfaction and motivation

The last stage evaluates satisfaction of employees with financial and non-financial elements of the compensation system. Employers should assess employee satisfaction with the OSH policy and actions provided by employer. This is related to many different factors, although depending on the characteristic and goals of the organization there may be evaluated, e.g., satisfaction, with employee assistance programs and the worksite health promotion programs, employee satisfaction with training provided on the OSH issue, with occupational ergonomics and work organization, employee perception of the intensity of stress at work, procedures on reporting accidents at work, quality of supervision, information provided on OSH, etc. The literature includes several studies on safety climate perception.[31,32,38,39] According to Flin et al., the most common themes assessed in safety climate questionnaires

refer to management and supervision, safety systems, risk-taking, work pressure and competence.[38] Therefore, Mearns et al. [28] propose that safety climate analyses may

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refer to satisfaction with safety activities, perceived supervisor competence, perceived management commitment to safety and willingness to report incidents.

The motivational function of occupational safety is also often linked to transformational leadership [40] and individual participation.[41] As Cornelissen et al. conclude, ‘design of safety instructions, focusing on personal motivation and external ability seems a promising strategy for contributing to healthy and safe working environments, especially in high-risk environments’.[42, p.232] However, employee perception of implemented OSH system solutions can be investigated and improved.[31,38] Examples of measures used in the proposed evaluation model at stage 5 are presented in Table 6.

The proposed model covers the most important measures that seem to be universal for most organizations. Depending on the characteristics of the organization and how critical OSH is, more specific indicators can be used. The International Labour Organization’s audit matrix provides a wide range of specific OSH performance criteria.[24] It lists criteria concerning processes, procedures and documentation of quality, setting of responsibilities, involving authorities and assuring accountability, fitting OSH performance indicators to organizational size and nature, quantity, quality and cohesion of indicators and performance criteria employed, frequency of evaluation and regularity, incorporation within the whole OSH MS, levels of compliance with the law and legal regulations, and comprehensiveness of the OSH system.

5. Conclusions

Today, supportive working environments, especially OSH policy and action, play a strategic role in achieving organizational goals, as they support effective HCM. TR, a comprehensive approach toward employee compensation, recognizes working environment as an one of the four most important elements of the compensation package. Linking OSH performance to

business rewards is recommended, as integrated and transparent OSH management may strengthen organizational performance.

In this context, investments in TR (and OSH at the same time) must be viewed not only in terms of costs generated to the employer but also, most importantly, in terms of benefits it can bring to all stakeholders of the organization. Employee commitment, increased productivity, a more competent and healthier workforce, reduction of business costs and disruption, and enhancement of the brand image and brand value are among these benefits.[21]

Obtaining such benefits, however, requires systematic evaluation of the reward system, including OSH. Incorporation of the OSH issue within the comprehensive analysis of compensation systems promotes responsible behavior of all stakeholders. This article has explained how OSH may be included in a complex evaluation process of the compensation system, based on the comprehensive evaluation model of compensation systems.

A systematic analysis of OSH from multiple perspectives, as convergence with the firm's strategy, compliance with legal regulations, external competitiveness, affordability and efficiency, or employee satisfaction with OSH policy and activities, will show the benefits and possible development of OSH in the organization, in accordance with HCM general policy. Such evaluation of compensation and OSH performance gives clear information about the importance of this issue and indicates how investment in this area affects cost reduction, employee attitudes and behaviors, and helps achieve organizational goals. Monitoring OSH performance will help not only to reduce costs associated with the negative influence of unsafe working environments (e.g., high work stress, employee dissatisfaction and burnout) but also to avoid critical situations (e.g., accidents at work) through effective prevention. Only a broad and systematic analysis consistent with measures designed to have a positive, effective impact on employees will allow the development and subsequent improvement of OSH within an organization. However, to achieve this, employers need to underline the importance of OSH and consciously create a coherent policy that will be fully integrated with HCM policy and supported by the compensation system. This will engage employees and create desired behavior and attitudes toward OSH at work. Therefore, the key to developing OSH is the incorporation of OSH within the organizational culture and the continued improvement of existing processes and tools. This proactive approach will provide many long-term benefits to all stakeholders of the organization.

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Figure 1. Comprehensive methodology for compensation system evaluation.
 Note: OSH = occupational safety and health.

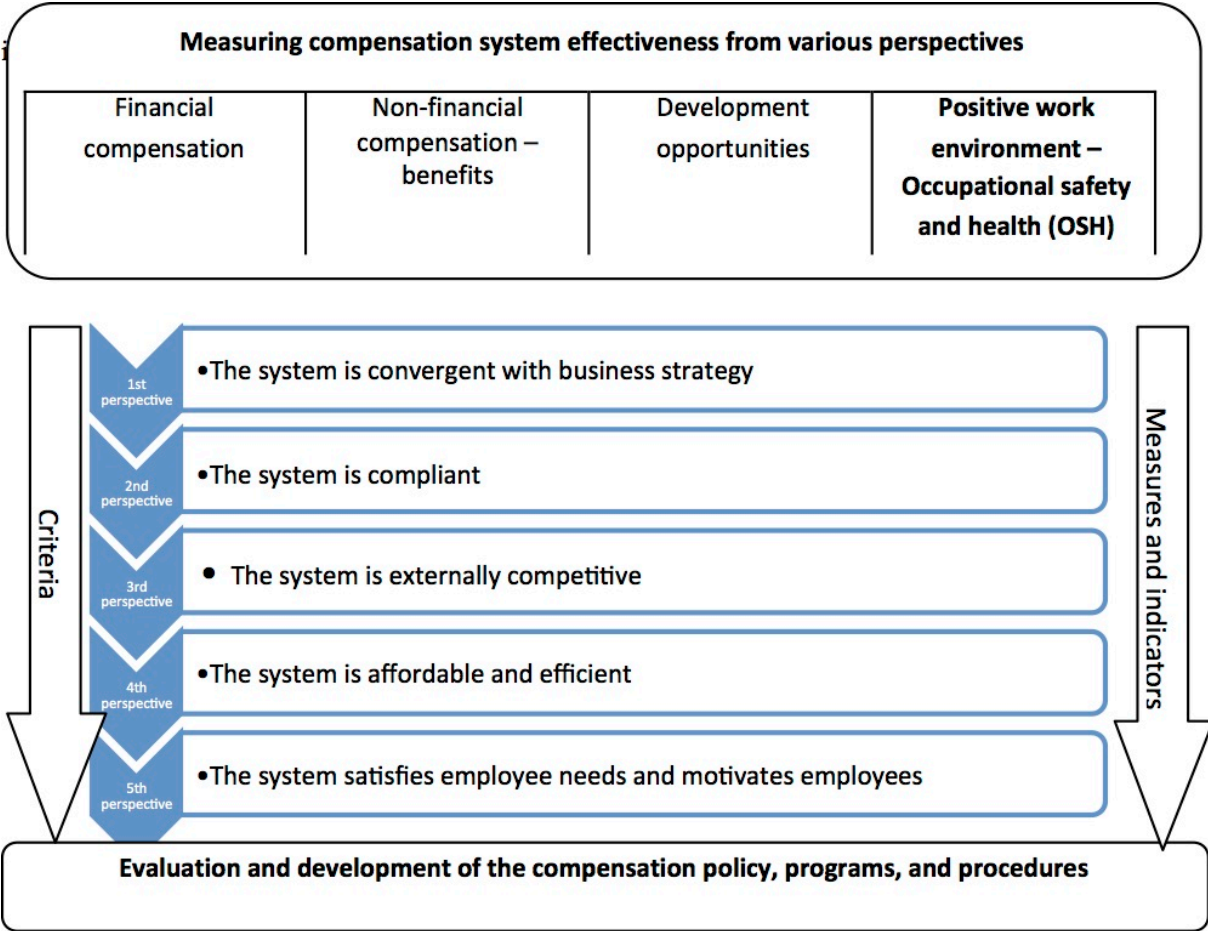


Table 1.. Measures of the OSH performance within the evaluation model – First stage

The Occupational safety and health (OSH) is convergent (with business strategy and values)	
Methods of evaluation/ subject of evaluation	Possible measures/indicators
<p>Evaluation against organizational goals and success criteria</p> <p>The OSH policy reflects the organizational strategy and structure, supports personnel policy within the firm, and is acknowledged by managers, so that it becomes an important part of organizational culture</p>	<ul style="list-style-type: none"> - The firm has a clear and formal the OSH policy - Alignment of business strategies or goals with reward programs - Goals of the OSH are evident in incentive and performance assessment criteria - The OSH policy and procedures or goals are convergent with other HRM or Compensation systems and are an important part of it - There are evident goals of the OSH set in the HRM or Compensation strategy or within the OSH management system - Employees know and understand the OSH policy and procedures - Employees participate in the OSH design and development - Managers promote and support the OSH policy

Table 2. Measures of the OSH performance within the evaluation model – Second stage

The Occupational safety and health (OSH) is compliant (legally, internally fair)	
Methods of evaluation/ subject of evaluation	Possible measures/indicators
<p>Evaluation of equity and fairness of the system, compliancy with legal regulations</p>	<ul style="list-style-type: none"> - The OSH system is compliant with both national and local regulations - The OSH Policy is well-communicated to employees and discussed (number of presentations of meetings connected with the OSH). - Employees know, understand, and accept the rules of the OSH - Employees are aware of the importance of the OSH, behave in desired ways, promote health and safety at work - Employees actively participate in the OSH development

	<p>Number of proposals submitted for the development of the system</p> <ul style="list-style-type: none"> - Analysis of average pay level for different demographic groups of employees at different positions - Analysis of procedures and documentation on equal treatment and legal regulations - Opinion of employees on equality in pay system and distribution of rewards - Transparency of the system. - There have been specific training provided for every employee concerning the OSH <p>There is a formal recording system to track and document injuries, illness and diseases, and ensure legal compliance and best practices</p>
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Table 3. Measures of the OSH performance within the evaluation model – Third stage

The Occupational safety and health (OSH) is externally competitive	
Methods of evaluation/ subject of evaluation	Possible measures/indicators
Evaluation of the OSH most popular practices, analysis of pay levels, and attractiveness of the Total reward package against external market	<ul style="list-style-type: none"> - Use of external survey - Using screening methods for the OSH (27) or evaluating safety climate - Indicator of staff turnover - Employee opinions on the OSH competitiveness range of benefits) - Employee fluctuation rate - Monitoring the main reasons of employee fluctuation - Employee absence ratio - Number of changes in the OSH system

Table 4. Examples of passive and active leading **the** OSH Indicators

Passive	Active
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<ul style="list-style-type: none"> - Knowledge or skills base of personnel, which is useful in implementing a comprehensive safety management system - Number or percent of subcontractors selected, in part, on the basis of satisfying specific safety criteria prior to being awarded the subcontract - Requirement that each subcontractor submit a site-specific safety program that must be approved prior to the performance of any work by that subcontractor - Requirement that the CEO of each subcontractor provide a letter indicating the subcontractor's commitment to construction worker safety 	<ul style="list-style-type: none"> - Percent of jobsite toolbox meetings attended by jobsite supervisors/managers - Percent of jobsite pre-task planning meetings attended by job-site supervisors/managers - Number of close calls reported per given amount of hours of worker exposure - Percent of safety compliance on jobsite safety audits (inspections) - Owner promotion of jobsite safety - Worker observation records are evaluated to determine the need for jobsite changes in the job safety program
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Source: Based on [35]

Table 5. Measures of the OSH performance within the evaluation model – Fourth stage

Occupational safety and health (OSH) is cost effective and affordable	
Methods of evaluation/ subject of evaluation	Possible measures/indicators
<p>Evaluation and monitoring expenditures on the OSH , OSH management systems;</p> <p>Evaluation of some hard indicators that shows the trend in the OSH quality over time</p>	<ul style="list-style-type: none"> - Benefit costs, types of benefits - Rate of absenteeism and costs it generates - Rate of employee fluctuation and its costs - Total costs of accidents at work, understood in a large context: - Costs of employee absence connected with accidents at work - Cost loss incurred while replacing the missing worker - Trend in the number of accidents at work - Costs of insurance - Costs of reduced work efficiency and work quality - Costs of occupational diseases - Number of meetings devoted to the cost of training and health promotion programs - Costs of designing and implementing OSH MS - Costs of administration of the OSH - Productivity Indicators – the ratio of incomes compared with payroll costs monitored over time - Average cost of employee compensation packages compared over time and with the market

	<ul style="list-style-type: none"> - Return on investment (ROI) from costs spent on promotion of health and better working conditions - Monitoring of ROI in OSH over time
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Table 6. Measures of the OSH performance within the evaluation model – Fifth stage

The Occupational safety and health (OSH) satisfies employee needs and motivates employees	
Methods of evaluation/ subject of evaluation	Possible measures/indicators
Monitoring manager and employee satisfaction with OSH at Firm and monitoring it over time Analyzing the Safety climate	<ul style="list-style-type: none"> - Manager and Employee opinions on the OSH system - Employee opinion monitored over time - Absence indicator - Fluctuation indicator - Safety climate perception – monitored over time - Perceived supervisor competence, perceived management commitment to OSH - Willingness to report incidents - Trend in the number of reported employee proposals for changes to the OSH program